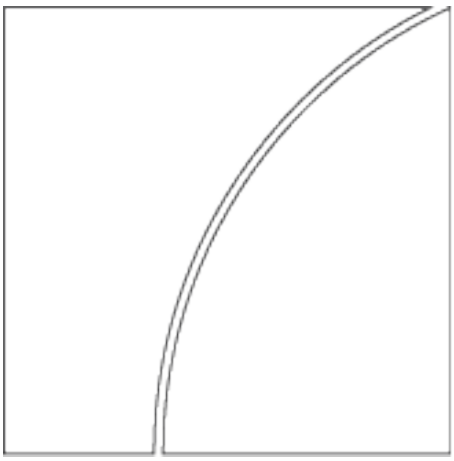
Basel Committee on Banking Supervision

The Basel Framework



The Basel Framework is the full set of standards of the Basel Committee on Banking Supervision (BCBS), which is the primary global standard setter for the prudential regulation of banks. The membership of the BCBS has agreed to fully implement these standards and apply them to the internationally active banks in their jurisdictions. The background page describes the framework's structure and how to navigate it.

BANK FOR INTERNATIONAL SETTLEMENTS

Contents

SCO

Scope and definitions

This standard describes the scope of application of the Basel Framework.

SCO10

Introduction

This chapter describes how the Basel Framework is applied on a consolidated basis to internationally active banks.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

10.1 This framework will be applied on a consolidated basis to internationally active banks. Consolidated supervision is the best means to provide supervisors with a comprehensive view of risks and to reduce opportunities for regulatory arbitrage.

10.2 The scope of application of the framework will include, on a fully consolidated basis, any holding company that is the parent entity within a banking group to ensure that it captures the risk of the whole banking group.[1] Banking groups are groups that engage predominantly in banking activities and, in some countries, a banking group may be registered as a bank.

Footnotes

[1] *A holding company that is a parent of a banking group may itself have a parent holding company. In some structures, this parent holding company may not be subject to this framework because it is not considered a parent of a banking group.*

10.3 The framework will also apply to all internationally active banks at every tier within a banking group, also on a fully consolidated basis (see illustrative chart at the end of this section).[2]

Footnotes

[2] *As an alternative to full sub-consolidation, the application of this framework to the stand-alone bank (ie on a basis that does not consolidate assets and liabilities of subsidiaries) would achieve the same objective, providing the full book value of any investments in subsidiaries and significant minority-owned stakes is deducted from the bank's capital.*

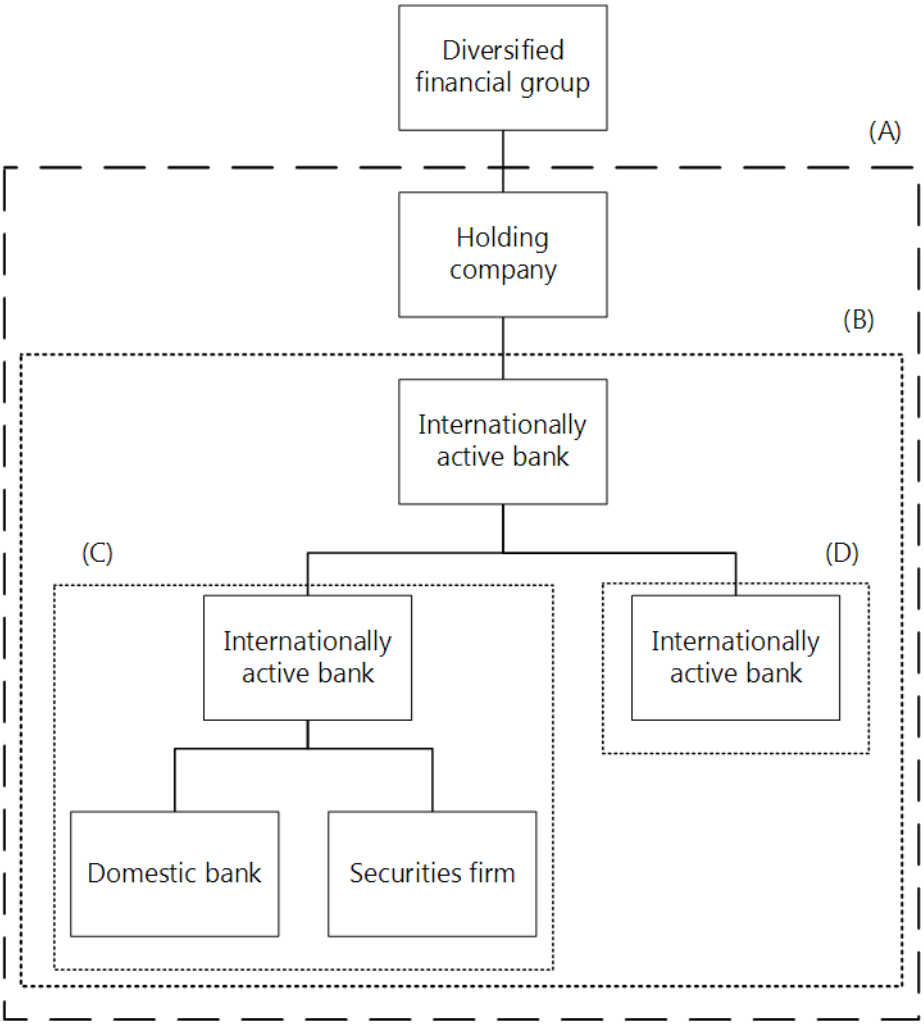
10.4 Further, to supplement consolidated supervision, it is essential to ensure that capital recognised in capital adequacy measures is adequately distributed amongst legal entities of a banking group. Accordingly, supervisors should test that individual banks are adequately capitalised on a stand-alone basis.

FAQ

FAQ1 *How should banks treat investments in banks, insurance companies and other financial institutions that are included in the consolidated group in computing the capital ratio for the stand-alone parent bank entity?*

The Basel framework is applied on a consolidated basis to internationally active banks. It captures the risks of a whole banking group. Although the framework recognises the need for adequate capitalisation on a stand-alone basis, it does not prescribe how to measure the solo capital requirements which is left to individual supervisory authorities.

10.5 The diagram below illustrates the scope of application of this framework, where (A) represents the boundary of the predominant banking group, to which the framework is to be applied on a consolidated basis (ie up to holding company level, as described in SCO10.2). With respect to (B), (C) and (D), the framework is also to be applied at lower levels to all internationally active banks on a consolidated basis.



SCO30

Banking, securities and other financial subsidiaries

This chapter describes the treatment of financial subsidiaries within banking groups subject to the Basel framework.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Consolidation

30.1 To the greatest extent possible, all banking and other relevant financial activities[1] (both regulated and unregulated) conducted within a group containing an internationally active bank will be captured through consolidation. Thus, majority-owned or -controlled banking entities, securities entities (where subject to broadly similar regulation or where securities activities are deemed banking activities) and other financial entities[2] should generally be fully consolidated. The treatment of minority interests and other capital issued out of consolidated subsidiaries that is held by third parties is set out in CAP10.

Footnotes

[1] *"Financial activities" do not include insurance activities and "financial entities" do not include insurance entities.*

[2] *Examples of the types of activities that financial entities might be involved in include financial leasing, issuing credit cards, portfolio management, investment advisory, custodial and safekeeping services and other similar activities that are ancillary to the business of banking.*

30.2 There may be instances where it is not feasible or desirable to consolidate certain securities or other regulated financial entities. This would be only in cases where such holdings are acquired through debt previously contracted and held on a temporary basis, are subject to different regulation, or where non-consolidation for regulatory capital purposes is otherwise required by law. In such cases, it is imperative for the bank supervisor to obtain sufficient information from supervisors responsible for such entities.

30.3 If any majority-owned securities and other financial subsidiaries are not consolidated for capital purposes, all equity and other regulatory capital (or, if applicable, other total loss-absorbing capacity) investments in those entities attributable to the group will be deducted (as described in CAP30), and the assets and liabilities, as well as third-party capital investments in the subsidiary will be removed from the bank's balance sheet. Supervisors will ensure that an entity that is not consolidated and for which the capital investment is deducted meets regulatory capital requirements. Supervisors will monitor actions taken by the subsidiary to correct any capital shortfall and, if it is not corrected in a timely manner, the shortfall will also be deducted from the parent bank's capital.

30.4 Significant minority investments in banking, securities and other financial entities, where control does not exist, will be excluded from the banking group's capital by deduction of the equity and other regulatory investments (as described in CAP30). Alternatively, such investments might be, under certain conditions, consolidated on a pro rata basis. For example, pro rata consolidation may be appropriate for joint ventures or where the supervisor is satisfied that the parent is legally or de facto expected to support the entity on a proportionate basis only and the other significant shareholders have the means and the willingness to proportionately support it. The threshold above which minority investments will be deemed significant and be thus either deducted or consolidated on a pro-rata basis is to be determined by national accounting and/or regulatory practices. As an example, the threshold for pro-rata inclusion in the European Union is defined as equity interests of between 20% and 50%.

Insurance entities

30.5 A bank that owns an insurance subsidiary bears the full entrepreneurial risks of the subsidiary and should recognise on a group-wide basis the risks included in the whole group. When measuring regulatory capital for banks, the Committee believes that it is, in principle, appropriate to deduct banks' equity and other regulatory capital investments in insurance subsidiaries and also significant minority investments in insurance entities. Under this approach the bank would remove from its balance sheet assets and liabilities, as well as third party capital investments in an insurance subsidiary. The bank's equity or other capital investment in the insurance subsidiary is then treated according to CAP30.21 to CAP30.34. Alternative approaches that can be applied should, in any case, include a group-wide perspective for determining capital adequacy and avoid double counting of capital. Banks should also disclose the national regulatory approach used with respect to insurance entities in determining their reported capital positions (see DIS30).

FAQ

FAQ1 *Can significant investments in insurance entities, including fully owned insurance subsidiaries, be consolidated for regulatory purposes as an alternative to the deduction treatment set out in CAP30.28 to CAP30.34 ?*

Jurisdictions can permit or require banks to consolidate significant investments in insurance entities as an alternative to the deduction approach on the condition that the method of consolidation results in a minimum capital standard that is at least as conservative as that which would apply under the deduction approach, ie the consolidation method cannot result in banks benefiting from higher capital ratios than would apply under the deduction approach.

In order to ensure this outcome, banks that apply a consolidation approach are required to calculate their capital ratios under both the consolidation approach and the deduction approach, at each period that they report or disclose these ratios.

In cases when the consolidation approach results in lower capital ratios than the deduction approach (ie consolidation has a more conservative outcome than deduction), banks will report these lower ratios. In cases when the consolidation approach results in any of the bank's capital ratios being higher than the ratios calculated under the deduction approach (ie consolidation has a less conservative outcome than deduction), the bank must adjust the capital ratio downwards through applying a regulatory adjustment (ie a deduction) to the relevant component of capital.

30.6 The capital invested in a majority-owned or -controlled insurance entity may exceed the amount of regulatory capital required for such an entity (surplus capital). Supervisors may permit the recognition of such surplus capital in calculating a bank's capital adequacy, under limited circumstances and subject to disclosure (see DIS30).[3] National regulatory practices will determine the parameters and criteria, such as legal transferability, for assessing the amount and availability of surplus capital that could be recognised in bank capital. Other examples of availability criteria include: restrictions on transferability due to regulatory constraints, to tax implications and to adverse impacts on external credit assessment institutions' ratings. Where a bank does not have a full ownership interest in an insurance entity (eg 50% or more but less than 100% interest), surplus capital recognised should be proportionate to the percentage interest held. Surplus capital in significant minority-owned insurance entities will not be recognised, as the bank would not be in a position to direct the transfer of the capital in an entity which it does not control.

Footnotes

[3] *In a deduction approach, the amount deducted for all equity and other regulatory capital investments will be adjusted to reflect the amount of capital in those entities that is in surplus to regulatory requirements, ie the amount deducted would be the lesser of the investment or the regulatory capital requirement. The amount representing the surplus capital, ie the difference between the amount of the investment in those entities and their regulatory capital requirement, would be risk-weighted as an equity investment. If using an alternative group-wide approach, an equivalent treatment of surplus capital will be made.*

30.7 Supervisors will ensure that majority-owned or controlled insurance subsidiaries, which are not consolidated and for which capital investments are deducted or subject to an alternative group-wide approach, are themselves adequately capitalised to reduce the possibility of future potential losses to the bank. Supervisors will monitor actions taken by the subsidiary to correct any capital shortfall and, if it is not corrected in a timely manner, the shortfall will also be deducted from the parent bank's capital.

SCO40

Global systemically important banks

This chapter describes the indicator-based measurement approach for assessing the systemic importance of global systemically important banks (G-SIBs).

Version effective as of 09 Nov 2021

Methodology updated to give effect to the changes to the G-SIB framework published in July 2018 and the change to the review process published in November 2021.

Introduction

40.1 The negative externalities associated with institutions that are perceived as not being allowed to fail due to their size, interconnectedness, complexity, lack of substitutability or global scope are well recognised. In maximising their private benefits, individual financial institutions may rationally choose outcomes that, on a system-wide level, are suboptimal because they do not take into account these externalities. Moreover, the moral hazard costs associated with implicit guarantees derived from the perceived expectation of government support may amplify risk-taking, reduce market discipline and create competitive distortions, and further increase the probability of distress in the future. As a result, the costs associated with moral hazard add to any direct costs of support that may be borne by taxpayers.

40.2 In addition, given the potential cross-border repercussions of a problem in any of the global systemically important banks (G-SIBs) on the financial institutions in many countries and on the global economy at large, this is not uniquely a problem for national authorities, and therefore requires a global minimum agreement.

40.3 Because there is no single solution to the externalities posed by G-SIBs, the official community is addressing these issues through a multipronged approach. The broad aim of the policies is to:

(1) reduce the probability of failure of G-SIBs by increasing their going-concern loss-absorbency (addressed by the measures in this chapter, RBC40 and other G-SIB-specific measures in the Basel framework); and

(2) reduce the extent or impact of failure of G-SIBs, by improving global recovery and resolution measures (where work is led by the Financial Stability Board, or FSB).

Assessing systemic importance

40.4 The Basel Committee's methodology for assessing the systemic importance of G-SIBs relies on an indicator-based measurement approach. The selected indicators are chosen to reflect the different aspects of what generates negative externalities and makes a bank critical for the stability of the financial system. The advantage of the multiple indicator-based measurement approach is that it encompasses many dimensions of systemic importance, is relatively simple and is more robust than currently available model-based measurement approaches and methodologies that rely on only a small set of indicators or market variables.

40.5

Given the focus of the framework on cross-border spillovers and negative global externalities that arise from the failure of a globally active bank, the reference system for assessing systemic impact is the global economy. Consequently, systemic importance is assessed based on data that relate to the consolidated group (ie the unit of analysis is the consolidated group). To be consistent with this approach, the higher loss absorbency requirement applies to the consolidated group. However, as with the minimum requirement and the capital conservation and countercyclical buffers, application at the consolidated level does not rule out the option for the host jurisdictions of subsidiaries of the group also to apply the requirement at the individual legal entity or consolidated level within their jurisdiction.

40.6 The Committee is of the view that global systemic importance should be measured in terms of the impact that a bank's failure can have on the global financial system and wider economy, rather than the likelihood that a failure could occur. This can be thought of as a global, system-wide, loss-given-default (LGD) concept rather than a probability of default (PD) concept.

40.7 The methodology gives an equal weight of 20% to each of five categories of systemic importance, which are: size, cross-jurisdictional activity, interconnectedness, substitutability/financial institution infrastructure and complexity. With the exception of the size category, the Committee has identified multiple indicators in each of the categories, with each indicator equally weighted within its category, except for the substitutability category. That is, where there are two indicators in a category, each indicator is given a 10% overall weight; where there are three, the indicators are each weighted 6.67% (ie 20/3). In the substitutability category, two indicators are weighted 6.67% (assets under custody and payment activity), while underwritten transactions in debt and equity markets and the new trading volume indicator each weigh 3.33%. This split reflects the complementary role of the trading volume indicator, which is to capture potential disruptions in the provision of liquidity in the secondary market for some exposures, while the underwriting indicator captures liquidity in the primary market.

40.8 In 2013, the Committee found that, relative to the other categories that make up the G-SIB framework, the substitutability category has a greater impact on the assessment of systemic importance than the Committee intended for banks that are dominant in the provision of payment, underwriting and asset custody services. Therefore, the Committee decided to apply a cap to the substitutability category by limiting the maximum score to 500 basis points.

40.9 The global systemically important insurers framework does not formally capture the insurance subsidiaries of banking groups. Furthermore, some jurisdictions include insurance subsidiaries in their regulatory scope of consolidation whilst others do not, which may create an inconsistency in the systemic assessment of banking groups across jurisdictions. Against this background, the Committee has decided to include insurance activities for the following indicators: total exposures, intra-financial system assets, intra-financial system liabilities, securities outstanding, notional amount of over-the-counter (OTC) derivatives and level 3 assets in the size, interconnectedness and complexity categories. The approach therefore includes the following indicators with the following weights:

Indicator-based measurement approach — Table 1

Category (and weighting)	Individual indicator	Indicator weighting
Cross-jurisdictional activity (20%)	Cross-jurisdictional claims	10%
	Cross-jurisdictional liabilities	10%
Size (20%)	Total exposures as defined for use in the Basel III leverage ratio*	20%
Interconnectedness (20%)	Intra-financial system assets*	6.67%
	Intra-financial system liabilities*	6.67%
	Securities outstanding*	6.67%
Substitutability/financial institution infrastructure (20%)	Assets under custody	6.67%
	Payments activity	6.67%
	Underwritten transactions in debt and equity markets	3.33%
	Trading volume	3.33%
Complexity (20%)	Notional amount of OTC derivatives*	6.67%
	Level 3 assets*	6.67%
	Trading and available-for-sale securities	6.67%

* Extended scope of consolidation to include insurance activities.

40.10 For each bank, the score for a particular indicator is calculated by dividing the individual bank amount (expressed in EUR) by the aggregate amount for the indicator summed across all banks in the sample.[1] This amount is then multiplied by 10,000 to express the indicator score in terms of basis points. For example, if a bank's size divided by the total size of all banks in the sample is 0.03 (ie the bank makes up 3% of the sample total) its score will be expressed as 300 basis points. Each category score for each bank is determined by taking a simple average of the indicator scores in that category. The overall score for each bank is then calculated by taking a simple average of its five category scores and then rounding to the nearest whole basis point.[2] The maximum total score, ie the score that a bank would have if it were the only bank in sample, is 10,000 basis points (ie 100%).[3]

Footnotes

[1] *See SCO40.19 for a description of how the sample of banks is determined.*

[2] *Fractional values between 0 and 0.5 are rounded down, while values from 0.5 to 1 are rounded up.*

[3] *This ignores the impact of the cap on the substitutability category. The impact of the cap is such that the actual maximum score if there were only one bank in the sample is 8,000 basis points plus one fifth of the maximum substitutability score.*

40.11 When calculating a bank's indicators, the data must be converted from the reporting currency to euros using the exchange rates published on the Basel Committee website. These rates should not be rounded in performing the conversions, as this may lead to inaccurate results.

40.12 There are different sets of currency conversions on the website, each corresponding to a different fiscal year-end. Within each set, there are two conversion tables. The first is a point-in-time, or spot, conversion rate corresponding to the following fiscal year-ends: 30 September, 30 October, 31 December, and 31 March (of the following year). The second set is an average of the exchange rates over the relevant fiscal year. Unless the bank decides to collect the daily flow data in the reporting currency directly and convert the data using a consistent set of daily exchange rate quotations, the average rates over the bank's fiscal year should be used to convert the individual payments data into the bank's reporting currency. The 31 December spot rate should be used to convert each of the 12 indicator values (including total payments activity) to the G-SIB assessment methodology reporting currency (ie euros).

Cross-jurisdictional activity

40.13 Given the focus on G-SIBs, the objective of this indicator is to capture banks' global footprint. Two indicators in this category measure the importance of the bank's activities outside its home (headquarter) jurisdiction relative to overall activity of other banks in the sample:

(1) cross-jurisdictional claims; and

(2) cross-jurisdictional liabilities.

40.14 The idea is that the international impact of a bank's distress or failure would vary in line with its share of cross-jurisdictional assets and liabilities. The greater a bank's global reach, the more difficult it is to coordinate its resolution and the more widespread the spillover effects from its failure.

Size

40.15 A bank's distress or failure is more likely to damage the global economy or financial markets if its activities comprise a large share of global activity. The larger the bank, the more difficult it is for its activities to be quickly replaced by other banks and therefore the greater the chance that its distress or failure would cause disruption to the financial markets in which it operates. The distress or failure of a large bank is also more likely to damage confidence in the financial system as a whole. Size is therefore a key measure of systemic importance. One indicator is used to measure size: the measure of total exposures used in the Basel III leverage ratio, including exposures arising from insurance subsidiaries.

Interconnectedness

40.16 Financial distress at one institution can materially increase the likelihood of distress at other institutions given the network of contractual obligations in which these firms operate. A bank's systemic impact is likely to be positively related to its interconnectedness vis-à-vis other financial institutions. Three indicators are used to measure interconnectedness, all of which include insurance subsidiaries:

(1) intra-financial system assets;

(2) intra-financial system liabilities; and

(3) securities outstanding.

Substitutability / financial institution infrastructure

40.17 The systemic impact of a bank's distress or failure is expected to be negatively related to its degree of substitutability as both a market participant and client service provider, ie it is expected to be positively related to the extent to which the bank provides financial institution infrastructure. For example, the greater a bank's role in a particular business line, or as a service provider in underlying market infrastructure (eg payment systems), the larger the disruption will likely be following its failure, in terms of both service gaps and reduced flow of market and infrastructure liquidity. At the same time, the cost to the failed bank's customers in having to seek the same service from another institution is likely to be higher for a failed bank with relatively greater market share in providing the service. Four indicators are used to measure substitutability/financial institution infrastructure:

(1) assets under custody;

(2) payments activity;

(3) underwritten transactions in debt and equity markets; and

(4) trading volume.

Complexity

40.18 The systemic impact of a bank's distress or failure is expected to be positively related to its overall complexity – that is, its business, structural and operational complexity. The more complex a bank is, the greater are the costs and time needed to resolve the bank. Three indictors are used to measure complexity, the first two of which include insurance subsidiaries:

(1) notional amount of OTC derivatives;

(2) Level 3 assets; and

(3) trading and available-for-sale securities.

Sample of banks

40.19 The indicator-based measurement approach uses a large sample of banks as its proxy for the global banking sector. Data supplied by this sample of banks is then used to calculate banks' scores. Banks fulfilling any of the following criteria will be included in the sample and will be required to submit the full set of data used in the assessment methodology to their supervisors:

(1) Banks that the Committee identifies as the 75 largest global banks, based on the financial year-end Basel III leverage ratio exposure measure, including exposures arising from insurance subsidiaries.

(2) Banks that were designated as G-SIBs in the previous year (unless supervisors agree that there is compelling reason to exclude them).

(3) Banks that have been added to the sample by national supervisors using supervisory judgment (subject to certain criteria).

Bucketing approach

40.20 Banks that have a score produced by the indicator-based measurement approach that exceeds a cutoff level are classified as G-SIBs. Supervisory judgment may also be used to add banks with scores below the cutoff to the list of G-SIBs. This judgment will be exercised according to the principles set out in SCO40.23 to SCO40.26.

40.21 Each year, the Committee runs the assessment and, if necessary, reallocates G-SIBs into different categories of systemic importance based on their scores and supervisory judgment. G-SIBs are allocated into equally sized buckets based on their scores of systemic importance, with varying levels of higher loss absorbency requirements applied to the different buckets as set out in RBC40.4 and RBC40.5. The cutoff score for G-SIB designation is 130 basis points and the buckets corresponding to the different higher loss absorbency requirements each have a range of 100 basis points.[4]

Footnotes

[4] *Cutoff scores and bucket thresholds are available at www.bis.org/bcbs/gsib/cutoff.htm .*

40.22 The number of G-SIBs, and their bucket allocations, will evolve over time as banks change their behaviour in response to the incentives of the G-SIB framework as well as other aspects of Basel III and country-specific regulations. Moreover, if a bank's score increases such that it exceeds the top threshold of the fourth bucket, new buckets will be added to accommodate the bank. New buckets will be equal in size in terms of scores to each of the existing buckets, and will have incremental higher loss absorbency requirements, as set out in RBC40.4 and RBC40.5, to provide incentives for banks to avoid becoming more systemically important.

Criteria for supervisory judgment

40.23 Supervisory judgment can support the results derived from the indicator-based measurement approach of the assessment methodology. The Committee has developed four principles for supervisory judgment:

(1) The bar for judgmental adjustment to the scores should be high: in particular, judgment should only be used to override the indicator-based measurement approach in exceptional cases. Those cases are expected to be rare.

(2) The process should focus on factors pertaining to a bank's global systemic impact, ie the impact of the bank's distress/failure and not the probability of distress/failure (ie the riskiness) of the bank.

(3) Views on the quality of the policy/resolution framework within a jurisdiction should not play a role in this G-SIB identification process.[5]

(4) The judgmental overlay should comprise well documented and verifiable quantitative as well as qualitative information.

Footnotes

[5] *However, this is not meant to preclude any other actions that the Committee, the FSB or national supervisors may wish to take for global systemically important financial institutions to address the quality of the policy/resolution framework. For example, national supervisors could impose higher capital surcharges beyond the higher loss absorbency requirements for G-SIBs that do not have an effective and credible recovery and resolution plan.*

Ancillary indicators

40.24 The Committee has identified a number of ancillary indicators relating to specific aspects of the systemic importance of an institution that may not be captured by the indicator-based measurement approach alone. These indicators can be used to support the judgment overlay.

40.25 The ancillary indicators are set out in the reporting template and related instructions, which are available on the Committee's website.[6]

Footnotes

[6] *www.bis.org/bcbs/gsib*

Qualitative supervisory judgment

40.26 Supervisory judgment can also be based on qualitative information. This is intended to capture information that cannot be easily quantified in the form of an indicator, for example, a major restructuring of a bank's operation. Qualitative judgments should also be thoroughly explained and supported by verifiable arguments.

Process for incorporating supervisory judgment

40.27 The supervisory judgmental overlay can be incorporated using the following sequential steps to the score produced by the indicator-based measurement approach:

(1) Collection of the data[7] and supervisory commentary for all banks in the sample.

(2) Mechanical application of the indicator-based measurement approach and corresponding bucketing.

(3) Relevant authorities[8] propose adjustments to the score of individual banks on the basis of an agreed process.

(4) The Committee develops recommendations for the FSB.

(5) The FSB and national authorities, in consultation with the Basel Committee, make final decisions.

Footnotes

[7] *The data collection can start in the second quarter and be finalised in third quarter each year, subject to consultation with national supervisors.*

[8] *Relevant authorities mainly refer to home and host supervisors.*

40.28 The supervisory judgment input to the results of the indicator-based measurement approach should be conducted in an effective and transparent way and ensure that the final outcome is consistent with the views of the Committee as a group. Challenges to the results of the indicator-based measurement approach should only be made if they involve a material impact in the treatment of a specific bank (eg resulting in a different loss absorbency requirement). To limit the risk that resources are used ineffectively, when the authority is not the bank's home supervisor it would be required to take into account the views of the bank's home and major host supervisors. These could be, for instance, the members of the institution's college of supervisors.

40.29 In addition to the materiality and consultation requirements, proposals to challenge the indicator-based measurement approach will be subject to the following modalities. Proposals originating from the home supervisor that result in a lower loss absorbency requirement would be scrutinised and would require a stronger justification than those resulting in a higher loss absorbency requirement. The reverse would apply to proposals originating from other authorities: those recommending a higher loss-absorbency requirement would be subject to higher standards of proof and documentation. The rationale for this asymmetric treatment follows the general principle that the Committee is setting minimum standards.

Periodic review and refinement

40.30 The methodology, including the indicator-based measurement approach itself, the cutoff/threshold scores and the size of the sample of banks, are regularly monitored and reviewed by the Committee in order to ensure that they remain appropriate in light of: (i) developments in the banking sector; (ii) progress in methods and approaches for measuring systemic importance; (iii) structural changes; and (iv) any evidence of material unintended consequences or material deficiencies with respect to the objectives of the framework. As regards the structural changes in regional arrangements – in particular in the European Banking Union – they will be reviewed as actual changes are made.

40.31 The Committee expects national jurisdictions to prepare a framework in which banks are able to provide high-quality data for the indicators. In order to ensure the transparency of the methodology, the Committee expects banks to disclose relevant data and has set out disclosure requirements in SCO40.32 to SCO40.34. The Committee discloses the values of the cutoff scores, the threshold scores for buckets, the denominators used to normalise the indicator values and the G-SIB indicators of all banks so that banks, regulators and market participants can understand how actions banks take could affect their systemic importance score and thereby the applicable magnitude of the HLA requirement.

Disclosure requirements

40.32 For each financial year-end, all banks with a leverage ratio exposure measure, including exposures arising from insurance subsidiaries, that exceeded EUR 200 billion in the previous year-end (using the exchange rate applicable at the financial year-end) should be required by national authorities to make publicly available the 13 indicators used in the assessment methodology. Banks should note in their disclosures that those figures are subject to revision and restatement.

40.33 Banks below this threshold that have been added to the sample owing to supervisory judgment or as a result of being classified as a G-SIB in the previous year would also be required to comply with the disclosure requirements.

40.34 Banks should also be required by national authorities to publicly disclose if the data used to calculate the G-SIB scores differ from the figures previously disclosed. To the extent that a revision to the data is required, banks should disclose the accurate figures in the financial quarter immediately following the finalisation of the Committee's G-SIB score calculation.

Operational timetable

40.35 The assessment methodology set out in this chapter applies from 2021, based on end-2020 data. The corresponding higher loss absorbency requirement (defined in RBC40) applies from 1 January 2023.

SCO50

Domestic systemically important banks

This chapter describes principles to identify domestic systemically important banks.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Introduction

50.1 The Committee has developed a set of principles that constitutes the domestic systemically important bank (D-SIB) framework. The 12 principles can be broadly categorised into two groups: the first group (SCO50.5) focuses mainly on the assessment methodology for D-SIBs while the second group (RBC40.7) focuses on higher loss absorbency (HLA) for D-SIBs.[1]

Footnotes

[1] *HLA refers to higher loss absorbency relative to the Basel III requirements for internationally active banks. For domestic banks that are not internationally active, HLA is relative to requirements for domestic banks.*

50.2 The principles were developed to be applied to consolidated groups and subsidiaries. However, national authorities may apply them to branches in their jurisdictions in accordance with their legal and regulatory frameworks.[2]

Footnotes

[2] *While the application to branches of the principles regarding the assessment of systemic importance should not pose any specific problem, the range of policy responses that host authorities have available to deal with systemic branches in their jurisdiction may be more limited.*

50.3 The additional requirements applied to global systemically important banks (G-SIBs), which apply over and above the Basel requirements applying to all internationally active banks, are intended to limit the cross-border negative externalities on the global financial system and economy associated with the most globally systemic banking institutions. Similar externalities can apply at a domestic level. There are many banks that are not significant from an international perspective, but nevertheless could have an important impact on their domestic financial system and economy compared to non-systemic institutions. Some of these banks may have cross-border externalities, even if the effects are not global in nature.

50.4 A D-SIB framework is best understood as taking the complementary perspective to the G-SIB regime by focusing on the impact that the distress or failure of banks (including by international banks) will have on the domestic economy. As such, it is based on the assessment conducted by the local authorities, who are best placed to evaluate the impact of failure on the local financial system and the local economy. This point has two implications:

(1) The first is that, in order to accommodate the structural characteristics of individual jurisdictions, the assessment and application of policy tools should allow for an appropriate degree of national discretion. This contrasts with the prescriptive approach in the G-SIB framework.

(2) The second implication is that, because a D-SIB framework is still relevant for reducing cross-border externalities due to spillovers at regional or bilateral level, the effectiveness of local authorities in addressing risks posed by individual banks is of interest to a wider group of countries. A D-SIB framework, therefore, should establish a minimum set of principles, which ensures that it is complementary with the G-SIB framework, addresses adequately cross-border externalities and promotes a level playing field.

Principles on the D-SIB assessment methodology

50.5 The principles on the D-SIB assessment methodology are set out below:

(1) National authorities should establish a methodology for assessing the degree to which banks are systemically important in a domestic context.

(2) The assessment methodology for a D-SIB should reflect the potential impact of, or externality imposed by, a bank's failure.

(3) The reference system for assessing the impact of failure of a D-SIB should be the domestic economy.

(4) Home authorities should assess banks for their degree of systemic importance at the consolidated group level, while host authorities should assess subsidiaries in their jurisdictions, consolidated to include any of their own downstream subsidiaries, for their degree of systemic importance.

(5) The impact of a D-SIB's failure on the domestic economy should, in principle, be assessed having regard to bank-specific factors. National authorities can consider other measures / data that would inform the bank-specific indicators within each of the below factors, such as size of the domestic economy:

(a) size;

(b) interconnectedness;

(c) substitutability / financial institution infrastructure (including considerations related to the concentrated nature of the banking sector); and

(d) complexity (including the additional complexities from cross-border activity).

(6) National authorities should undertake regular assessments of the systemic importance of the banks in their jurisdictions to ensure that their assessment reflects the current state of the relevant financial systems and that the interval between D-SIB assessments not be significantly longer than the G-SIB assessment frequency.

(7) National authorities should publicly disclose information that provides an outline of the methodology employed to assess the systemic importance of banks in their domestic economy.

Principles 1 and 2: assessment methodologies

50.6 A starting point for the development of principles for the assessment of D-SIBs is a requirement that all national authorities should undertake an assessment of the degree to which banks are systemically important in a domestic context. The rationale for focusing on the domestic context is outlined in SCO50.10.

50.7 SCO40.6 states that "global systemic importance should be measured in terms of the impact that a failure of a bank can have on the global financial system and wider economy rather than the likelihood that a failure can occur. This can be thought of as a global, system-wide, loss-given-default (LGD) concept rather than a probability of default (PD) concept." Consistent with the G-SIB methodology, the Committee is of the view that D-SIBs should also be assessed in terms of the potential impact of their failure on the relevant reference system. One implication of this is that to the extent that D-SIB indicators are included in any methodology, they should primarily relate to "impact of failure" measures and not "risk of failure" measures.

Principles 3 and 4: reference system and scope of assessment

50.8 Two key aspects that shape the D-SIB framework and define its relationship to the G-SIB framework relate to how it deals with two conceptual issues with important practical implications:

(1) what is the reference system for the assessment of systemic impact; and

(2) what is the appropriate unit of analysis (ie the entity which is being assessed)?

50.9 For the G-SIB framework, the appropriate reference system is the global economy, given the focus on cross-border spillovers and the negative global externalities that arise from the failure of a globally active bank. As such this allowed for an assessment of the banks that are systemically important in a global context. The unit of analysis was naturally set at the globally consolidated level of a banking group (SCO40.5 states that "systemic importance is assessed based on data that relate to the consolidated group").

50.10 Correspondingly, a process for assessing systemic importance in a domestic context should focus on addressing the externalities that a bank's failure generates at a domestic level. Thus, the Committee is of the view that the appropriate reference system should be the domestic economy, ie that banks would be assessed by the national authorities for their systemic importance to that specific jurisdiction. The outcome would be an assessment of banks active in the domestic economy in terms of their systemic importance.

50.11 In terms of the unit of analysis, the Committee is of the view that home authorities should consider banks from a (globally) consolidated perspective. This is because the activities of a bank outside the home jurisdiction can, when the bank fails, have potential significant spillovers to the domestic (home) economy. Jurisdictions that are home to banking groups that engage in cross-border activity could be impacted by the failure of the whole banking group and not just the part of the group that undertakes domestic activity in the home economy. This is particularly important given the possibility that the home government may have to fund/resolve the foreign operations in the absence of relevant cross-border agreements. This is in line with the concept of the G-SIB framework.

50.12 When it comes to the host authorities, the Committee is of the view that they should assess foreign subsidiaries in their jurisdictions, also consolidated to include any of their own downstream subsidiaries, some of which may be in other jurisdictions. For example, for a cross-border financial group headquartered in country X, the authorities in country Y would only consider subsidiaries of the group in country Y plus the downstream subsidiaries, some of which may be in country Z, and their impact on the economy Y. Thus, subsidiaries of foreign banking groups would be considered from a local or sub-consolidated basis from the level starting in country Y. The scope should be based on regulatory consolidation as in the case of the G-SIB framework. Therefore, for the purposes of assessing D-SIBs, insurance or other non-banking activities should only be included insofar as they are included in the regulatory consolidation.

50.13 The assessment of foreign subsidiaries at the local consolidated level also acknowledges the fact that the failure of global banking groups could impose outsized externalities at the local (host) level when these subsidiaries are significant elements in the local (host) banking system. This is important since there exist several jurisdictions that are dominated by foreign subsidiaries of internationally active banking groups.

Principle 5: assessing the impact of a D-SIB's failure

50.14 The G-SIB methodology identifies five broad categories of factors that influence global systemic importance: size, cross-jurisdictional activity, interconnectedness, substitutability/financial institution infrastructure and complexity. The indicator-based approach and weighting system in the G-SIB methodology was developed to ensure a consistent international ranking of G-SIBs. The Committee is of the view that this degree of detail is not warranted for D-SIBs, given the focus is on the domestic impact of failure of a bank and the wide ranging differences in each jurisdiction's financial structure hinder such international comparisons being made. This is one of the reasons why the D-SIB framework has been developed as a principles-based approach.

50.15 Consistent with this view, it is appropriate to list, at a high level, the broad category of factors (eg size) that jurisdictions should have regard to in assessing the impact of a D-SIB's failure. Among the five categories in the G-SIB framework, size, interconnectedness, substitutability/financial institution infrastructure and complexity are all relevant for D-SIBs as well. Cross-jurisdictional activity, the remaining category, may not be as directly relevant, since it measures the degree of global (cross-jurisdictional) activity of a bank which is not the focus of the D-SIB framework.

50.16 In addition, national authorities may choose to also include some country-specific factors. A good example is the size of a bank relative to domestic gross domestic product (GDP). If the size of a bank is relatively large compared to the domestic GDP, it would make sense for the national authority of the jurisdiction to identify it as a D-SIB whereas a same-sized bank in another jurisdiction, which is smaller relative to the GDP of that jurisdiction, may not be identified as a D-SIB.

50.17 National authorities should have national discretion as to the appropriate relative weights they place on these factors depending on national circumstances.

Principle 6: regular assessment of systemic importance

50.18 The Committee believes it is good practice for national authorities to undertake a regular assessment as to the systemic importance of the banks in their financial systems. The assessment should also be conducted if there are important structural changes to the banking system such as, for example, a merger of major banks. A national authority's assessment process and methodology will be reviewed by the Committee's implementation monitoring process.

50.19 It is also desirable that the interval of the assessments not be significantly longer than that for G-SIBs (ie one year). For example, a systemically important bank could be identified as a G-SIB but also a D-SIB in the same jurisdiction or in other host jurisdictions. Alternatively, a G-SIB could drop from the G-SIB list and become/continue to be a D-SIB. In order to keep a consistent approach in these cases, it would be sensible to have a similar frequency of assessments for the two frameworks.

Principle 7: transparency on the methodology

50.20 The assessment process used needs to be clearly articulated and made public so as to set up the appropriate incentives for banks to seek to reduce the systemic risk they pose to the reference system. This was the key aspect of the G-SIB framework where the assessment methodology and the disclosure requirements of the Committee and the banks were set out in the G-SIB rules text. By taking these measures, the Committee sought to ensure that banks, regulators and market participants would be able to understand how the actions of banks could affect their systemic importance score and thereby the required magnitude of additional loss absorbency. The Committee believes that transparency of the assessment process for the D-SIB framework is also important, even if it is likely to vary across jurisdictions given differences in frameworks and policy tools used to address the systemic importance of banks.

SCO95

Glossary and abbreviations

This chapter lists the abbreviations used in the Basel Framework.

Version effective as of 01 Jan 2023

Updated to include new terminology introduced in the December 2017 Basel III publication with revised implementation date announced on 27 March 2020.

A-IRB	Advanced internal ratings-based
ABCP	Asset-backed commercial paper
ABS	Asset-backed securities
ADC	Acquisition, development and construction
ALCO	Asset and liability management committee
AML	Anti-money-laundering
APL	Actual profit and loss
ARS	Argentine peso
ASF	Available stable funding
AT1	Additional Tier 1
AUD	Australian dollar
AUF	Additional utilisation factor
BA-CVA	Basic approach to credit valuation adjustment risk
BCP	Basel Core Principle
BF	Balance factor
BI	Business indicator
BIC	Business indicator component
BIS	Bank for International Settlements
BOR	Interbank offered rates
bp	Basis points
BRL	Brazilian real
CAD	Canadian dollar
CCBS	Cross-currency basis spread
CCF	Credit conversion factor
CCP	Central counterparty
CCR	Counterparty credit risk
CDD	Customer due diligence

CDO	Collateralised debt obligation
CDR	Cumulative default rate
CDS	Credit default swap
CDX	Credit default swap index
CET1	Common Equity Tier 1
CF	Commodities finance
CFP	Contingency funding plan
CFT	Combating the financing of terrorism
CHF	Swiss franc
CLF	Committed liquidity facility
CLO	Collateralised loan obligation
CM	Clearing member
CMBS	Commercial mortgage-backed securities
CNY	Chinese yuan renminbi
CPR	Conditional prepayment rate
CRO	Chief risk officer
CRM	Credit risk mitigation
CSR	Credit spread risk
CSRBB	Credit spread risk in the banking book
CTP	Correlation trading portfolio
CUSIP	Committee on Uniform Security Identification Procedures
CVA	Credit valuation adjustment
D-SIB	Domestic systemically important bank
DAR	Detailed assessment report
DRC	Default risk charge
DSCR	Debt service coverage ratio

DTA	Deferred tax asset
DTL	Deferred tax liability
DvP	Delivery-versus-payment
EAD	Exposure at default
ECA	Export credit agency
ECAI	External credit assessment institution
ECL	Expected credit loss
ECRA	External credit risk assessment approach
EEPE	Effective expected positive exposure
EL	Expected loss
ELGD	Expected loss-given-default
EONIA	Euro overnight index average
EPC	Engineering and procurement contract
EPE	Expected positive exposure
ES	Expected shortfall
EUR	Euro
Euribor	Euro Interbank Offered Rate
EV	Economic value
EVaR	Economic value-at-risk
EVE	Economic value of equity
F-IRB	Foundation internal ratings-based
FAQ	Frequently asked question
FATF	Financial Action Task Force
FBA	Fall-back approach
FC	Financial component
FSAP	Financial Sector Assessment Program
FSB	Financial Stability Board

FX	Foreign exchange
G-SIB	Global systemically important bank
GAAP	Generally accepted accounting practice
GBP	British pound sterling
GDP	Gross domestic product
GIRR	General interest rate risk
GSE	Government-sponsored entity
HBR	Hedge benefit ratio
HKD	Hong Kong dollar
HLA	Higher loss absorbency
HPL	Hypothetical profit and loss
HQLA	High-quality liquid assets
HVCRE	High-volatility commercial real estate
HY	High yield
IA	Independent amount
IAA	Internal assessment approach
IADI	International Association of Deposit Insurers
IAS	International accounting standard
ICA	Independent collateral amount
ICAAP	Internal capital adequacy assessment process
IDR	Indonesian rupiah
IFRS	International financial reporting standard
IG	Investment grade
ILDC	Interest, leases and dividend component
ILM	Internal loss multiplier
IM	Initial margin

IMA	Internal models approach
IMF	International Monetary Fund
IMM	Internal models method
IMS	Internal measurement systems
INR	Indian rupee
IOSCO	International Organization of Securities Commissions
I/O	Interest-only strips
IPRE	Income-producing real estate
IRB	Internal ratings-based
IRRBB	Interest rate risk in the banking book
ISDA	International Swaps and Derivatives Association
ISIN	International Securities Identification Number
IT	Information technology
JPY	Japanese yen
JTD	Jump-to-default
KRW	Korean won
KS	Kolmogorov-Smirnov
LC	Loss component
LCR	Liquidity Coverage Ratio
LF	Limit factor
LGD	Loss-given-default
LIBOR	London Interbank Offered Rate
LST	Long settlement transaction
LTA	Look-through approach
LTV	Loan-to-value ratio
LVPS	Large-value payment system
M	Effective maturity

MBA	Mandate-based approach
MBS	Mortgage-backed security
MDB	Multilateral development bank
MF	Maturity factor
MIS	Management information system
MNA	Master netting agreement
MPE	Multiple point of entry
MPOR	Margin period of risk
MSR	Mortgage servicing right
MTA	Minimum transfer amount
MTM	Mark-to-market
MXN	Mexican peso
NA	Not applicable
NGR	Net-to-gross ratio
NICA	Net independent collateral amount
NII	Net interest income
NMD	Non-maturity deposit
NMRF	Non-modellable risk factor
NOK	Norwegian krone
NR	Non-rated
NSFR	Net stable funding ratio
NZD	New Zealand dollar
O&M	Operations and maintenance
OBS	Off-balance-sheet
OC	Overcollateralisation
OECD	Organisation for Economic Cooperation and Development

OF	Object finance
OIS	Overnight index swaps
ORC	Operational risk capital requirements
OTC	Over-the-counter
P&L	Profit and loss
PD	Probability of default
PF	Project finance
PFE	Potential future exposure
PLA	Profit and loss attribution
PONV	Point of non-viability
PSE	Public sector entity
PV	Present value
PVA	Prudential valuation adjustment
QCCP	Qualifying central counterparty
QRRE	Qualifying revolving retail exposures
RC	Replacement cost
RCLF	Restricted-use committed liquidity facility
RFET	Risk factor eligibility test
RMBS	Residential mortgage-backed security
ROSC	Report on the Observance of Standards and Codes
ROU	Right-of-use
RRAO	Residual risk add-on
RSF	Required stable funding
RTPL	Risk-theoretical profit and loss
RUB	Russian ruble
RWA	Risk-weighted assets
S&P	Standard and Poor's

SA	Standardised approach
SA-CCR	Standardised approach for counterparty credit risk
SA-CVA	Standardised approach to credit valuation adjustment risk
SAR	Saudi Arabian riyal
SC	Services component
SCRA	Standardised credit risk assessment approach
SEC-SA	Securitisation standardised approach
SEC-ERBA	Securitisation external ratings-based approach
SEC-IRBA	Securitisation internal ratings-based approach
SEK	Swedish krona
SES	Stressed expected shortfall
SF	Supervisory factor
SFT	Securities financing transaction
SGD	Singapore dollar
SIB	Systemically important bank
SIV	Structured investment vehicle
SL	Specialised lending
SME	Small or medium-sized entity
SPE	Special purpose entity
SPV	Special purpose vehicle
STC	Simple, transparent and comparable
STM	Settled-to-market
TDRR	Term deposit redemption rate
TLAC	Total loss-absorbing capacity
TRS	Total return swap
TRY	Turkish lira

UCITS	Undertakings for collective investments in transferable securities
UL	Unexpected loss
ULF	Undrawn limit factor
USD	United States dollar
VaR	Value-at-risk
VM	Variation margin
WTI	West Texas Intermediate
ZAR	South African rand

CAP

Definition of capital

This standard describes the criteria that bank capital instruments must meet to be eligible to satisfy the Basel capital requirements, as well as necessary regulatory adjustments and transitional arrangements.

CAP10

Definition of eligible capital

This chapter sets out the eligibility criteria for regulatory capital. Three categories of instruments are permitted: Common Equity Tier 1, Additional Tier 1 and Tier 2.

Version effective as of 15 Dec 2019

Updated to include the following FAQs: CAP10.11 FAQ24 and CAP10.16 FAQ10.

Components of capital

10.1 Regulatory capital consists of three categories, each governed by a single set of criteria that instruments are required to meet before inclusion in the relevant category.

(1) Common Equity Tier 1 (going-concern capital)

(2) Additional Tier 1 (going-concern capital)

(3) Tier 2 Capital (gone-concern capital)

10.2 Total regulatory capital is the sum of Common Equity Tier 1, Additional Tier 1 and Tier 2 capital, net of regulatory adjustments described in CAP30. Tier 1 capital is the sum of Common Equity Tier 1 and Additional Tier 1 capital, net of the regulatory adjustments in CAP30 applied to those categories.

10.3 It is critical that banks' risk exposures are backed by a high-quality capital base. To this end, the predominant form of Tier 1 capital must be common shares and retained earnings.

10.4 Throughout CAP10 the term "bank" is used to mean bank, banking group or other entity (eg holding company) whose capital is being measured.

10.5 A bank must seek prior supervisory approval if it intends to include in capital an instrument which has its dividends paid in anything other than cash or shares.

Common Equity Tier 1

10.6 Common Equity Tier 1 capital consists of the sum of the following elements:

(1) Common shares issued by the bank that meet the criteria for classification as common shares for regulatory purposes (or the equivalent for non-joint stock companies);

(2) Stock surplus (share premium) resulting from the issue of instruments included Common Equity Tier 1;

(3) Retained earnings;

(4) Accumulated other comprehensive income and other disclosed reserves;

(5) Common shares issued by consolidated subsidiaries of the bank and held by third parties (ie minority interest) that meet the criteria for inclusion in Common Equity Tier 1 capital. See CAP10.20 to CAP10.26 for the relevant criteria; and

(6) Regulatory adjustments applied in the calculation of Common Equity Tier 1.

10.7 Retained earnings and other comprehensive income include interim profit or loss. National authorities may consider appropriate audit, verification or review procedures. Dividends are removed from Common Equity Tier 1 in accordance with applicable accounting standards. The treatment of minority interest and the regulatory adjustments applied in the calculation of Common Equity Tier 1 are addressed in separate sections.

FAQ

FAQ1 *Does retained earnings include the fair value changes of Additional Tier 1 and Tier 2 capital instruments?*

Retained earnings and other reserves, as stated on the balance sheet, are positive components of Common Equity Tier 1. To arrive at Common Equity Tier 1, the positive components are adjusted by the relevant regulatory adjustments set out in CAP30.

No regulatory adjustments are applied to fair value changes of Additional Tier 1 or Tier 2 capital instruments that are recognised on the balance sheet, except in respect of changes due to changes in the bank's own credit risk, as set out in CAP30.15.

For example, consider a bank with common equity of 500 and a Tier 2 capital instrument that is initially recognised on the balance sheet as a liability with a fair value of 100. If the fair value of this liability on the balance sheet changes from 100 to 105, the consequence will be a decline in common equity on the bank's balance sheet from 500 to 495. If this change in fair value is due to factors other than own credit risk of the bank, eg prevailing changes in interest rates or exchange rates, the Tier 2 capital instrument should be reported in Tier 2 at a valuation of 105 and the common equity should be reported as 495.

FAQ2 *Where associates and joint ventures are accounted for under the equity method, are earnings of such entities eligible for inclusion in the Common Equity Tier 1 capital of the group?*

Yes, to the extent that they are reflected in retained earnings and other reserves of the group and not excluded by any of the regulatory adjustments set out in CAP30.

Common shares issued by the bank

10.8 For an instrument to be included in Common Equity Tier 1 capital it must meet all of the criteria that follow. The vast majority of internationally active banks are structured as joint stock companies[1] and for these banks the criteria must be met solely with common shares. In the rare cases where banks need to issue non-voting common shares as part of Common Equity Tier 1, they must be identical to voting common shares of the issuing bank in all respects except the absence of voting rights.[2]

(1) Represents the most subordinated claim in liquidation of the bank.

(2) Entitled to a claim on the residual assets that is proportional with its share of issued capital, after all senior claims have been repaid in liquidation (ie has an unlimited and variable claim, not a fixed or capped claim).

(3) Principal is perpetual and never repaid outside of liquidation (setting aside discretionary repurchases or other means of effectively reducing capital in a discretionary manner that is allowable under relevant law).

(4) The bank does nothing to create an expectation at issuance that the instrument will be bought back, redeemed or cancelled nor do the statutory or contractual terms provide any feature which might give rise to such an expectation.

(5) Distributions are paid out of distributable items (retained earnings included). The level of distributions is not in any way tied or linked to the amount paid in at issuance and is not subject to a contractual cap (except to the extent that a bank is unable to pay distributions that exceed the level of distributable items).

(6) There are no circumstances under which the distributions are obligatory. Non payment is therefore not an event of default. Among other things, this requirement prohibits features that require the bank to make payments in kind.

(7) Distributions are paid only after all legal and contractual obligations have been met and payments on more senior capital instruments have been made. This means that there are no preferential distributions, including in respect of other elements classified as the highest quality issued capital.

(8) It is the issued capital that takes the first and proportionately greatest share of any losses as they occur.[3] Within the highest quality capital, each instrument absorbs losses on a going concern basis proportionately and pari passu with all the others.

(9) The paid-in amount is recognised as equity capital (ie not recognised as a liability) for determining balance sheet insolvency.

(10) The paid-in amount is classified as equity under the relevant accounting standards.

(11) It is directly issued and paid-in and the bank cannot directly or indirectly have funded the instrument or the purchase of the instrument.

(12) The paid-in amount is neither secured nor covered by a guarantee of the issuer or related entity[4] or subject to any other arrangement that legally or economically enhances the seniority of the claim.

(13) It is only issued with the approval of the owners of the issuing bank, either given directly by the owners or, if permitted by applicable law, given by the Board of Directors or by other persons duly authorised by the owners.

(14) It is clearly and separately disclosed on the bank's balance sheet.[5]

Footnotes

[1] *Joint stock companies are defined as companies that have issued common shares, irrespective of whether these shares are held privately or publically. These will represent the vast majority of internationally active banks.*

[2] *The criteria also apply to non-joint stock companies, such as mutuals, cooperatives or savings institutions, taking into account their specific constitution and legal structure. The application of the criteria should preserve the quality of the instruments by requiring that they are deemed fully equivalent to common shares in terms of their capital quality as regards loss absorption and do not possess features which could cause the condition of the bank to be weakened as a going concern during periods of market stress. Supervisors will exchange information on how they apply the criteria to non-joint stock companies in order to ensure consistent implementation.*

[3] *In cases where capital instruments have a permanent writedown feature, this criterion is still deemed to be met by common shares.*

[4] *A related entity can include a parent company, a sister company, a subsidiary or any other affiliate. A holding company is a related entity irrespective of whether it forms part of the consolidated banking group.*

[5] *The item should be clearly and separately disclosed in the balance sheet published in the bank's annual report. Where a bank publishes results on a half-yearly or quarterly basis, disclosure should also be made at those times. The requirement applies at the consolidated level; the treatment at an entity level should follow domestic requirements.*

FAQ

FAQ1 *Regarding CAP10.8(5), if a bank does not earn any distributable profit within a given period does this mean that the bank is prohibited from paying a dividend?*

There are no Basel III requirements that prohibit dividend distributions as long as the bank meets the minimum capital ratios to which it is subject and does not exceed any of the distribution constraints of the capital conservation and countercyclical buffers (extended, as applicable, by any global or domestic systemically important bank higher loss absorbency capital surcharge). Accordingly, dividends may be paid out of reserves available for distribution (including those reserves accumulated in prior years) provided that all minimum ratios and buffer constraints are observed.

Distributable items in the criteria for common shares should be interpreted with reference to those items which are permitted to be distributed according to the relevant jurisdictional requirements, including any prohibitions that form part of those requirement.

For example, consider a jurisdiction in which distributable items consist of a company's retained earnings only and, as such, companies are not permitted to pay dividends (ie make distributions) to shareholders if the payment would result in negative retained earnings. Given that both the payment of dividends on shares reduces retained earnings, their declaration should be precluded in this jurisdiction if payment would result in (or increase) negative retained earnings.

FAQ2 *Does "paid-in" have to be paid-in with cash?*

Paid-in capital generally refers to capital that has been received with finality by the bank, is reliably valued, fully under the bank's control and does not directly or indirectly expose the bank to the credit risk of the investor. The criteria for inclusion in capital do not specify how an instrument must be "paid-in". Payment of cash to the issuing bank is not always applicable, for example, when a bank issues shares as payment for the take-over of another company the shares would still be considered to be paid-in. However, a bank is required to have prior supervisory approval to include in capital an instrument which has not been paid-in with cash.

FAQ3 *Does CAP10.8(11) require an exclusion from regulatory capital where a bank provides funding to a borrower that purchases the capital instruments of the bank where: (a) the bank has full recourse to the borrower; and (b) the funding was not provided specifically for the*

purpose of purchasing the capital of the bank (eg it was provided for the purpose of holding a diversified portfolio of investments)?

No. Banks must ensure full compliance with CAP10.8(11) in economic terms irrespective of the specific legal features underpinning the transaction.

Additional Tier 1 capital

10.9 Additional Tier 1 capital consists of the sum of the following elements:

(1) instruments issued by the bank that meet the criteria for inclusion in Additional Tier 1 capital (and are not included in Common Equity Tier 1);

(2) stock surplus (share premium) resulting from the issue of instruments included in Additional Tier 1 capital;

(3) instruments issued by consolidated subsidiaries of the bank and held by third parties that meet the criteria for inclusion in Additional Tier 1 capital and are not included in Common Equity Tier 1 capital. See CAP10.20 to CAP10.26 for the relevant criteria; and

(4) regulatory adjustments applied in the calculation of Additional Tier 1 Capital.

FAQ

FAQ1 *Can subordinated loans be included in regulatory capital?*

Yes. As long as the subordinated loans meet all the criteria required for Additional Tier 1 or Tier 2 capital, banks can include these items in their regulatory capital.

10.10 The treatment of instruments issued out of consolidated subsidiaries of the bank and the regulatory adjustments applied in the calculation of Additional Tier 1 capital are addressed in separate sections.

10.11 The following criteria must be met or exceeded for an instrument issued by the bank to be included in Additional Tier 1 capital.

(1) Issued and paid-in

(2) Subordinated to depositors, general creditors and subordinated debt of the bank. In the case of an issue by a holding company, the instrument must be subordinated to all general creditors.

(3) Is neither secured nor covered by a guarantee of the issuer or related entity or other arrangement that legally or economically enhances the seniority of the claim vis-à-vis bank creditors

(4) Is perpetual, ie there is no maturity date and there are no step-ups or other incentives to redeem

(5) May be callable at the initiative of the issuer only after a minimum of five years:

  (a) To exercise a call option a bank must receive prior supervisory approval; and

  (b) A bank must not do anything which creates an expectation that the call will be exercised; and

  (c) Banks must not exercise a call unless:

    (i) They replace the called instrument with capital of the same or better quality and the replacement of this capital is done at conditions which are sustainable for the income capacity of the bank;[6] or

    (ii) The bank demonstrates that its capital position is well above the minimum capital requirements after the call option is exercised.[7]

  (d) The use of tax event and regulatory event calls are permitted within the first five years of a capital instrument, but supervisors will only permit the bank to exercise such a call if in their view the bank was not in a position to anticipate the event at issuance.

(6) Any repayment of principal (eg through repurchase or redemption) must be with prior supervisory approval and banks should not assume or create market expectations that supervisory approval will be given.

(7) Dividend/coupon discretion:

(a) the bank must have full discretion at all times to cancel distributions /payments[8]

(b) cancellation of discretionary payments must not be an event of default

(c) banks must have full access to cancelled payments to meet obligations as they fall due

(d) cancellation of distributions/payments must not impose restrictions on the bank except in relation to distributions to common stockholders.

(8) Dividends/coupons must be paid out of distributable items.[9]

(9) The instrument cannot have a credit-sensitive dividend feature, that is a dividend/coupon that is reset periodically based in whole or in part on the banking organisation's credit standing.

(10) The instrument cannot contribute to liabilities exceeding assets if such a balance sheet test forms part of national insolvency law.

(11) Instruments classified as liabilities for accounting purposes must have a principal loss-absorption mechanism. This must generate Common Equity Tier 1 under the relevant accounting standards and the instrument will only receive recognition in Additional Tier 1 up to the minimum level of Common Equity Tier 1 generated by the loss-absorption mechanism. The mechanism must operate through either:

(a) conversion to common shares at an objective pre-specified trigger point of at least 5.125% Common Equity Tier 1; or

(b) a writedown mechanism which allocates losses to the instrument at a pre-specified trigger point of at least 5.125% Common Equity Tier 1. The writedown will have the following effects:

(i) Reduce the claim of the instrument in liquidation;

(ii) Reduce the amount repaid when a call is exercised; and

(iii) Partially or fully reduce coupon/dividend payments on the instrument.

(12) The aggregate amount to be written down/converted for all instruments classified as liabilities for accounting purposes on breaching the trigger level must be at least the amount needed to immediately return the bank's Common Equity Tier 1 ratio to the trigger level or, if this is not possible, the full principal value of the instruments.

(13) Neither the bank nor a related party over which the bank exercises control or significant influence can have purchased the instrument, nor can the bank directly or indirectly fund the instrument or the purchase of the instrument.

(14) The instrument cannot have any features that hinder recapitalisation, such as provisions that require the issuer to compensate investors if a new instrument is issued at a lower price during a specified time frame.

(15) If the instrument is not issued out of an operating entity or the holding company in the consolidated group (eg a special purpose vehicle - "SPV"), proceeds must be immediately available without limitation to a single operating entity[10] or the holding company in the consolidated group in a form which meets or exceeds all of the other criteria for inclusion in Additional Tier 1 capital.

(16) The terms and conditions must have a provision that requires, at the option of the relevant authority, the instrument to either be written off or converted into common equity upon the occurrence of a trigger event, unless the criteria in CAP10.12 are met. Any compensation paid to instrument holders as a result of a write-off must be paid immediately in the form of common stock (or its equivalent in the case of non-joint stock companies) of either the issuing bank or the parent company of the consolidated group (including any successor in resolution) and must be paid prior to any public sector injection of capital (so that the capital provided by the public sector is not diluted). The issuing bank must maintain at all times all prior authorisation necessary to immediately issue the relevant number of shares specified in the instrument's terms and conditions should the trigger event occur. The trigger event:

(a) is the earlier of:

(i) a decision that a write-off, without which the firm would become non-viable, is necessary, as determined by the relevant authority; and

(ii) the decision to make a public sector injection of capital, or equivalent support, without which the firm would have become non-viable, as determined by the relevant authority; and

(b) is determined by the jurisdiction in which the capital is being given recognition for regulatory purposes. Therefore, where an issuing bank is part of a wider banking group and the issuing bank wishes the instrument to be included in the consolidated group's capital in addition to its solo capital, the terms and conditions must specify an additional trigger event. This additional trigger event is the earlier of:

(i) a decision that a write-off, without which the firm would become non-viable, is necessary, as determined by the relevant authority in the home jurisdiction; and

(ii) the decision to make a public sector injection of capital, or equivalent support, in the jurisdiction of the consolidated supervisor, without which the firm receiving the support would have become non-viable, as determined by the relevant authority in that jurisdiction.

Footnotes

[6] *Replacement issues can be concurrent with but not after the instrument is called.*

[7] *Minimum refers to the regulator's prescribed minimum requirement, which may be higher than the Basel III Pillar 1 minimum requirement.*

[8] *A consequence of full discretion at all times to cancel distributions /payments is that "dividend pushers" are prohibited. An instrument with a dividend pusher obliges the issuing bank to make a dividend /coupon payment on the instrument if it has made a payment on another (typically more junior) capital instrument or share. This obligation is inconsistent with the requirement for full discretion at all times. Furthermore, the term "cancel distributions/payments" means extinguish these payments. It does not permit features that require the bank to make distributions/payments in kind. Banks may not allow investors to convert an Additional Tier 1 instrument to common equity upon non-payment of dividends, as this would also impede the practical ability of the bank to exercise its discretion to cancel payments.*

[9] *It should be noted that, in many jurisdictions, distributions on Additional Tier 1 instruments (particularly those classified as liabilities but also, in some cases, on instruments that are equity-accounted) will be reflected as an expense item rather than as a distribution of profit (usually for tax reasons). The precondition of "distributable items" as a prudential criterion has therefore to be understood and applied in such a way that such distributions, even if not in violation of any legislation governing distributions by corporates, should not be allowed by the regulator if the distributable items are not adequate to provide for them.*

[10] *An operating entity is an entity set up to conduct business with clients with the intention of earning a profit in its own right.*

FAQ

FAQ1 *Does "paid-in" have to be paid-in with cash?*

Paid-in capital generally refers to capital that has been received with finality by the bank, is reliably valued, fully under the bank's control and does not directly or indirectly expose the bank to the credit risk of the investor. The criteria for inclusion in capital do not specify how an instrument must be "paid-in". Payment of cash to the issuing bank is not always applicable, for example, when a bank issues shares as payment for the takeover of another company the shares would still be considered to be paid-in. However, a bank is required to have prior supervisory approval to include in capital an instrument which has not been paid-in with cash.

FAQ2 *Where a bank uses a special vehicle to issue capital to investors and also provides support to the vehicle (eg by contributing a reserve), does the support contravene CAP10.11(3)?*

Yes, the provision of support would constitute enhancement and breach CAP10.11(3).

FAQ3 *If a Tier 1 security is structured in such a manner that after the first call date the issuer would have to pay withholding taxes assessed on interest payments that they did not have to pay before, would this constitute an incentive to redeem? It is like a more traditional step-up in the sense that the issuers' interest payments are increasing following the first call date; however, the stated interest does not change and the interest paid to the investor does not change.*

Yes, it would be considered a step-up.

FAQ4 *Can the Committee give additional guidance on what will be considered an incentive to redeem?*

The Committee does not intend to publish an exhaustive list of what is considered an incentive to redeem and so banks should seek guidance from their national supervisor on specific features and instruments. However, the following list provides some examples of what would be considered an incentive to redeem:

- *A call option combined with an increase in the credit spread of the instrument if the call is not exercised.*
- *A call option combined with a requirement or an investor option to convert the instrument into shares if the call is not exercised.*

- *A call option combined with a change in the reference rate where the credit spread over the second reference rate is greater than the initial payment rate less the swap rate (ie the fixed rate paid to the call date to receive the second reference rate). For example, if the initial reference rate is 0.9%, the credit spread over the initial reference rate is 2% (ie the initial payment rate is 2.9%), and the swap rate to the call date is 1.2% a credit spread over the second reference rate greater than 1.7% (2.9-1.2%) would be considered an incentive to redeem.*

Conversion from a fixed rate to a floating rate (or vice versa) in combination with a call option without any increase in credit spread will not in itself be viewed as an incentive to redeem. However, as required by CAP10.11(5), the bank must not do anything that creates an expectation that the call will be exercised.

Banks must not expect supervisors to approve the exercise of a call option for the purpose of satisfying investor expectations that a call will be exercised.

FAQ5 *An Additional Tier 1 capital instrument must be perpetual, which is further clarified as there being no maturity date, step-ups or other incentives to redeem. In some jurisdictions, domestic law does not allow direct issuance of perpetual debt. If, however, a dated instrument' s terms and conditions include an automatic rollover feature, would the instrument be eligible for recognition as Additional Tier 1 capital? What about instruments with mandatory conversion into common shares on a pre-defined date?*

Dated instruments that include automatic rollover features are designed to appear as perpetual to the regulator and simultaneously to appear as having a maturity to the tax authorities and/or legal system. This creates a risk that the automatic rollover could be subject to legal challenge and repayment at the maturity date could be enforced. As such, instruments with maturity dates and automatic rollover features should not be treated as perpetual.

An instrument may be treated as perpetual if it will mandatorily convert to common shares at a pre-defined date and has no original maturity date prior to conversion. However, if the mandatory conversion feature is combined with a call option (ie the mandatory conversion date and the call are simultaneous or near-simultaneous), such that the bank can call the instrument to avoid conversion, the instrument will be treated as having an incentive to redeem and will not be permitted to be included in Additional Tier 1. Note that there

may be other facts and circumstances besides having a call option that may constitute an incentive to redeem.

FAQ6 *An instrument is structured with a first call date after 5 years but thereafter is callable quarterly at every interest payment due date (subject to supervisory approval). The instrument does not have a step-up. Does the instrument meet CAP10.11(4) and CAP10.11(5) in terms of being perpetual with no incentive to redeem?*

CAP10.11(5) allows an instrument to be called by an issuer after a minimum period of 5 years. It does not preclude calling at times after that date or preclude multiple dates on which a call may be exercised. However, the specification of multiple dates upon which a call might be exercised must not be used to create an expectation that the instrument will be redeemed at the first call date, as this is prohibited by CAP10.11(4).

FAQ7 *An Additional Tier 1 instrument can be redeemed within the first five years of issuance only on the occurrence of a tax event or regulatory event. Please advise whether: (a) a tax event must relate solely to taxation changes that adversely affect the tax treatment of dividend and interest payments from the issuer's perspective; (b) a tax event could also include tax changes from the holders' perspective, with or without the issuer seeking to compensate the investors with additional payments; and (c) issuers should be allowed to gross up distributions to compensate the investors with additional payments, or whether this should be regarded as akin to a step up and an incentive to redeem (either under a call option related to the "tax event" (if permitted), or otherwise when the five year call date is reached).*

A tax event must relate to taxation changes in the jurisdiction of the issuer that increase an issuer's cash outflows to holders of capital instruments or adversely affect the tax treatment of dividend, interest payments or principal repayments from the issuer's perspective.

Any taxation changes that result in an increase in the cost of the issuance for the bank may be regarded as a tax event where the change in tax law is in the jurisdiction of the issuer and could not be anticipated at the issue date of the instrument. For example, where the issuer is required by a change in taxation law to withhold or deduct amounts otherwise payable to instrument holders, and is also required under the terms of the instrument to make additional payments to ensure that holders receive the amounts they would otherwise have received had no withholding or deduction been required, such a change in taxation law may be regarded as a tax event. Any

redemption on account of such a tax event will be subject to all of the conditions applicable to early redemptions within the jurisdiction. In the example, the contractual additional payments required to make investors whole for withholding taxes or deductions, in effect, represent the adverse impact of the tax change on the issuer.

FAQ8 *Can the Basel Committee given an example of an action that would be considered to create an expectation that a call will be exercised?*

If a bank were to call a capital instrument and replace it with an instrument that is more costly (eg has a higher credit spread) this might create an expectation that the bank will exercise calls on its other capital instruments. As a consequence banks should not expect their supervisors to permit them to call an instrument if the banks intends to replace it with an instrument issued at a higher credit spread.

FAQ9 *Are dividend stopper arrangements acceptable (eg features that stop the bank making a dividend payment on its common shares if a dividend/coupon is not paid on its Additional Tier 1 instruments)? Are dividend stopper arrangements acceptable if they stop dividend /coupon payments on other Tier 1 instruments in addition to dividends on common shares?*

Dividend stopper arrangements that stop dividend payments on common shares are not prohibited by the Basel standards. Furthermore, dividend stopper arrangements that stop dividend payments on other Additional Tier 1 instruments are not prohibited. However, stoppers must not impede the full discretion that a bank must have at all times to cancel distributions/payments on the Additional Tier 1 instrument, nor must they act in a way that could hinder the recapitalisation of the bank (see CAP10.11(14)). For example, it would not be permitted for a stopper on an Additional Tier 1 instrument to:

- *attempt to stop payment on another instrument where the payments on this other instrument were not also fully discretionary;*
- *prevent distributions to shareholders for a period that extends beyond the point in time that dividends/coupons on the Additional Tier 1 instrument are resumed; or*
- *impede the normal operation of the bank or any restructuring activity (including acquisitions/disposals).*

A stopper may act to prohibit actions that are equivalent to the payment of a dividend, such as the bank undertaking discretionary share buybacks.

FAQ10 *If the instrument provides for an optional dividend to be paid, with prior supervisory approval, equal to the aggregate unpaid amount of any unpaid dividends, would it be considered as meeting CAP10.11(7)(a)? What if the optional dividend is not specifically linked to the unpaid dividends, but structured as a bonus to reward investors in good times?*

No, this contravenes CAP10.11(7) which requires the bank to extinguish dividend/coupon payments. Any structuring as a bonus payment to make up for unpaid dividends is also prohibited.

FAQ11 *Is the term "distributable items" in CAP10.11(8) intended to include "retained earnings", as is the case in CAP10.8(5) for common shares? If yes, then how would this requirement work in the case of an Additional Tier 1 instrument classified as an accounting liability?*

Distributable items in the criteria for common shares and Additional Tier 1 should be interpreted with reference to those items which are permitted to be distributed according to the relevant jurisdictional requirements, including any prohibitions that form part of those requirement.

For example, consider a jurisdiction in which distributable items consist of a company's retained earnings only and, as such, companies are not permitted to pay dividends (ie make distributions) to shareholders if the payment would result in negative retained earnings. Given that both the payment of dividends and coupons on shares / Additional Tier 1 instruments reduces retained earnings, their declaration (in the case of dividends) or payment (in the case of coupons) should be precluded in this jurisdiction if payment would result in (or increase) negative retained earnings.

It should be noted that in many jurisdictions distributions on Additional Tier 1 instruments (particularly those classified as liabilities but also, in some cases, on instruments which are equity accounted) will be reflected as an expense item rather than as a distribution of profit (usually for tax reasons). The precondition of "distributable items" as a prudential criterion has therefore to be understood and applied in such a way that such distributions even if not in violation of any legislation governing distributions by corporates, should not be allowed by the

regulator if the distributable items are not adequate to provide for them.

FAQ12 *Can the dividend/coupon rate be based on movements in a market index? Is resetting of the margin permitted at all? Does CAP10.11(9) prevent the use of a reference rate for which the bank is a reference entity (eg the London Interbank Offered Rate)?*

The aim of CAP10.11(9) is to prohibit the inclusion of instruments in Additional Tier 1 where the credit spread of the instrument will increase as the credit standing of the bank decreases. Banks may use a broad index as a reference rate in which the issuing bank is a reference entity, however, the reference rate should not exhibit significant correlation with the bank's credit standing. If a bank plans to issue capital instruments where the margin is linked to a broad index in which the bank is a reference entity, the bank should ensure that the dividend/coupon is not credit sensitive. National supervisors may provide guidance on the reference rates that are permitted in their jurisdictions or may disallow inclusion of an instrument in regulatory capital if they deem the reference rate to be credit sensitive.

FAQ13 *Is CAP10.11(10) irrelevant if national insolvency law does not include an assets exceeding liabilities test?*

Yes, it is irrelevant where liabilities exceeding assets does not form part of the insolvency test under the national insolvency law that applies to the issuing bank. However, if a branch wants to issue an instrument in a foreign jurisdiction where insolvency law is different from the jurisdiction where the parent bank is based, the issue documentation must specify that the insolvency law in the parent bank's jurisdiction will apply.

FAQ14 *If a related party of the bank purchases the capital instrument but third-party investors bear all the risks and rewards associated with the instrument and there is no counterparty risk (eg a fund manager or insurance subsidiary invests for the benefit of fund investors or insurance policyholders), does this contravene CAP10.11(13)?*

The intention of the criterion is to prohibit the inclusion of instruments in capital in cases where the bank retains any of the risk of the instruments. The criterion is not contravened if the third-party investors bear all of the risks.

FAQ15 *Does CAP10.11(13) require an exclusion from regulatory capital where a bank provides funding to a borrower that purchases the capital*

instruments of the bank where: (a) the bank has full recourse to the borrower; and (b) the funding was not provided specifically for the purpose of purchasing the capital of the bank (eg it was provided for the purpose of holding a diversified portfolio of investments)?

No. Banks must ensure full compliance with CAP10.11(13) in economic terms irrespective of the specific legal features underpinning the transaction.

FAQ16 *Is it correct to assume that regulators are to look at the form of instrument issued to the SPV as well as instruments issued by the SPV to end investors?*

Yes, capital instruments issued to the SPV have to meet fully all the eligibility criteria as if the SPV itself was an end investor – ie the bank cannot issue capital of a lower quality (eg Tier 2) to an SPV and have an SPV issue higher quality capital to third-party investors to receive recognition as higher quality capital.

FAQ17 *Can Tier 2 capital issued by an SPV be upstreamed as Tier 1 capital for the consolidated group?*

If an SPV issues Tier 2 capital to investors and upstreams the proceeds by investing in Tier 1 issued by an operating entity or the holding company of the group, the transaction will be classified as Tier 2 capital for the consolidated group. Furthermore, the instrument issued by the operating entity or holding company must also be classified as Tier 2 for all other requirements that apply to that entity (eg solo or sub-consolidated capital requirements and disclosure requirements).

FAQ18 *Regarding CAP10.11(16), consider a bank that issues capital out of a foreign subsidiary, and wishes to use such capital to meet both the solo requirements of the foreign subsidiary and include the capital in the consolidated capital of the group. Is it correct that the relevant authority in jurisdiction of the consolidated supervisor must have the power to trigger write-down / conversion of the instrument in addition to the relevant authority in the jurisdiction of the foreign subsidiary?*

Yes, this is correct.

FAQ19 *To ensure that the scope of application of the non-viability trigger is exercised consistently across jurisdictions does the Basel Committee intend to issue any further guidance on what constitutes the point of non-viability?*

Banks should seek advice from their relevant national authority if they have questions about national implementation.

FAQ20 *How should conversion at the point of non-viability operate for issues out of SPVs?*

The write-off of the instruments issued from the SPV to end investors should mirror the write-off of the capital issued from the operating entity or holding company to the SPV. Banks should discuss whether the specific arrangements of each instrument meet this broad concept with their relevant national authority.

FAQ21 *Assuming compliance with all relevant legal conditions that may exist can the compensation upon the point of non-viability trigger be paid in the form of common shares of the holding company of the bank?*

Yes, national authorities may allow common shares paid as compensation to be those of the bank's holding company. This is permitted because neither the issuance of shares of the bank nor the issuance of shares of the holding company affect the level of common equity created at the bank when the liability represented by the capital instruments is written off. National authorities may require that banks that intend to do this seek the relevant authority's approval before the issuance of such capital instruments.

FAQ22 *While CAP10.11(11) requires either writedown or conversion to equity of the Additional Tier 1 instrument (accounted for as a liability), the non-viability trigger (ie gone-concern trigger for all non-common equity Tier 1 and Tier 2 instruments) in CAP10.11(16) requires either write-off or conversion to equity. Did the Basel Committee intend to differentiate the loss absorption mechanism between the writedown and write-off?*

Additional Tier 1 instruments accounted for as liabilities are required to meet both the requirements for the point of non-viability and the principal loss-absorbency requirements in CAP10.11(11).

To meet the point-of-non-viability requirements, the instrument needs to be capable of being permanently written off or converted to common shares at the trigger event. Temporary writedown mechanisms cannot meet this requirement.

Regarding the writedown or conversion requirements for Additional Tier 1 instruments accounted for as liabilities, a temporary writedown mechanism is only permitted if it meets the conditions in CAP10.11(11) and CAP10.11(12).

FAQ23 *A deferred tax liability (DTL) could arise when a bank writes down or writes-off an instrument as a result of the principal loss-absorption or the non-viability requirement being triggered. Should the amount recognised as regulatory capital, both at the point of issuance and during the life of the instrument, be net of potential deferred tax liabilities that could arise when the instrument is written down or written off?*

Yes. The amount recognised as regulatory capital should be adjusted to account for any DTLs or tax payment resulting from the conversion or writedown or any other foreseeable tax liability or tax payment related to the instruments due at the moment of conversion or writedown or write-off. The adjustment should be made from the point of issuance. Institutions shall assess and justify the amount of any foreseeable tax liabilities or tax payments to the satisfaction of their supervisory authorities, taking into account in particular the local tax treatment and the structure of the group.

Where netting of DTLs against deferred tax assets is allowed, banks should seek guidance from supervisory authorities on the treatment of DTLs associated with the conversion, writedown or write-off of regulatory capital instrument.

FAQ24 *Regarding the reform of benchmark reference rates, will amendments to the contractual terms of capital instruments that are undertaken to prepare for the transition to the new benchmark rates result in a reassessment of their eligibility as regulatory capital?*

Amendments to the contractual terms of capital instruments could potentially trigger a reassessment of their eligibility as regulatory capital in some jurisdictions. A reassessment could result in an existing capital instrument being treated as a new instrument. This in turn could result in breaching the minimum maturity and call date requirements. Similarly, existing capital instruments issued under Basel II that are being phased out could also fail to meet eligibility requirements if they are treated as new instruments. The Committee confirms that amendments to capital instruments pursued solely for the purpose of implementing benchmark rate reforms will not result in them being treated as new instruments for the purpose of assessing the

minimum maturity and call date requirements or affect their eligibility for transitional arrangements of Basel III.

10.12 The terms and conditions of Additional Tier 1 instruments must include a write-off or conversion provision activated at the option of the relevant authority upon the occurrence of the trigger event (as described in CAP10.11(16)) unless the following criteria are met. The same criteria apply in the case of the requirement for a write-off or conversion provision in Tier 2 instruments (as described in CAP10.16(10)):

(1) the governing jurisdiction of the bank has in place laws that:

(a) require such instruments to be written off upon such event, or

(b) otherwise require such instruments to fully absorb losses before tax payers are exposed to loss; and

(2) it is disclosed by the relevant regulator and by the issuing bank, in issuance documents issued on or after 1 January 2013, that such instruments are subject to loss under CAP10.12(1).

FAQ

FAQ1 *Does the option for loss absorbency at the point of non-viability to be implemented through statutory means release banks from the requirement of CAP10.11(11) to have a contractual principal loss absorption mechanism for Tier 1 instrument classified as liabilities?*

No, this option does not release banks from any of the requirements in CAP.

FAQ2 *What should a bank do if it is unsure whether the governing jurisdiction has the laws in place as set out in CAP10.12?*

It should seek guidance from the relevant national authority in its jurisdiction.

FAQ3 *CAP10.11(16) and CAP10.12 describe two scenarios. In the latter, the governing jurisdiction of the bank has sufficient powers to write down Additional Tier 1 and Tier 2 instruments. In the former, these powers are not deemed sufficient and contractual provisions (that amount to an embedded option that is to be triggered by the relevant authority) are required in these instruments. The ability of the relevant authority*

to exercise an embedded option in a regulatory instrument also requires that they have the authority to do so. What is the difference between the powers required in first and second scenarios?

In both cases the relevant authority must have the power to write down or convert the instrument. In the latter scenario the authorities have the statutory power to enact the conversion/writedown irrespective of the terms and conditions of the instrument. In the former scenario the authorities have the power to enact the conversion /writedown in accordance with the terms and conditions of the instrument. In both cases, the fact that the instrument is subject to loss as a result of the relevant authority exercising such power must be made clear. In the latter scenario, there needs to be disclosure by the relevant regulator and by the issuing bank, in issuance documents going forward. In the former scenario, this needs to be specified in the terms and conditions of the instrument.

10.13 Stock surplus (ie share premium) that is not eligible for inclusion in Common Equity Tier 1, will only be permitted to be included in Additional Tier 1 capital if the shares giving rise to the stock surplus are permitted to be included in Additional Tier 1 capital.

Tier 2 capital

10.14 Tier 2 capital consists of the sum of the following elements:

(1) instruments issued by the bank that meet the criteria for inclusion in Tier 2 capital (and are not included in Tier 1 capital);

(2) stock surplus (share premium) resulting from the issue of instruments included in Tier 2 capital;

(3) instruments issued by consolidated subsidiaries of the bank and held by third parties that meet the criteria for inclusion in Tier 2 capital and are not included in Tier 1 capital. See CAP10.20 to CAP10.26 for the relevant criteria;

(4) certain loan-loss provisions as specified in CAP10.18 and CAP10.19; and

(5) regulatory adjustments applied in the calculation of Tier 2 capital.

FAQ

FAQ1 *Can subordinated loans be included in regulatory capital?*

Yes. As long as the subordinated loans meet all the criteria required for Additional Tier 1 or Tier 2 capital, banks can include these items in their regulatory capital.

10.15 The treatment of instruments issued out of consolidated subsidiaries of the bank and the regulatory adjustments applied in the calculation of Tier 2 capital are addressed in separate sections.

10.16 The objective of Tier 2 is to provide loss absorption on a gone-concern basis. Based on this objective, the following criteria must be met or exceeded for an instrument to be included in Tier 2 capital.

(1) Issued and paid-in

(2) Subordinated to depositors and general creditors of the bank. In the case of an issue by a holding company, the instrument must be subordinated to all general creditors.

(3) Is neither secured nor covered by a guarantee of the issuer or related entity or other arrangement that legally or economically enhances the seniority of the claim vis-à-vis depositors and general bank creditors

(4) Maturity:

(a) Minimum original maturity of at least five years

(b) Recognition in regulatory capital in the remaining five years before maturity will be amortised on a straight line basis.

(c) There are no step-ups or other incentives to redeem.

(5) May be callable at the initiative of the issuer only after a minimum of five years:

(a) To exercise a call option a bank must receive prior supervisory approval;

(b) A bank must not do anything that creates an expectation that the call will be exercised;[11] and

(c) Banks must not exercise a call unless:

(i) they replace the called instrument with capital of the same or better quality and the replacement of this capital is done at conditions which are sustainable for the income capacity of the bank;[12] or

(ii) the bank demonstrates that its capital position is well above the minimum capital requirements after the call option is exercised.[13]

(d) The use of tax event and regulatory event calls are permitted within the first five years of a capital instrument, but supervisors will only permit the bank to exercise such a call if in their view the bank was not in a position to anticipate the event at issuance.

(6) The investor must have no rights to accelerate the repayment of future scheduled payments (coupon or principal), except in bankruptcy and liquidation.

(7) The instrument cannot have a credit-sensitive dividend feature, that is a dividend/coupon that is reset periodically based in whole or in part on the banking organisation's credit standing.

(8) Neither the bank nor a related party over which the bank exercises control or significant influence can have purchased the instrument, nor can the bank directly or indirectly have funded the instrument or the purchase of the instrument.

(9) If the instrument is not issued out of an operating entity or the holding company in the consolidated group (eg an SPV), proceeds must be immediately available without limitation to a single operating entity[14] or the holding company in the consolidated group in a form which meets or exceeds all of the other criteria for inclusion in Tier 2 capital.

(10) The terms and conditions must have a provision that requires, at the option of the relevant authority, the instrument to either be written off or converted into common equity upon the occurrence of a trigger event, unless the laws of the governing jurisdiction meet the criteria in CAP10.12. Any compensation paid to instrument holders as a result of a write-off must be paid immediately in the form of common stock (or its equivalent in the case of non-joint stock companies) of either the issuing bank or the parent company of the consolidated group (including any successor in resolution) and must be paid prior to any public sector injection of capital (so that the capital provided by the public sector is not diluted. The issuing bank must maintain at all times all prior authorisation necessary to immediately issue the relevant number of shares specified in the instrument's terms and conditions should the trigger event occur. The trigger event:

(a) is the earlier of:

(i) a decision that a write-off, without which the firm would become non-viable, is necessary, as determined by the relevant authority; and

(ii) the decision to make a public sector injection of capital, or equivalent support, without which the firm would have become non-viable, as determined by the relevant authority; and

(b) is determined by the jurisdiction in which the capital is being given recognition for regulatory purposes. Therefore, where an issuing bank is part of a wider banking group and the issuing bank wishes the instrument to be included in the consolidated group's capital in addition to its solo capital, the terms and conditions must specify an additional trigger event. This additional trigger event is the earlier of:

(i) a decision that a write-off, without which the firm would become non-viable, is necessary, as determined by the relevant authority in the home jurisdiction; and

(ii) the decision to make a public sector injection of capital, or equivalent support, in the jurisdiction of the consolidated supervisor, without which the firm receiving the support would have become non-viable, as determined by the relevant authority in that jurisdiction.

Footnotes

[11] *An option to call the instrument after five years but prior to the start of the amortisation period will not be viewed as an incentive to redeem as long as the bank does not do anything that creates an expectation that the call will be exercised at this point.*

[12] *Replacement issues can be concurrent with but not after the instrument is called.*

[13] *Minimum refers to the regulator's prescribed minimum requirement, which may be higher than the Basel III Pillar 1 minimum requirement.*

[14] *An operating entity is an entity set up to conduct business with clients with the intention of earning a profit in its own right.*

FAQ

FAQ1 *Does "paid-in" have to be paid-in with cash?*

Paid-in capital generally refers to capital that has been received with finality by the bank, is reliably valued, fully under the bank's control and does not directly or indirectly expose the bank to the credit risk of the investor. The criteria for inclusion in capital do not specify how an instrument must be "paid-in". Payment of cash to the issuing bank is not always applicable, for example, when a bank issues shares as payment for the takeover of another company the shares would still be considered to be paid-in. However, a bank is required to have prior supervisory approval to include in capital an instrument which has not been paid-in with cash.

FAQ2 *If a related party of the bank purchases the capital instrument but third-party investors bear all the risks and rewards associated with the instrument and there is no counterparty risk (eg a fund manager or insurance subsidiary invests for the benefit of fund investors or insurance policyholders), does this contravene CAP10.16(8)?*

The intention of the criterion is to prohibit the inclusion of instruments in capital in cases where the bank retains any of the risk of the instruments. The criterion is not contravened if the third-party investors bear all of the risks.

FAQ3 *Does CAP10.16(8) require an exclusion from regulatory capital where a bank provides funding to a borrower that purchases the capital instruments of the bank where: (a) the bank has full recourse to the borrower; and (b) the funding was not provided specifically for the*

purpose of purchasing the capital of the bank (eg it was provided for the purpose of holding a diversified portfolio of investments)?

No. Banks must ensure full compliance with CAP10.16(8) in economic terms irrespective of the specific legal features underpinning the transaction.

FAQ4 *Can Tier 2 capital issued by an SPV can be upstreamed as Tier 1 capital for the consolidated group?*

If an SPV issues Tier 2 capital to investors and upstreams the proceeds by investing in Tier 1 issued by an operating entity or the holding company of the group, the transaction will be classified as Tier 2 capital for the consolidated group. Furthermore, the instrument issued by the operating entity or holding company must also be classified as Tier 2 for all other requirements that apply to that entity (eg solo or sub-consolidated capital requirements and disclosure requirements).

FAQ5 *Consider a bank that issues capital out of a foreign subsidiary, and wishes to use such capital to meet both the solo requirements of the foreign subsidiary and include the capital in the consolidated capital of the group. Is it correct that the relevant authority in jurisdiction of the consolidated supervisor must have the power to trigger writedown / conversion of the instrument in addition to the relevant authority in the jurisdiction of the foreign subsidiary?*

Yes, this is correct.

FAQ6 *To ensure that the scope of application of the non-viability trigger is exercised consistently across jurisdictions does the Basel Committee intend to issue any further guidance on what constitutes the point of non-viability?*

Banks should seek advice from their relevant national authority if they have questions about national implementation.

FAQ7 *How should conversion at the point of non-viability operate for issues out of SPVs?*

The write-off of the instruments issued from the SPV to end investors should mirror the write-off of the capital issued from the operating entity or holding company to the SPV. Banks should discuss whether the specific arrangements of each instrument meet this broad concept with their relevant national authority.

FAQ8 *Assuming compliance with all relevant legal conditions that may exist can the compensation upon the point of non-viability trigger be paid in the form of common shares of the holding company of the bank?*

Yes, national authorities may allow common shares paid as compensation to be those of the bank's holding company. This is permitted because neither the issuance of shares of the bank nor the issuance of shares of the holding company affect the level of common equity created at the bank when the liability represented by the capital instruments is written off. National authorities may require that banks that intend to do this seek the relevant authority's approval before the issuance of such capital instruments.

FAQ9 *A deferred tax liability (DTL) could arise when a bank writes down or writes off an instrument as a result of the principal loss absorption or the non-viability requirement being triggered. Should the amount recognised as regulatory capital, both at the point of issuance and during the life of the instrument, be net of potential deferred tax liabilities that could arise when the instrument is written down or written off?*

Yes. The amount recognised as regulatory capital should be adjusted to account for any DTLs or tax payment resulting from the conversion or writedown or any other foreseeable tax liability or tax payment related to the instruments due at the moment of conversion or writedown or write-off. The adjustment should be made from the point of issuance. Institutions shall assess and justify the amount of any foreseeable tax liabilities or tax payments to the satisfaction of their supervisory authorities, taking into account in particular the local tax treatment and the structure of the group.

Where netting of DTLs against deferred tax assets is allowed, banks should seek guidance from supervisory authorities on the treatment of DTLs associated with the conversion, writedown or write-off of regulatory capital instrument.

FAQ10 *Regarding the reform of benchmark reference rates, will amendments to the contractual terms of capital instruments that are undertaken to prepare for the transition to the new benchmark rates result in a reassessment of their eligibility as regulatory capital?*

Amendments to the contractual terms of capital instruments could potentially trigger a reassessment of their eligibility as regulatory capital in some jurisdictions. A reassessment could result in an existing capital instrument being treated as a new instrument. This in turn

could result in breaching the minimum maturity and call date requirements. Similarly, existing capital instruments issued under Basel II that are being phased out could also fail to meet eligibility requirements if they are treated as new instruments. The Committee confirms that amendments to capital instruments pursued solely for the purpose of implementing benchmark rate reforms will not result in them being treated as new instruments for the purpose of assessing the minimum maturity and call date requirements or affect their eligibility for transitional arrangements of Basel III.

10.17 Stock surplus (ie share premium) that is not eligible for inclusion in Tier 1 will only be permitted to be included in Tier 2 capital if the shares giving rise to the stock surplus are permitted to be included in Tier 2 capital.

10.18 Under the standardised approach to credit risk, provisions or loan-loss reserves held against future, presently unidentified losses are freely available to meet losses which subsequently materialise and therefore qualify for inclusion within Tier 2. Provisions ascribed to identified deterioration of particular assets or known liabilities, whether individual or grouped, should be excluded. Furthermore, general provisions/general loan-loss reserves eligible for inclusion in Tier 2, measured gross of tax effects, will be limited to a maximum of 1.25 percentage points of credit risk-weighted assets (RWA) calculated under the standardised approach.

FAQ

FAQ1 *Should credit valuation adjustment (CVA) RWA and RWA for exposures to central counterparties (CCPs) be included in the computation base to arrive at the amount of provisions eligible for inclusion in Tier 2 capital?*

CCP RWA should be included in the calculation base used to determine the cap on eligible provisions in Tier 2.

Historically, the understanding is that RWA are comprised of the sum of market capital charges multiplied by 12.5 plus credit RWA. Since CCP RWA are not currently included in the market risk framework, by default they are included in credit RWA for purposes of calculating the base to arrive at the amount of provisions eligible for inclusion in Tier 2 capital. On the other hand, CVA RWA are primarily market-driven risks, so should not be included the calculation base.

10.19

Under the internal ratings based approach, where the total expected loss amount is less than total eligible provisions (measured gross of tax effects), as explained in CRE35, banks may recognise the difference in Tier 2 capital up to a maximum of 0.6% of credit risk-weighted assets calculated under the internal ratings-based approach. At national discretion, a limit lower than 0.6% may be applied.

Minority interest (ie non-controlling interest) and other capital issued out of consolidated subsidiaries that is held by third parties

10.20 Minority interest arising from the issue of common shares by a fully consolidated subsidiary of the bank may receive recognition in Common Equity Tier 1 only if:

(1) the instrument giving rise to the minority interest would, if issued by the bank, meet all of the criteria for classification as common shares for regulatory capital purposes; and

(2) the subsidiary that issued the instrument is itself a bank.[15] [16]

Footnotes

[15] *For the purposes of this paragraph, any institution that is subject to the same minimum prudential standards and level of supervision as a bank may be considered to be a bank.*

[16] *Minority interest in a subsidiary that is a bank is strictly excluded from the parent bank's common equity if the parent bank or affiliate has entered into any arrangements to fund directly or indirectly minority investment in the subsidiary whether through an SPV or through another vehicle or arrangement. The treatment outlined above, thus, is strictly available where all minority investments in the bank subsidiary solely represent genuine third party common equity contributions to the subsidiary.*

10.21 The amount of minority interest meeting the criteria above that will be recognised in consolidated Common Equity Tier 1 will be calculated as follows:

(1) Total minority interest meeting the two criteria above minus the amount of the surplus Common Equity Tier 1 of the subsidiary attributable to the minority shareholders.

(2) Surplus Common Equity Tier 1 of the subsidiary is calculated as the Common Equity Tier 1 of the subsidiary minus the lower of:

(a) the minimum Common Equity Tier 1 requirement of the subsidiary plus the capital conservation buffer (ie 7.0% of consolidated RWA); and

(b) the portion of the consolidated minimum Common Equity Tier 1 requirement plus the capital conservation buffer (ie 7.0% of consolidated RWA) that relates to the subsidiary.

(3) The amount of the surplus Common Equity Tier 1 that is attributable to the minority shareholders is calculated by multiplying the surplus Common Equity Tier 1 by the percentage of Common Equity Tier 1 that is held by minority shareholders.

FAQ

FAQ1 *Does minority interest (ie non-controlling interest) include the third parties' interest in the retained earnings and reserves of the consolidated subsidiaries?*

Yes. The Common Equity Tier 1 in the illustrative example in CAP99 should be read to include issued common shares plus retained earnings and reserves in Bank S.

FAQ2 *Regarding the treatment of capital issued out of subsidiaries, how should the surplus capital be calculated if the subsidiary is not regulated on a stand-alone basis but is still subject to consolidated supervision?*

For capital issued by a consolidated subsidiary of a group to third parties to be eligible for inclusion in the consolidated capital of the banking group, CAP10.21 to CAP10.26 requires the minimum capital requirements and definition of capital to be calculated for the subsidiary irrespective of whether the subsidiary is regulated on a stand-alone basis. In addition the contribution of this subsidiary to the consolidated capital requirement of the group (ie excluding the impact of intragroup exposures) must be calculated. All calculations must be undertaken in respect of the subsidiary on a sub-consolidated basis (ie the subsidiary must consolidate all of its subsidiaries that are also included in the wider consolidated group). If this is considered too operationally burdensome the bank may elect to give no recognition in consolidated capital of the group to the capital issued by the subsidiary to third parties. Finally, as set out in CAP10.20, it should be noted that minority interest is only permitted to be included in Common Equity

Tier 1 if: (1) the instrument would, if issued by the bank, meet all of the criteria for classification as common shares for regulatory purposes; and (2) the subsidiary that issued the instrument is itself a bank. The definition of a bank for this purpose is any institution that is subject to the same minimum prudential standards and level of supervision as a bank as mentioned in CAP10 (Footnote 15).

10.22 Tier 1 capital instruments issued by a fully consolidated subsidiary of the bank, whether wholly or partly owned, to third-party investors (including amounts under CAP10.21) may receive recognition in Tier 1 capital only if the instruments would, if issued by the bank, meet all of the criteria for classification as Tier 1 capital.

10.23 The amount of this capital that will be recognised in Tier 1 will be calculated as follows:

(1) Total Tier 1 of the subsidiary issued to third parties minus the amount of the surplus Tier 1 of the subsidiary attributable to the third-party investors.

(2) Surplus Tier 1 of the subsidiary is calculated as the Tier 1 of the subsidiary minus the lower of:

(a) the minimum Tier 1 requirement of the subsidiary plus the capital conservation buffer (ie 8.5% of RWA); and

(b) the portion of the consolidated minimum Tier 1 requirement plus the capital conservation buffer (ie 8.5% of consolidated RWA) that relates to the subsidiary.

(3) The amount of the surplus Tier 1 that is attributable to the third party investors is calculated by multiplying the surplus Tier 1 by the percentage of Tier 1 that is held by third-party investors.

(4) The amount of this Tier 1 capital that will be recognised in Additional Tier 1 will exclude amounts recognised in Common Equity Tier 1 under CAP10.21.

FAQ

FAQ1 *Regarding the treatment of capital issued out of subsidiaries, how should the surplus capital be calculated if the subsidiary is not regulated on a stand alone basis but is still subject to consolidated supervision?*

For capital issued by a consolidated subsidiary of a group to third parties to be eligible for inclusion in the consolidated capital of the banking group, CAP10.21 to CAP10.26 requires the minimum capital requirements and definition of capital to be calculated for the subsidiary irrespective of whether the subsidiary is regulated on a stand alone basis. In addition the contribution of this subsidiary to the consolidated capital requirement of the group (ie excluding the impact of intra-group exposures) must be calculated. All calculations must be undertaken in respect of the subsidiary on a sub-consolidated basis (ie the subsidiary must consolidate all of its subsidiaries that are also included in the wider consolidated group). If this is considered too operationally burdensome the bank may elect to give no recognition in consolidated capital of the group to the capital issued by the subsidiary to third parties. Finally, as set out in CAP10.20, it should be noted that minority interest is only permitted to be included in Common Equity Tier 1 if: (1) the instrument would, if issued by the bank, meet all of the criteria for classification as common shares for regulatory purposes; and (2) the subsidiary that issued the instrument is itself a bank. The definition of a bank for this purpose is any institution that is subject to the same minimum prudential standards and level of supervision as a bank as mentioned in CAP10 (Footnote 15).

10.24 Total capital instruments (ie Tier 1 and Tier 2 capital instruments) issued by a fully consolidated subsidiary of the bank, whether wholly or partly owned, to third-party investors (including amounts under CAP10.21 to CAP10.23) may receive recognition in Total Capital only if the instruments would, if issued by the bank, meet all of the criteria for classification as Tier 1 or Tier 2 capital.

10.25 The amount of this capital that will be recognised in consolidated Total Capital will be calculated as follows:

(1) Total capital instruments of the subsidiary issued to third parties minus the amount of the surplus Total Capital of the subsidiary attributable to the third-party investors.

(2) Surplus Total Capital of the subsidiary is calculated as the Total Capital of the subsidiary minus the lower of:

(a) the minimum Total Capital requirement of the subsidiary plus the capital conservation buffer (ie 10.5% of RWA); and

(b) the portion of the consolidated minimum Total Capital requirement plus the capital conservation buffer (ie 10.5% of consolidated RWA) that relates to the subsidiary.

(3) The amount of the surplus Total Capital that is attributable to the third-party investors is calculated by multiplying the surplus Total Capital by the percentage of Total Capital that is held by third-party investors.

(4) The amount of this Total Capital that will be recognised in Tier 2 will exclude amounts recognised in Common Equity Tier 1 under CAP10.21 and amounts recognised in Additional Tier 1 under CAP10.23.

FAQ

FAQ1 *Consider the case where the Common Equity Tier 1 and Additional Tier 1 capital of a subsidiary are sufficient to cover the minimum total capital requirement of the subsidiary. For example, assume the minimum total capital requirements of the subsidiary is 15, the sum of Common Equity Tier 1 and Additional Tier 1 is 15 and the Common Equity Tier 1 and Additional Tier 1 are fully owned by the parent of the subsidiary (ie they are not issued to third parties). What is the capital treatment if the subsidiary issues Tier 2 capital of 5 to third-party investors?*

*This treatment is set out in CAP10.25. The surplus total capital of the subsidiary is 5. The proportion of the total capital of 20 which is held by third-party investors is 25% (ie 5/20*100%). Therefore, the amount of the surplus total capital that is attributable to third-party investors is 1.25 (=5*25%). Consequently, 1.25 of the Tier 2 will be excluded from consolidated Tier 2 capital. The residual 3.75 of Tier 2 capital will be included in consolidated Tier 2 capital.*

FAQ2 *Regarding the treatment of capital issued out of subsidiaries, how should the surplus capital be calculated if the subsidiary is not regulated on a stand-alone basis but is still subject to consolidated supervision?*

For capital issued by a consolidated subsidiary of a group to third parties to be eligible for inclusion in the consolidated capital of the

banking group, CAP10.21 to CAP10.26 requires the minimum capital requirements and definition of capital to be calculated for the subsidiary irrespective of whether the subsidiary is regulated on a stand-alone basis. In addition the contribution of this subsidiary to the consolidated capital requirement of the group (ie excluding the impact of intragroup exposures) must be calculated. All calculations must be undertaken in respect of the subsidiary on a sub-consolidated basis (ie the subsidiary must consolidate all of its subsidiaries that are also included in the wider consolidated group). If this is considered too operationally burdensome the bank may elect to give no recognition in consolidated capital of the group to the capital issued by the subsidiary to third parties. Finally, as set out in CAP10.20, it should be noted that minority interest is only permitted to be included in Common Equity Tier 1 if: (1) the instrument would, if issued by the bank, meet all of the criteria for classification as common shares for regulatory purposes; and (2) the subsidiary that issued the instrument is itself a bank. The definition of a bank for this purpose is any institution that is subject to the same minimum prudential standards and level of supervision as a bank as mentioned in CAP10 (Footnote 15).

10.26 Where capital has been issued to third parties out of an SPV, none of this capital can be included in Common Equity Tier 1. However, such capital can be included in consolidated Additional Tier 1 or Tier 2 and treated as if the bank itself had issued the capital directly to the third parties only if it meets all the relevant entry criteria and the only asset of the SPV is its investment in the capital of the bank in a form that meets or exceeds all the relevant entry criteria[17] (as required by CAP10.11(15) for Additional Tier 1 and CAP10.16(9) for Tier 2). In cases where the capital has been issued to third parties through an SPV via a fully consolidated subsidiary of the bank, such capital may, subject to the requirements of this paragraph, be treated as if the subsidiary itself had issued it directly to the third parties and may be included in the bank's consolidated Additional Tier 1 or Tier 2 in accordance with the treatment outlined in CAP10.23 to CAP10.26.

Footnotes

[17] *Assets that relate to the operation of the SPV may be excluded from this assessment if they are de minimis.*

FAQ

FAQ1 *Does the Committee have any further guidance on the definition of SPVs? Are SPVs referred to in CAP10.26 those which are consolidated under international financial reporting standards (IFRS) or all SPVs?*

Guidance should be sought from national supervisors. SPVs referred to in CAP10.26 refer to all SPVs irrespective of whether they are consolidated under IFRS or other applicable accounting standards.

FAQ2 *Regarding the treatment of capital issued out of subsidiaries, how should the surplus capital be calculated if the subsidiary is not regulated on a stand-alone basis but is still subject to consolidated supervision?*

For capital issued by a consolidated subsidiary of a group to third parties to be eligible for inclusion in the consolidated capital of the banking group, CAP10.21 to CAP10.26 requires the minimum capital requirements and definition of capital to be calculated for the subsidiary irrespective of whether the subsidiary is regulated on a stand-alone basis. In addition the contribution of this subsidiary to the consolidated capital requirement of the group (ie excluding the impact of intragroup exposures) must be calculated. All calculations must be undertaken in respect of the subsidiary on a sub-consolidated basis (ie the subsidiary must consolidate all of its subsidiaries that are also included in the wider consolidated group). If this is considered too operationally burdensome the bank may elect to give no recognition in consolidated capital of the group to the capital issued by the subsidiary to third parties. Finally, as set out in CAP10.20, it should be noted that minority interest is only permitted to be included in Common Equity Tier 1 if: (1) the instrument would, if issued by the bank, meet all of the criteria for classification as common shares for regulatory purposes; and (2) the subsidiary that issued the instrument is itself a bank. The definition of a bank for this purpose is any institution that is subject to the same minimum prudential standards and level of supervision as a bank as mentioned in CAP10 (Footnote 15).

CAP30

Regulatory adjustments

This chapter describes adjustments that must be made to the components of regulatory capital in order to calculate the amount of a bank's capital resources that may be used to meet prudential requirements.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Introduction

30.1 This section sets out the regulatory adjustments to be applied to regulatory capital. In most cases these adjustments are applied in the calculation of Common Equity Tier 1.

30.2 Global systemically important banks (G-SIBs) are required to meet a minimum total loss-absorbing capacity (TLAC) requirement set in accordance with the Financial Stability Board's (FSB) TLAC principles and term sheet. The criteria for an instrument to be recognised as TLAC by the issuing G-SIB are set out in the FSB's TLAC Term Sheet. Bank that invest in TLAC or similar instruments may be required to deduct them in the calculation of their own regulatory capital.[1]

Footnotes

[1] *Principles on Loss-absorbing and Recapitalisation Capacity of G-SIBs in Resolution, Total Loss-absorbing Capacity (TLAC) Term Sheet, Financial Stability Board, November 2015, available at www.fsb.org/wp-content/uploads/TLAC-Principles-and-Term-Sheet-for-publication-final.pdf . The regulatory adjustments for TLAC set out in CAP30 relate to Section 15 of the FSB TLAC Term Sheet.*

30.3 For the purposes of this section, holdings of TLAC include the following, hereafter collectively referred to as "other TLAC liabilities":

(1) All direct, indirect and synthetic investments in the instruments of a G-SIB resolution entity that are eligible to be recognised as external TLAC but that do not otherwise qualify as regulatory capital[2] for the issuing G-SIB, with the exception of instruments excluded by CAP30.4; and

(2) All holdings of instruments issued by a G-SIB resolution entity that rank pari passu to any instruments included in CAP30.3(1), with the exceptions of:

(a) instruments listed as liabilities excluded from TLAC in Section 10 of the FSB TLAC Term Sheet ("Excluded Liabilities"); and

(b) instruments ranking pari passu with instruments eligible to be recognised as TLAC by virtue of the exemptions to the subordination requirements in Section 11 of the FSB TLAC Term Sheet.

Footnotes

[2] *Holdings of regulatory capital and other TLAC liabilities should reflect the investing bank's actual exposure to the issuer as regulatory capital or TLAC (ie it is not reduced by amortisation, derecognition or transitional arrangements). This means that Tier 2 instruments that no longer count in full as regulatory capital (as a result of having a residual maturity of less than five years) continue to be recognised in full as a Tier 2 instrument by the investing bank for the regulatory adjustments in this section. Similarly, holdings of other TLAC liabilities in the final year of maturity are still subject to the regulatory adjustments in this chapter even when such instruments no longer receive any recognition in TLAC for the issuer.*

30.4 In certain jurisdictions, G-SIBs may be able to recognise instruments ranking pari passu to Excluded Liabilities as external TLAC up to a limit, in accordance with the exemptions to the subordination requirements set out in the penultimate paragraph of Section 11 of the FSB TLAC Term Sheet. A bank's holdings of such instruments will be subject to a proportionate deduction approach. Under this approach, only a proportion of holdings of instruments that are eligible to be recognised as external TLAC by virtue of the subordination exemptions will be considered a holding of TLAC by the investing bank. The proportion is calculated as:

(1) the funding issued by the G-SIB resolution entity that ranks pari passu with Excluded Liabilities and that is recognised as external TLAC by the G-SIB resolution entity; divided by

(2) the funding issued by the G-SIB resolution entity that ranks pari passu with Excluded Liabilities and that would be recognised as external TLAC if the subordination requirement was not applied.[3]

Footnotes

[3] *For example, if a G-SIB resolution entity has funding that ranks pari passu with Excluded Liabilities equal to 5% of risk-weighted assets (RWA) and receives partial recognition of these instruments as external TLAC equivalent to 3.5% of RWA , then an investing bank holding such instruments must include only 70% (= 3.5 / 5) of such instruments in calculating its TLAC holdings. The same proportion should be applied by the investing bank to any indirect or synthetic investments in instruments ranking pari passu with Excluded Liabilities and eligible to be recognised as TLAC by virtue of the subordination exemptions.*

30.5 Under the proportionate deduction approach, banks must calculate their holdings of other TLAC liabilities of the respective issuing G-SIB resolution entities based on the latest available public information provided by the issuing G-SIBs on the proportion to be used.

30.6 The regulatory adjustments relating to TLAC in CAP30.18 to CAP30.31 apply to holdings of TLAC issued by G-SIBs from the date at which the issuing G-SIB becomes subject to a minimum TLAC requirement.[4]

Footnotes

[4] *The conformance period is set out in Section 21 of the FSB TLAC Term Sheet. In summary, firms that have been designated as G-SIBs before end-2015 and continue to be designated thereafter, with the exception of such firms headquartered in an emerging market economy, must meet the TLAC requirements from 1 January 2019. For firms headquartered in emerging market economies, the requirements will apply from 1 January 2025 at the latest; this may be accelerated in certain circumstances.*

Goodwill and other intangibles (except mortgage servicing rights)

30.7 Goodwill and all other intangibles must be deducted in the calculation of Common Equity Tier 1, including any goodwill included in the valuation of significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation. With the exception of mortgage servicing rights, the full amount is to be deducted net of any associated deferred tax liability (DTL) which would be extinguished if the intangible assets become impaired or derecognised under the relevant accounting standards. The amount to be deducted in respect of mortgage servicing rights is set out in the threshold deductions section below.

FAQ

FAQ1 *Must goodwill included in the valuation of significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation and accounted for using the equity method also be deducted?*

Yes. Under the equity method, the carrying amount of the investment includes any goodwill. In line with CAP30.7 a firm should calculate a goodwill amount as at the acquisition date by separating any excess of the acquisition cost over the investor's share of the net fair value of the identifiable assets and liabilities of the banking, financial or insurance entity. In accordance with applicable accounting standards, this goodwill amount may be adjusted for any subsequent impairment losses and reversal of impairment losses that can be assigned to the initial goodwill amount.

FAQ2 *Most intangible assets are deducted from regulatory capital, while tangible assets generally are not. Is the lessee's recognised asset under the new lease accounting standards (the right-of-use, or ROU, asset) an asset that is tangible or intangible?*

For regulatory capital purposes, an ROU asset should not be deducted from regulatory capital so long as the underlying asset being leased is a tangible asset.

30.8 Subject to prior supervisory approval, banks that report under local GAAP may use the IFRS definition of intangible assets to determine which assets are classified as intangible and are thus required to be deducted.

Deferred tax assets

30.9 Deferred tax assets (DTAs) that rely on future profitability of the bank to be realised are to be deducted in the calculation of Common Equity Tier 1. DTAs may be netted with associated DTLs only if the DTAs and DTLs relate to taxes levied by the same taxation authority and offsetting is permitted by the relevant taxation authority. Where these DTAs relate to temporary differences (eg allowance for credit losses) the amount to be deducted is set out in CAP30.32 to CAP30.34. All other such assets, eg those relating to operating losses, such as the carry forward of unused tax losses, or unused tax credits, are to be deducted in full net of deferred tax liabilities as described above. The DTLs permitted to be netted against DTAs must exclude amounts that have been netted against the deduction of goodwill, intangibles and defined benefit pension assets, and must be allocated on a pro rata basis between DTAs subject to the threshold deduction treatment and DTAs that are to be deducted in full.

FAQ

FAQ1 *Regarding the deduction of DTAs, is it correct that DTAs resulting from net operating losses are not subject to the 10% threshold? Is it correct that the current test in some jurisdictions to check whether DTAs are realisable within one year is not applicable under Basel III?*

All DTAs that depend on the future profitability of the bank to be realised and that arise from net operating losses are required to be deducted from Common Equity Tier 1 in full and so do not benefit from the 10% threshold. The test applied in certain jurisdictions to assess whether a DTA is realisable over a one year period is not applicable under Basel III.

FAQ2 *Given that DTAs and DTLs are accounting concepts, what does it mean to say that offsetting is permitted by the relevant taxation authority?*

It means that the underlying tax assets and tax liabilities must be permitted to be offset by the relevant taxation authority for any DTLs and DTAs created to be permitted to be offset in determining the deduction from regulatory capital.

FAQ3 *Could the Basel Committee provide guidance on the treatment of deferred taxes in a tax regime in which DTAs arising from temporary differences are automatically transformed into a tax credit in case a bank is not profitable, is liquidated or is placed under insolvency proceedings? In the tax regime the tax credit can be offset against any tax liability of the bank or of any legal entity belonging to the same*

group as allowed under that national tax regime, and if the amount of such tax liabilities is lower than such tax credit, any exceeding amount of the tax credit will be cash refundable by the central government. Do banks have to deduct DTAs arising from temporary differences in such tax regimes?

No. Banks may apply a 100% risk weight for DTAs arising from temporary differences in such tax regimes.

30.10 An overinstallment of tax or, in some jurisdictions, current year tax losses carried back to prior years may give rise to a claim or receivable from the government or local tax authority. Such amounts are typically classified as current tax assets for accounting purposes. The recovery of such a claim or receivable would not rely on the future profitability of the bank and would be assigned the relevant sovereign risk weighting.

Cash flow hedge reserve

30.11 The amount of the cash flow hedge reserve that relates to the hedging of items that are not fair valued on the balance sheet (including projected cash flows) should be derecognised in the calculation of Common Equity Tier 1. This means that positive amounts should be deducted and negative amounts should be added back.

30.12 This treatment specifically identifies the element of the cash flow hedge reserve that is to be derecognised for prudential purposes. It removes the element that gives rise to artificial volatility in common equity, as in this case the reserve only reflects one half of the picture (the fair value of the derivative, but not the changes in fair value of the hedged future cash flow).

Shortfall of the stock of provisions to expected losses

30.13 Banks using the internal ratings-based (IRB) approach for other asset classes must compare the amount of total eligible provisions, as defined in CRE35.4, with the total expected loss amount as calculated within the IRB approach and defined in CRE35.2. Where the total expected loss amount exceeds total eligible provisions, banks must deduct the difference from Common Equity Tier 1. The full amount is to be deducted and should not be reduced by any tax effects that could be expected to occur if provisions were to rise to the level of expected losses. Securitisation exposures will be subject to CRE40.36 and will contribute to neither the total expected loss amount nor the total eligible provisions.

Gain on sale related to securitisation transactions

30.14 Banks must deduct from Common Equity Tier 1 any increase in equity capital resulting from a securitisation transaction, such as that associated with expected future margin income resulting in a gain on sale that is recognised in regulatory capital.

Cumulative gains and losses due to changes in own credit risk on fair valued liabilities

30.15 Derecognise in the calculation of Common Equity Tier 1, all unrealised gains and losses that have resulted from changes in the fair value of liabilities that are due to changes in the bank's own credit risk. In addition, with regard to derivative liabilities, derecognise all accounting valuation adjustments arising from the bank's own credit risk. The offsetting between valuation adjustments arising from the bank's own credit risk and those arising from its counterparties' credit risk is not allowed.

Defined benefit pension fund assets and liabilities

30.16 Defined benefit pension fund liabilities, as included on the balance sheet, must be fully recognised in the calculation of Common Equity Tier 1 (ie Common Equity Tier 1 cannot be increased through derecognising these liabilities). For each defined benefit pension fund that is an asset on the balance sheet, the net asset on the balance sheet in respect of the plan or fund should be deducted in the calculation of Common Equity Tier 1 net of any associated deferred tax liability which would be extinguished if the asset should become impaired or derecognised under the relevant accounting standards. Assets in the fund to which the bank has unrestricted and unfettered access can, with supervisory approval, offset the deduction. Such offsetting assets should be given the risk weight they would receive if they were owned directly by the bank.

FAQ

FAQ1 *Certain accounting standards currently allow the deferral of actuarial losses beyond a specified threshold (ie the corridor approach) without recognition in the financial statements. Is it correct that the deficit as included on the balance sheet should be deducted if the corridor approach is applied in accounting for pensions?*

The liability as recorded on the balance sheet in respect of a defined benefit pension fund should be recognised in the calculation of Common Equity Tier 1. In other words, the creation of the liability on the balance sheet of the bank will automatically result in a reduction in the bank's common equity (through a reduction in reserves) and no adjustment should be applied in respect of this in the calculation of Common Equity Tier 1.

30.17 This treatment addresses the concern that assets arising from pension funds may not be capable of being withdrawn and used for the protection of depositors and other creditors of a bank. The concern is that their only value stems from a reduction in future payments into the fund. The treatment allows for banks to reduce the deduction of the asset if they can address these concerns and show that the assets can be easily and promptly withdrawn from the fund.

Investments in own shares (treasury stock), own other capital instruments or own other TLAC liabilities

30.18 All of a bank's investments in its own common shares, whether held directly or indirectly, will be deducted in the calculation of Common Equity Tier 1 (unless already derecognised under the relevant accounting standards). In addition, any own stock which the bank could be contractually obliged to purchase should be deducted in the calculation of Common Equity Tier 1. The treatment described will apply irrespective of the location of the exposure in the banking book or the trading book. In addition:

(1) Gross long positions may be deducted net of short positions in the same underlying exposure only if the short positions involve no counterparty risk.

(2) Banks should look through holdings of index securities to deduct exposures to own shares. However, gross long positions in own shares resulting from holdings of index securities may be netted against short position in own shares resulting from short positions in the same underlying index. In such cases the short positions may involve counterparty risk (which will be subject to the relevant counterparty credit risk charge).

(3) Subject to supervisory approval, a bank may use a conservative estimate of investments in its own shares where the exposure results from holdings of index securities and the bank finds it operationally burdensome to look through and monitor its exact exposure.

FAQ

FAQ1 *If a bank acts as market-maker for its own capital instruments is this deemed to create any contractual obligations requiring deductions?*

Not until the bank has agreed to purchase stock at an agreed price and either this offer has been accepted or cannot be withdrawn. The purpose of the rule is to capture existing contractual arrangements that could lead to the bank being required to make a purchase of its own capital instruments at a price agreed in the contract (eg a forward purchase or a written put option), such that the extent of the potential loss is known in advance. It was not intended to capture all potential contracts that a bank may enter to in the future.

FAQ2 *For investments in own shares through holdings of index securities, banks may net gross long positions against short positions in the same underlying index. Can the same approach be applied to investments in unconsolidated financial entities?*

For both investments in own shares and investments in unconsolidated financial entities that result from holdings of index securities, banks are permitted to net gross long positions against short positions in the same underlying index as long as the maturity of the short position matches the maturity of the long position or has a residual maturity of at least one year.

FAQ3 *What would be the minimum standard for a firm to use a conservative estimate of its investments in the capital of banking, financial and insurance entities held through index securities?*

National authorities will provide guidance on what is a conservative estimate; however, the methodology for the estimate should demonstrate that in no case will the actual exposure be higher than the estimated exposure.

30.19 This deduction is necessary to avoid the double-counting of a bank's own capital. Certain accounting regimes do not permit the recognition of treasury stock and so this deduction is only relevant where recognition on the balance sheet is

permitted. The treatment seeks to remove the double-counting that arises from direct holdings, indirect holdings via index funds and potential future holdings as a result of contractual obligations to purchase own shares.

30.20 Following the same approach outlined above, banks must deduct investments in their own Additional Tier 1 in the calculation of their Additional Tier 1 capital and must deduct investments in their own Tier 2 in the calculation of their Tier 2 capital. G-SIB resolution entities must deduct holdings of their own other TLAC liabilities in the calculation of their TLAC resources. If a bank is required to make a deduction from a particular tier of capital and it does not have enough of that tier of capital to satisfy that deduction, then the shortfall will be deducted from the next higher tier of capital. In the case of insufficient TLAC resources, then the holdings will be deducted from Tier 2.

FAQ

FAQ1 *If a bank acts as market-maker for its own capital instruments, is this deemed to create any contractual obligations requiring deductions?*

Not until the bank has agreed to purchase stock at an agreed price and either this offer has been accepted or cannot be withdrawn. The purpose of the rule is to capture existing contractual arrangements that could lead to the bank being required to make a purchase of its own capital instruments at a price agreed in the contract (eg a forward purchase or a written put option), such that the extent of the potential loss is known in advance. It was not intended to capture all potential contracts that a bank may enter to in the future.

Reciprocal cross-holdings in the capital or other TLAC liabilities of banking, financial and insurance entities

30.21 Reciprocal cross-holdings of capital that are designed to artificially inflate the capital position of banks will be deducted in full. Banks must apply a "corresponding deduction approach" to such investments in the capital of other banks, other financial institutions and insurance entities. This means the deduction should be applied to the same component of capital for which the capital would qualify if it was issued by the bank itself. Reciprocal cross-holdings of other TLAC liabilities that are designed to artificially inflate the TLAC position of G-SIBs must be deducted in full from Tier 2 capital.

FAQ

FAQ1 *Is provision of capital support by way of guarantee or other capital enhancements treated as capital invested in financial institutions?*

Yes. It is treated as capital in respect of the maximum amount that could be required to be paid out on any such guarantee.

FAQ2 *Can the Basel Committee give some examples of what may be considered to be a financial institution / entity?*

Guidance should be sought from national supervisors. However, examples of the type of activities that financial entities might be involved in include financial leasing, issuing credit cards, portfolio management, investment advisory, custodial and safekeeping services and other similar activities that are ancillary to the business of banking.

FAQ3 *How should exposures to the capital of other financial institutions be valued for the purpose of determining the amount of to be subject to the threshold deduction treatment?*

Exposures should be valued according to their valuation on the balance sheet of the bank. In this way the exposures captured represents the loss to Common Equity Tier 1 that the bank would suffer if the capital of the financial institution is written-off.

FAQ4 *For capital instruments that are required to be phased out from 1 January 2013, the net amount allowed to be recognised each year onwards is determined on a portfolio basis according to CAP90.1 to CAP90.3. Regarding a bank that holds such instruments, ie the investing bank, could the Basel Committee explain how the corresponding deduction approach should be applied during the transitional phase? For example, if a non-common equity instrument is being phased out from Tier 1 by the issuing bank, should the bank use full value of the instrument or the amount recognised by the issuing bank (ie the phased-out value) to determine the size of the holding subject to the deduction treatment?*

During the period in which instruments that do not meet the Basel III entry criteria are being phased out from regulatory capital (ie from 1 January 2013 to 1 January 2022) banks must use the full value of any relevant capital instruments that they hold to calculate the amount to be subject to the deduction treatment set out in CAP30.21 to CAP30.30 . For example, assume that a bank holds a capital instrument with a value of 100 on its balance sheet and also assume that the issuer of the

capital instrument is a bank that only recognises 50 in its Tier 1 capital due to the application of the phasing-out requirements of CAP90.1 to CAP90.3. In this case the investing bank must apply the corresponding deduction approach set out in CAP30.21 to CAP30.30 on the basis that it has an investment of 100 in Additional Tier 1 instruments.

Investments in the capital or other TLAC liabilities of banking, financial and insurance entities that are outside the scope of regulatory consolidation and where the bank does not own more than 10% of the issued common share capital of the entity

30.22 The regulatory adjustment described in this section applies to investments in the capital or other TLAC liabilities of banking, financial and insurance entities that are outside the scope of regulatory consolidation and where the bank does not own more than 10% of the issued common share capital of the entity. These investments are deducted from regulatory capital, subject to a threshold. For the purpose of this regulatory adjustment:

(1) Investments include direct, indirect[5] and synthetic holdings of capital instruments or other TLAC liabilities. For example, banks should look through holdings of index securities to determine their underlying holdings of capital or other TLAC liabilities.[6]

(2) Holdings in both the banking book and trading book are to be included. Capital includes common stock and all other types of cash and synthetic capital instruments (eg subordinated debt). Other TLAC liabilities are defined in CAP30.3 and CAP30.4.

(3) For capital instruments, it is the net long position that is to be included (ie the gross long position net of short positions in the same underlying exposure where the maturity of the short position either matches the maturity of the long position or has a residual maturity of at least one year). Banks are also permitted to net gross long positions arising through holdings of index securities against short positions in the same underlying index, as long as the maturity of the short position matches the maturity of the long position or has residual maturity of at least a year. For other TLAC liabilities, it is the gross long position in CAP30.23, CAP30.24 and CAP30.25 and the net long position that is to be included in CAP30.26.

(4) Underwriting positions in capital instruments or other TLAC liabilities held for five working days or less can be excluded. Underwriting positions held for longer than five working days must be included.

(5) If the capital instrument of the entity in which the bank has invested does not meet the criteria for Common Equity Tier 1, Additional Tier 1, or Tier 2 capital of the bank, the capital is to be considered common shares for the purposes of this regulatory adjustment.[7]

(6) National discretion applies to allow banks, with prior supervisory approval, to exclude temporarily certain investments where these have been made in the context of resolving or providing financial assistance to reorganise a distressed institution.

Footnotes

[5] *Indirect holdings are exposures or parts of exposures that, if a direct holding loses its value, will result in a loss to the bank substantially equivalent to the loss in value of the direct holding.*

[6] *If banks find it operationally burdensome to look through and monitor their exact exposure to the capital or other TLAC liabilities of other financial institutions as a result of their holdings of index securities, national authorities may permit banks, subject to prior supervisory approval, to use a conservative estimate. The methodology should demonstrate that in no case will the actual exposure be higher than the estimated exposure.*

[7] *If the investment is issued out of a regulated financial entity and not included in regulatory capital in the relevant sector of the financial entity, it is not required to be deducted.*

FAQ

FAQ1 *Is provision of capital support by way of guarantee or other capital enhancements treated as capital invested in financial institutions?*

Yes. It is treated as capital in respect of the maximum amount that could be required to be paid out on any such guarantee.

FAQ2 *Can the Basel Committee give some examples of what may be considered to be a financial institution / entity?*

Guidance should be sought from national supervisors. However, examples of the type of activities that financial entities might be involved in include financial leasing, issuing credit cards, portfolio management, investment advisory, custodial and safekeeping services and other similar activities that are ancillary to the business of banking.

FAQ3 *To what extent can long and short positions be netted for the purpose of computing the regulatory adjustments applying to investments in banking, financial and insurance entities?*

There is no restriction on the extent to which a short position can net a long position for the purposes of determining the size of the exposure to be deducted, subject to the short position meeting the requirements set out in CAP30.22 to CAP30.28.

FAQ4 *How should exposures to the capital of other financial institutions be valued for the purpose of determining the amount of to be subject to the threshold deduction treatment?*

Exposures should be valued according to their valuation on the balance sheet of the bank. In this way the exposures captured represents the loss to Common Equity Tier 1 that the bank would suffer if the capital of the financial institution is written-off.

FAQ5 *Can short positions in indexes that are hedging long cash or synthetic positions be decomposed to provide recognition of the hedge for capital purposes?*

The portion of the index that is composed of the same underlying exposure that it is being hedged can be used to offset the long position only if all of the following conditions are met: (i) both the exposure being hedged and the short position in the index are held in the trading book; (ii) the positions are fair valued on the bank's balance sheet; and (iii) the hedge is recognised as effective under the bank's internal control processes assessed by supervisors.

FAQ6 *Consider a bank that invests in an equity position (a long position) and sells it forward (a short position) to another bank (with maturity of forward sale below one year). Is it correct that both banks in this example will include a long position on the equity exposure, ie the selling bank cannot net the forward sale (as it has less than one year maturity) and the buying bank must recognise the forward purchase (as all long positions are added irrespective of maturity)? Also, given the fact that cash equity has no legal maturity, how does the maturity matching requirement apply?*

In the example both banks will be considered to have long positions on the equity exposure. Furthermore, the Basel III rules require that the maturity of the short position must either match the maturity of the long position or have a residual maturity of at least one year. Therefore, in the case of cash equity positions the short position must

have a residual maturity of at least one year to be considered to offset the cash equity position. However, after considering this issue, the Basel Committee has concluded that, for positions in the trading book, if the bank has a contractual right/obligation to sell a long position at a specific point in time and the counterparty in the contract has an obligation to purchase the long position if the bank exercises its right to sell, this point in time may be treated as the maturity of the long position. Therefore if these conditions are met, the maturity of the long position and the short position are deemed to be matched even if the maturity of the short position is within one year.

FAQ7 *Does the five working day exemption for underwriting positions begin on the day the payment is made by the underwriter to the issuing bank?*

CAP30.22 relates to deductions of investments in other financial institutions, where the underlying policy rationale is to remove the double counting of capital that exists when such investments are made. When a bank underwrites the issuance of capital by another bank, the bank issuing capital will only receive recognition for this capital when the underwriter makes the payment to the issuing bank to purchase the capital instruments. As such, the underwriting bank need not include the (committed) purchase within "investments in the capital of other financial institutions" prior to the day on which payment is made by the underwriting bank to the issuing bank. The five day underwriting exemption begins on the date on which this payment is made and effectively permits five working days where double counting can exist before the exposure must be subject to the deduction treatment outlined in CAP30.22.

30.23 A G-SIB's holdings of other TLAC liabilities must be deducted from Tier 2 capital resources, unless either the following conditions are met, or the holding falls within the 10% threshold provided in CAP30.26.

(1) The holding has been designated by the bank to be treated in accordance with this paragraph;

(2) The holding is in the bank's trading book;

(3) The holding is sold within 30 business days of the date of acquisition; and

(4) Such holdings are, in aggregate and on a gross long basis, less than 5% of the G-SIB's common equity (after apply all other regulatory adjustments in full listed prior to CAP30.22.

30.24 If a holding designated under CAP30.23 no longer meets any of the conditions set out in that paragraph, it must be deducted in full from Tier 2 capital. Once a holding has been designated under CAP30.23, it may not subsequently be included within the 10% threshold referred to in CAP30.26. This approach is designed to limit the use of the 5% threshold in CAP30.23 to holdings of TLAC instruments needed to be held within the banking system to ensure deep and liquid markets.

30.25 If a bank is not a G-SIB, its holdings of other TLAC liabilities must be deducted from Tier 2 capital resources, unless:

(1) such holdings are, in aggregate and on a gross long basis, less than 5% of the bank's common equity (after applying all other regulatory adjustments listed in full prior to CAP30.22); or

(2) the holdings fall within the 10% threshold provided in CAP30.26.

30.26 If the total of all holdings of capital instruments and other TLAC liabilities, as listed in CAP30.22 and not covered by the 5% threshold described in CAP30.23 and CAP30.24 (for G-SIBs) or CAP30.25 (for non-G-SIBs), in aggregate and on a net long basis exceed 10% of the bank's common equity (after applying all other regulatory adjustments in full listed prior to CAP30.22) then the amount above 10% is required to be deducted. In the case of capital instruments, deduction should be made applying a corresponding deduction approach. This means the deduction should be applied to the same component of capital for which the capital would qualify if it was issued by the bank itself. In the case of holdings of other TLAC liabilities, the deduction should be applied to Tier 2 capital. Accordingly, the amount to be deducted from common equity should be calculated as the total of all holdings of capital instruments and those holdings of other TLAC liabilities not covered by CAP30.23 and CAP30.24 or CAP30.25 which in aggregate exceed 10% of the bank's common equity (as per above) multiplied by the common equity holdings as a percentage of the total holdings of capital instruments and other TLAC liabilities not covered by CAP30.23 and CAP30.24 or CAP30.25. This would result in a common equity deduction which corresponds to the proportion of the holdings held in common equity. Similarly, the amount to be deducted from Additional Tier 1 capital should be calculated as the total of all holdings of capital instruments and other TLAC liabilities not covered by CAP30.23 and CAP30.24 or CAP30.25 which in aggregate exceed 10% of the bank's common equity (as per above) multiplied by the Additional Tier 1 capital holdings as a percentage of the total. The amount to be deducted from Tier 2 capital should be calculated as the total of all holdings of capital instruments and other TLAC liabilities not covered by CAP30.23 and CAP30.24 or CAP30.25 which in aggregate exceed 10% of the bank's common equity (as per above) multiplied by holdings of the Tier 2 capital and other TLAC liabilities as a percentage of the total.

FAQ

FAQ1 *In many jurisdictions the entry criteria for capital issue by insurance companies and other financial entities will differ from the entry criteria for capital issued by banks. How should the corresponding deduction approach be applied in such cases?*

In respect of capital issued by insurance companies and other financial entities, jurisdictions are permitted to give national guidance as to what constitutes a corresponding deduction in cases where the entry criteria for capital issued by these companies differs from the entry criteria for capital issued by the bank and where the institution is subject to minimum prudential standards and supervision. Such guidance should aim to map the instruments issued by these companies to the tier of bank capital which is of the closest corresponding quality.

FAQ2 *Can further guidance be provided on the calculation of the thresholds for investments in the capital of other financial institutions, in particular the ordering of the application of the deductions?*

For further guidance on this issue, please see the calculations as set out in the Basel III implementation monitoring workbook and the related instructions. This can be found at www.bis.org/bcbs/qis/index.htm .

FAQ3 *For capital instruments that are required to be phased out from 1 January 2013, the net amount allowed to be recognised each year onwards is determined on a portfolio basis according to CAP90.1 to CAP90.3. Regarding a bank that holds such instruments, ie the investing bank, could the Basel Committee explain how the corresponding deduction approach should be applied during the transitional phase? For example, if a non-common equity instrument is being phased out from Tier 1 by the issuing bank, should the bank use full value of the instrument or the amount recognised by the issuing bank (ie the phased-out value) to determine the size of the holding subject to the deduction treatment?*

During the period in which instruments that do not meet the Basel III entry criteria are being phased out from regulatory capital (ie from 1 January 2013 to 1 January 2022) banks must use the full value of any relevant capital instruments that they hold to calculate the amount to be subject to the deduction treatment set out in CAP30.21 to CAP30.30 . For example, assume that a bank holds a capital instrument with a value of 100 on its balance sheet and also assume that the issuer of the capital instrument is a bank that only recognises 50 in its Tier 1 capital due to the application of the phasing-out requirements of CAP90.1 to

CAP90.3. In this case the investing bank must apply the corresponding deduction approach set out in CAP30.21 to CAP30.30 on the basis that it has an investment of 100 in Additional Tier 1 instruments.

30.27 If a bank is required to make a deduction from a particular tier of capital and it does not have enough of that tier of capital to satisfy that deduction, the shortfall will be deducted from the next higher tier of capital (eg if a bank does not have enough Additional Tier 1 capital to satisfy the deduction, the shortfall will be deducted from Common Equity Tier 1).

30.28 Amounts that are not deducted will continue to be risk weighted. Thus, instruments in the trading book will be treated as per the market risk rules and instruments in the banking book should be treated as per the IRB approach or the standardised approach (as applicable). For the application of risk weighting the amount of the holdings must be allocated on a pro rata basis between those below and those above the threshold.

FAQ

FAQ1 *Can the Committee confirm that where positions are deducted from capital they should not also contribute to risk-weighted assets (RWA)? Where positions are held in the trading book firms might have market risk hedges in place, so that if the holdings were excluded while leaving the hedges behind in the market risk calculations RWA could potentially increase. In such cases can banks choose to include such positions in their market risk calculations?*

Gross long positions that exceed the relevant thresholds and are therefore deducted from capital can be excluded for the calculation of risk weighted assets. However, amounts below the thresholds for deduction must be included in risk weighted assets. Furthermore, any counterparty credit risk associated with short positions used to offset long positions must remain included in the calculation of risk weighted assets.

Regarding positions that are hedged against market risk, but where the hedge does not qualify for offsetting the gross long position for the purposes of determining the amount to be deducted, banks may choose to continue to include the long exposure in their market risk calculations (in addition to deducting the exposure). Where the hedge does qualify for offsetting the gross long position, both hedged long and short position can be, but does not have to be, excluded from the market risk calculations.

Significant investments in the capital or other TLAC liabilities of banking, financial and insurance entities that are outside the scope of regulatory consolidation

30.29 The regulatory adjustment described in this section applies to investments in the capital or other TLAC liabilities of banking, financial and insurance entities that are outside the scope of regulatory consolidation[8] where the bank owns more than 10% of the issued common share capital of the issuing entity or where the entity is an affiliate[9] of the bank. In addition:

(1) Investments include direct, indirect and synthetic holdings of capital instruments or other TLAC liabilities. For example, banks should look through holdings of index securities to determine their underlying holdings of capital or other TLAC liabilities.[10]

(2) Holdings in both the banking book and trading book are to be included. Capital includes common stock and all other types of cash and synthetic capital instruments (eg subordinated debt). Other TLAC liabilities are defined in CAP30.3 to CAP30.4. It is the net long position that is to be included (ie the gross long position net of short positions in the same underlying exposure where the maturity of the short position either matches the maturity of the long position or has a residual maturity of at least one year). Banks are also permitted to net gross long positions arising through holdings of index securities against short positions in the same underlying index, as long as the maturity of the short position matches the maturity of the long position or has residual maturity of at least a year.

(3) Underwriting positions in capital instruments or other TLAC liabilities held for five working days or less can be excluded. Underwriting positions held for longer than five working days must be included.

(4) If the capital instrument of the entity in which the bank has invested does not meet the criteria for Common Equity Tier 1, Additional Tier 1, or Tier 2 capital of the bank, the capital is to be considered common shares for the purposes of this regulatory adjustment.[11]

(5) National discretion applies to allow banks, with prior supervisory approval, to exclude temporarily certain investments where these have been made in the context of resolving or providing financial assistance to reorganise a distressed institution.

Footnotes

[8] *Investments in entities that are outside of the scope of regulatory consolidation refers to investments in entities that have not been consolidated at all or have not been consolidated in such a way as to result in their assets being included in the calculation of consolidated risk-weighted assets of the group.*

[9] *An affiliate of a bank is defined as a company that controls, or is controlled by, or is under common control with, the bank. Control of a company is defined as (1) ownership, control, or holding with power to vote 20% or more of a class of voting securities of the company; or (2) consolidation of the company for financial reporting purposes.*

[10] *If a bank finds it operationally burdensome to look through and monitor their exact exposure to the capital or other TLAC liabilities of other financial institutions as a result of their holdings of index securities, national authorities may permit banks, subject to prior supervisory approval, to use a conservative estimate.*

[11] *If the investment is issued out of a regulated financial entity and not included in regulatory capital in the relevant sector of the financial entity, it is not required to be deducted.*

FAQ

FAQ1 *Is provision of capital support by way of guarantee or other capital enhancements treated as capital invested in financial institutions?*

Yes. It is treated as capital in respect of the maximum amount that could be required to be paid out on any such guarantee.

FAQ2 *Can the Basel Committee give some examples of what may be considered to be a financial institution / entity?*

Guidance should be sought from national supervisors. However, examples of the type of activities that financial entities might be involved in include financial leasing, issuing credit cards, portfolio management, investment advisory, custodial and safekeeping services and other similar activities that are ancillary to the business of banking.

FAQ3 *To what extent can long and short positions be netted for the purpose of computing the regulatory adjustments applying to investments in banking, financial and insurance entities?*

There is no restriction on the extent to which a short position can net a long position for the purposes of determining the size of the exposure to be deducted, subject to the short position meeting the requirements set out in CAP30.29 to CAP30.31.

FAQ4 *Can significant investments in insurance entities, including fully owned insurance subsidiaries, be consolidated for regulatory purposes as an alternative to the deduction treatment set out in CAP30.28 to CAP30.34 ?*

Jurisdictions can permit or require banks to consolidate significant investments in insurance entities as an alternative to the deduction approach on the condition that the method of consolidation results in a minimum capital standard that is at least as conservative as that which would apply under the deduction approach, ie the consolidation method cannot result in banks benefiting from higher capital ratios than would apply under the deduction approach.

In order to ensure this outcome, banks that apply a consolidation approach are required to calculate their capital ratios under both the consolidation approach and the deduction approach, at each period that they report or disclose these ratios.

In cases when the consolidation approach results in lower capital ratios than the deduction approach (ie consolidation has a more conservative outcome than deduction), banks will report these lower ratios. In cases when the consolidation approach results in any of the bank's capital ratios being higher than the ratios calculated under the deduction approach (ie consolidation has a less conservative outcome than deduction), the bank must adjust the capital ratio downwards through applying a regulatory adjustment (ie a deduction) to the relevant component of capital.

FAQ5 *Can short positions in indexes that are hedging long cash or synthetic positions be decomposed to provide recognition of the hedge for capital purposes?*

The portion of the index that is composed of the same underlying exposure that it is being hedged can be used to offset the long position only if all of the following conditions are met: (i) both the exposure being hedged and the short position in the index are held in the trading book; (ii) the positions are fair valued on the bank's balance sheet; and (iii) the hedge is recognised as effective under the bank's internal control processes assessed by supervisors.

FAQ6 *Consider a bank that invests in an equity position (a long position) and sells it forward (a short position) to another bank (with maturity of forward sale below one year). Is it correct that both banks in this example will include a long position on the equity exposure, ie the selling bank cannot net the forward sale (as it has less than one year maturity) and the buying bank must recognise the forward purchase (as all long positions are added irrespective of maturity)? Also, given the fact that cash equity has no legal maturity, how does the maturity matching requirement apply?*

In the example both banks will be considered to have long positions on the equity exposure. Furthermore, the Basel III rules require that the maturity of the short position must either match the maturity of the long position or have a residual maturity of at least one year. Therefore, in the case of cash equity positions the short position must have a residual maturity of at least one year to be considered to offset the cash equity position. However, after considering this issue, the Basel Committee has concluded that, for positions in the trading book, if the bank has a contractual right/obligation to sell a long position at a specific point in time and the counterparty in the contract has an obligation to purchase the long position if the bank exercises its right to sell, this point in time may be treated as the maturity of the long position. Therefore if these conditions are met, the maturity of the long position and the short position are deemed to be matched even if the maturity of the short position is within one year.

30.30 All investments in capital instruments included above that are not common shares must be fully deducted following a corresponding deduction approach. This means the deduction should be applied to the same tier of capital for which the capital would qualify if it was issued by the bank itself. All holdings of other TLAC liabilities included above (and as defined in CAP30.3 to CAP30.5 ie applying the proportionate deduction approach for holdings of instruments eligible for TLAC by virtue of the penultimate paragraph of Section 11 of the FSB TLAC Term Sheet) must be fully deducted from Tier 2 capital. If the bank is required to make a deduction from a particular tier of capital and it does not have enough of that tier of capital to satisfy that deduction, the shortfall will be deducted from the next higher tier of capital (eg if a bank does not have enough Additional Tier 1 capital to satisfy the deduction, the shortfall will be deducted from Common Equity Tier 1).

FAQ

FAQ1 *In many jurisdictions the entry criteria for capital issued by insurance companies and other financial entities will differ from the entry criteria for capital issued by banks. How should the corresponding deduction approach be applied in such cases?*

In respect of capital issued by insurance companies and other financial entities, jurisdictions are permitted to give national guidance as to what constitutes a corresponding deduction in cases where the entry criteria for capital issued by these companies differs from the entry criteria for capital issued by the bank and where the institution is subject to minimum prudential standards and supervision. Such guidance should aim to map the instruments issued by these companies to the tier of bank capital which is of the closest corresponding quality.

FAQ2 *For capital instruments that are required to be phased out from 1 January 2013, the net amount allowed to be recognised each year onwards is determined on a portfolio basis according to CAP90.1 to CAP90.3. Regarding a bank that holds such instruments, ie the investing bank, could the Basel Committee explain how the corresponding deduction approach should be applied during the transitional phase? For example, if a non-common equity instrument is being phased out from Tier 1 by the issuing bank, should the bank use full value of the instrument or the amount recognised by the issuing bank (ie the phased-out value) to determine the size of the holding subject to the deduction treatment?*

During the period in which instruments that do not meet the Basel III entry criteria are being phased out from regulatory capital (ie from 1 January 2013 to 1 January 2022) banks must use the full value of any relevant capital instruments that they hold to calculate the amount to be subject to the deduction treatment set out in CAP30.20 to CAP30.29 . For example, assume that a bank holds a capital instrument with a value of 100 on its balance sheet and also assume that the issuer of the capital instrument is a bank that only recognises 50 in its Tier 1 capital due to the application of the phasing-out requirements of CAP90.1 to CAP90.3. In this case the investing bank must apply the corresponding deduction approach set out in CAP30.20 to CAP30.29 on the basis that it has an investment of 100 in Additional Tier 1 instruments.

30.31 Investments included above that are common shares will be subject to the threshold treatment described in the next section.

Threshold deductions

30.32 Instead of a full deduction, the following items may each receive limited recognition when calculating Common Equity Tier 1, with recognition capped at 10% of the bank's common equity (after the application of all regulatory adjustments set out in CAP30.7 to CAP30.30):

(1) significant investments in the common shares of unconsolidated financial institutions (banks, insurance and other financial entities) as referred to in CAP30.29;

(2) mortgage servicing rights; and

(3) DTAs that arise from temporary differences.

FAQ

FAQ1 *What is the definition of a financial institution?*

The definition is determined by national guidance / regulation at present.

FAQ2 *How should exposures to the capital of other financial institutions be valued for the purpose of determining the amount of to be subject to the threshold deduction treatment?*

Exposures should be valued according to their valuation on the balance sheet of the bank. In this way the exposures captured represents the loss to Common Equity Tier 1 that the bank would suffer if the capital of the financial institution is written off.

30.33 The amount of the three items that remains recognised after the application of all regulatory adjustments must not exceed 15% of the Common Equity Tier 1 capital, calculated after all regulatory adjustments.

FAQ

FAQ1 *This FAQ is meant to clarify the calculation of the 15% limit on significant investments in the common shares of unconsolidated financial institutions (banks, insurance and other financial entities); mortgage servicing rights, and DTAs arising from temporary differences (collectively referred to as specified items).*

The recognition of these specified items will be limited to 15% of Common Equity Tier 1 capital, after the application of all deductions. To determine the maximum amount of the specified items that can be recognised, banks and supervisors should multiply the amount of Common Equity Tier 1** (after all deductions, including after the deduction of the specified items in full) by 17.65%. This number is derived from the proportion of 15% to 85% (ie 15%/85% = 17.65%).*

As an example, take a bank with €85 of common equity (calculated net of all deductions, including after the deduction of the specified items in full). The maximum amount of specified items that can be recognised by this bank in its calculation of Common Equity Tier 1 capital is €85 x 17.65% = €15. Any excess above €15 must be deducted from Common Equity Tier 1. If the bank has specified items (excluding amounts deducted after applying the individual 10% limits) that in aggregate sum up to the 15% limit, Common Equity Tier 1 after inclusion of the specified items, will amount to €85 + €15 = €100. The percentage of specified items to total Common Equity Tier 1 would equal 15%.

** The actual amount that will be recognised may be lower than this maximum, either because the sum of the three specified items are below the 15% limit set out in this annex, or due to the application of the 10% limit applied to each item.*

*** At this point this is a "hypothetical" amount of Common Equity Tier 1 in that it is used only for the purposes of determining the deduction of the specified items.*

30.34 The amount of the three items that are not deducted in the calculation of Common Equity Tier 1 will be risk weighted at 250%.

FAQ

FAQ1 *Could the Basel Committee provide guidance on the treatment of deferred taxes in a tax regime in which DTAs arising from temporary differences are automatically transformed into a tax credit in case a bank is not profitable, is liquidated or is placed under insolvency proceedings? In the tax regime the tax credit can be offset against any tax liability of the bank or of any legal entity belonging to the same group as allowed under that national tax regime, and if the amount of such tax liabilities is lower than such tax credit, any exceeding amount of the tax credit will be cash refundable by the central government. Do banks have to deduct DTAs arising from temporary differences in such tax regimes?*

No. Banks may apply a 100% risk weight for DTAs arising from temporary differences in such tax regimes.

CAP50

Prudent valuation guidance

This chapter provides banks with guidance on prudent valuation for positions that are accounted for at fair value, whether they are in the trading book or in the banking book.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Introduction

50.1 This section provides banks with guidance on prudent valuation for positions that are accounted for at fair value, whether they are in the trading book or in the banking book. This guidance is especially important for positions without actual market prices or observable inputs to valuation, as well as less liquid positions which raise supervisory concerns about prudent valuation. The valuation guidance set forth below is not intended to require banks to change valuation procedures for financial reporting purposes. Supervisors should assess a bank's valuation procedures for consistency with this guidance. One fact in a supervisor's assessment of whether a bank must take a valuation adjustment for regulatory purposes under CAP50.11 to CAP50.14 should be the degree of consistency between the bank's valuation procedures and these guidelines.

50.2 A framework for prudent valuation practices should at a minimum include the following.

Systems and controls

50.3 Banks must establish and maintain adequate systems and controls sufficient to give management and supervisors the confidence that their valuation estimates are prudent and reliable. These systems must be integrated with other risk management systems within the organisation (such as credit analysis). Such systems must include:

(1) Documented policies and procedures for the process of valuation. This includes clearly defined responsibilities of the various areas involved in the determination of the valuation, sources of market information and review of their appropriateness, guidelines for the use of unobservable inputs reflecting the bank's assumptions of what market participants would use in pricing the position, frequency of independent valuation, timing of closing prices, procedures for adjusting valuations, end of the month and ad-hoc verification procedures; and

(2) Clear and independent (ie independent of front office) reporting lines for the department accountable for the valuation process. The reporting line should ultimately be to a main board executive director.

Valuation methodologies

Marking to market

50.4 Marking-to-market is at least the daily valuation of positions at readily available close out prices that are sourced independently. Examples of readily available close out prices include exchange prices, screen prices, or quotes from several independent reputable brokers.

50.5 Banks must mark-to-market as much as possible. The more prudent side of bid /offer should be used unless the institution is a significant market-maker in a particular position type and it can close out at mid-market. Banks should maximise the use of relevant observable inputs and minimise the use of unobservable inputs when estimating fair value using a valuation technique. However, observable inputs or transactions may not be relevant, such as in a forced liquidation or distressed sale, or transactions may not be observable, such as when markets are inactive. In such cases, the observable data should be considered, but may not be determinative.

Marking to model

50.6 Only where marking-to-market is not possible should banks mark-to-model, but this must be demonstrated to be prudent. Marking-to-model is defined as any valuation which has to be benchmarked, extrapolated or otherwise calculated from a market input. When marking to model, an extra degree of conservatism is appropriate. Supervisory authorities will consider the following in assessing whether a mark-to-model valuation is prudent:

(1) Senior management should be aware of the elements of the trading book or other fair-valued positions which are subject to mark to model and should understand the materiality of the uncertainty this creates in the reporting of the risk/performance of the business.

(2) Market inputs should be sourced, to the extent possible, in line with market prices (as discussed above). The appropriateness of the market inputs for the particular position being valued should be reviewed regularly.

(3) Where available, generally accepted valuation methodologies for particular products should be used as far as possible.

(4) Where the model is developed by the institution itself, it should be based on appropriate assumptions, which have been assessed and challenged by suitably qualified parties independent of the development process. The model should be developed or approved independently of the front office. It should be independently tested. This includes validating the mathematics, the assumptions and the software implementation.

(5) There should be formal change control procedures in place and a secure copy of the model should be held and periodically used to check valuations.

(6) Risk management should be aware of the weaknesses of the models used and how best to reflect those in the valuation output.

(7) The model should be subject to periodic review to determine the accuracy of its performance (eg assessing continued appropriateness of the assumptions, analysis of profit and loss versus risk factors, comparison of actual close out values to model outputs).

(8) Valuation adjustments should be made as appropriate, for example, to cover the uncertainty of the model valuation (see also valuation adjustments in CAP50.9 to CAP50.14.

Independent price verification

50.7 Independent price verification is distinct from daily mark-to-market. It is the process by which market prices or model inputs are regularly verified for accuracy. While daily marking-to-market may be performed by dealers, verification of market prices or model inputs should be performed by a unit independent of the dealing room, at least monthly (or, depending on the nature of the market/trading activity, more frequently). It need not be performed as frequently as daily mark-to-market, since the objective, ie independent, marking of positions, should reveal any error or bias in pricing, which should result in the elimination of inaccurate daily marks.

50.8 Independent price verification entails a higher standard of accuracy in that the market prices or model inputs are used to determine profit and loss figures, whereas daily marks are used primarily for management reporting in between reporting dates. For independent price verification, where pricing sources are more subjective, eg only one available broker quote, prudent measures such as valuation adjustments may be appropriate.

Valuation adjustments

50.9 As part of their procedures for marking to market, banks must establish and maintain procedures for considering valuation adjustments. Supervisory authorities expect banks using third-party valuations to consider whether valuation adjustments are necessary. Such considerations are also necessary when marking to model.

50.10

Supervisory authorities expect the following valuation adjustments/reserves to be formally considered at a minimum: unearned credit spreads, close-out costs, operational risks, early termination, investing and funding costs, and future administrative costs and, where appropriate, model risk.

FAQ

FAQ1 *Should valuation adjustments be performed on a portfolio level (ie adjustments to be made in the form of a reserve for a portfolio of exposures and not to be reflected in the valuation of the individual transactions) or on a transaction level (ie adjustments to be reflected in the valuation of the individual transactions)?*

Supervisors expect that the valuation adjustment will be considered for positions individually.

Adjustment to the current valuation of less liquid positions for regulatory capital purposes

50.11 Banks must establish and maintain procedures for judging the necessity of and calculating an adjustment to the current valuation of less liquid positions for regulatory capital purposes. This adjustment may be in addition to any changes to the value of the position required for financial reporting purposes and should be designed to reflect the illiquidity of the position. Supervisory authorities expect banks to consider the need for an adjustment to a position's valuation to reflect current illiquidity whether the position is marked to market using market prices or observable inputs, third-party valuations or marked to model.

50.12 Bearing in mind that the assumptions made about liquidity in the market risk capital requirement may not be consistent with the bank's ability to sell or hedge out less liquid positions, where appropriate, banks must take an adjustment to the current valuation of these positions, and review their continued appropriateness on an on-going basis. Reduced liquidity may have arisen from market events. Additionally, close-out prices for concentrated positions and/or stale positions should be considered in establishing the adjustment. Banks must consider all relevant factors when determining the appropriateness of the adjustment for less liquid positions. These factors may include, but are not limited to, the amount of time it would take to hedge out the position/risks within the position, the average volatility of bid/offer spreads, the availability of independent market quotes (number and identity of market-makers), the average and volatility of trading volumes (including trading volumes during periods of market stress), market concentrations, the ageing of positions, the extent to which valuation relies on marking-to-model, and the impact of other model risks not included in CAP50.11.

50.13 For complex products including, but not limited to, securitisation exposures and n-th-to-default credit derivatives, banks must explicitly assess the need for valuation adjustments to reflect two forms of model risk: the model risk associated with using a possibly incorrect valuation methodology; and the risk associated with using unobservable (and possibly incorrect) calibration parameters in the valuation model.

50.14 The adjustment to the current valuation of less liquid positions made under CAP50.12 must impact Tier 1 regulatory capital and may exceed those valuation adjustments made under financial reporting standards and CAP50.9 and CAP50.10.

CAP90

Transitional arrangements

This chapter describes transitional arrangements applying to certain capital instruments, as well as transitional arrangements that may be used by jurisdictions applying expected credit loss accounting.

Version effective as of 03 Apr 2020

Amended transitional arrangements for the regulatory capital treatment of ECL accounting as set out in the 3 April 2020 publication.

Transitional arrangements for certain capital instruments

90.1 Capital instruments that no longer qualify as non-common equity Tier 1 or Tier 2 capital are phased out beginning 1 January 2013. Fixing the base at the nominal amount of such instruments outstanding on 1 January 2013, their recognition is capped at 90% from 1 January 2013, with the cap reducing by 10 percentage points in each subsequent year.

90.2 This cap is applied to Additional Tier 1 and Tier 2 separately and refers to the total amount of instruments outstanding that no longer meet the relevant entry criteria. To the extent an instrument is redeemed, or its recognition in capital is amortised, after 1 January 2013, the nominal amount serving as the base is not reduced.

FAQ

FAQ1 *If a Tier 2 instrument eligible for transitional arrangements begins its final five-year amortisation period prior to 1 January 2013, does it carry on amortising at a rate of 20% per annum after 1 January 2013?*

Individual instruments continue to be amortised at a rate of 20% per year while the aggregate cap is reduced at a rate of 10% per year.

FAQ2 *Can ineligible Tier 1 instruments be "cascaded" into Tier 2 and, if so, can a firm elect to do this at 1 January 2013 or a later date?*

CAP90.1 states that, "Capital instruments that no longer qualify as non-common equity Tier 1 capital or Tier 2 capital are phased out beginning 1 January 2013. Fixing the base at the nominal amount of such instruments outstanding on 1 January 2013, their recognition is capped at 90% from 1 January 2013, with the cap reducing by 10 percentage points in each subsequent year." This rule does not prohibit instruments, in whole or in part, that exceed the cap on recognition in Additional Tier 1 being reallocated to Tier 2 if they meet all of the criteria for inclusion in Tier 2 that apply from 1 January 2013. Any reallocation will have no effect on the calculation of the cap itself. This means that instruments that are phased out of Additional Tier 1 and do not meet the point-of-non-viability requirements in CAP10.11(16) will not be permitted to be "cascaded" into Tier 2, as Tier 2 is required to meet the point-of-non-viability requirements in CAP10.16(10).

FAQ3 *Some Tier 1 and Tier 2 instruments were not eligible to be recognised as such under Basel II because they exceeded the relevant limits for recognition (eg 15% innovative limit or Tier 2 limit). Can amounts that*

exceeded these limits be included in the base for the transitional arrangements established in CAP90.1 and CAP90.2?

No. The base for the transitional arrangements should reflect the outstanding amount that is eligible to be included in the relevant tier of capital under the national rules applied on 31 December 2012.

FAQ4 *If a Tier 2 instrument eligible for grandfathering begins its final five-year amortisation period prior to 1 January 2013, is the full nominal amount or the amortised amount used in fixing the base for transitional arrangements?*

For Tier 2 instruments that have begun to amortise before 1 January 2013, the base for transitional arrangements should take into account the amortised amount, not the full nominal amount.

FAQ5 *What happens to share premium (stock surplus) associated with instruments eligible for the transitional arrangements?*

Share premium (stock surplus) only meets the entry criteria if it is related to an instrument that meets the entry criteria. The share premium of instruments that do not meet the entry criteria, but which are eligible for the transitional arrangements, should instead be included in the base for the transitional arrangements.

FAQ6 *How do the transitional arrangements apply to instruments denominated in a foreign currency along with any potential hedges of the nominal amount of those instruments?*

The total amount of such instruments that no longer meet the criteria for inclusion in the relevant tier of capital are included in the base and limited by the cap from 1 January 2013 onwards. To calculate the base, instruments denominated in foreign currency that no longer qualify for inclusion in the relevant tier of capital should be included using their value in the reporting currency of the bank as at 1 January 2013. The base will therefore be fixed in the reporting currency of the bank throughout the transitional period.

During the transitional period instruments denominated in a foreign currency should be valued as they are reported on the balance sheet of the bank at the relevant reporting date (adjusting for any amortisation in the case of Tier 2 instruments) and, along with all other instruments that no longer meet the criteria for inclusion in the relevant tier of capital, are subject to the cap.

90.3 In addition, instruments with an incentive to be redeemed are treated as follows:

(1) For an instrument that has a call and a step-up prior to 1 January 2013 (or another incentive to be redeemed), if the instrument is not called at its effective maturity date and on a forward-looking basis meets the new criteria for inclusion in Tier 1 or Tier 2, it continues to be recognised in that tier of capital.

(2) For an instrument that has a call and a step-up on or after 1 January 2013 (or another incentive to be redeemed), if the instrument is not called at its effective maturity date and on a forward-looking basis meets the new criteria for inclusion in Tier 1 or Tier 2, it continues to be recognised in that tier of capital. After the call date, the full amount of a Tier 1 instrument, or the applicable amortised amount of a Tier 2 instrument, is recognised. Prior to the effective maturity date, the instrument would be considered an "instrument that no longer qualifies as Additional Tier 1 or Tier 2" and therefore is phased out from 1 January 2013.

(3) For an instrument that has a call and a step-up between 12 September 2010 and 1 January 2013 (or another incentive to be redeemed), if the instrument is not called at its effective maturity date and on a forward-looking basis does not meet the new criteria for inclusion in Tier 1 or Tier 2, it is fully derecognised in that tier of regulatory capital from 1 January 2013 and not included in the base for the transitional arrangements.

(4) For an instrument that has a call and a step-up on or after 1 January 2013 (or another incentive to be redeemed), if the instrument is not called at its effective maturity date and on a forward looking basis does not meet the new criteria for inclusion in Tier 1 or Tier 2, it is derecognised in that tier of regulatory capital from the effective maturity date. Prior to the effective maturity date, the instrument would be considered an "instrument that no longer qualifies as Additional Tier 1 or Tier 2" and therefore is phased out from 1 January 2013.

(5) For an instrument that had a call and a step-up on or prior to 12 September 2010 (or another incentive to be redeemed), if the instrument was not called at its effective maturity date and on a forward looking basis does not meet the new criteria for inclusion in Tier 1 or Tier 2, it is considered an "instrument that no longer qualifies as Additional Tier 1 or Tier 2" and therefore is phased out from 1 January 2013.

FAQ

FAQ1 *Does this mean that if there was a Tier 1 security that met all the requirements to qualify for Additional Tier 1 capital on a forward-looking basis after its call date and it is callable on 31 December 2014, on 1 January 2014, the security would count at 80% of notional but on 1 January 2015, if not called, it would count as 100% of Tier 1 capital?*

Yes. However, it should be noted that the base that sets a cap on the instruments that may be included applies to all outstanding instruments that no longer qualify as non-common equity Tier 1. This means, for example, that if other non-qualifying Tier 1 instruments are repaid during 2014 it is possible for the instrument to receive recognition in excess of 80% during 2014.

FAQ2 *If an instrument issued before 12 September 2010 has an incentive to redeem and does not fulfil the non-viability requirement in CAP10.11 (16) or CAP10.16(10), but is otherwise compliant on a forward-looking basis, is it eligible for transitional arrangements?*

If an instrument has an effective maturity date that occurs before 1 January 2013 and is not called, and complies with the entry criteria except for the non-viability requirement on 1 January 2013, then it is eligible for transitional arrangements.

If the instrument has an effective maturity date that occurs after 1 January 2013, and therefore it does not comply with the entry criteria (including the non-viability requirement) as on 1 January 2013, it should be phased out until its effective maturity date and derecognised after that date.

FAQ3 *Assume that on 1 January 2013 a bank has $100m of non-compliant Tier 1 securities outstanding. By 1 January 2017, the capital recognition has been reduced to 50% (10% per year starting at 90% on 1 January 2013). Now assume that $50m of the Tier 1 securities have been called between 2013 and the end of 2016 – leaving $50m outstanding. Does the transitional arrangement mean the bank can fully recognise the remaining $50m of capital on 1 January 2017?*

Yes.

FAQ4 *For instruments with an incentive to redeem after 1 January 2013, CAP90.3 permits them to be included in capital after their call/step-up date if they meet the CAP10 criteria on a forward-looking basis. Does this forward looking basis mean that they need to meet the loss absorbency criteria set out in CAP10.11(16) and CAP10.16(10)?*

Yes, they need to meet all CAP10 criteria on a forward looking basis or they will be derecognised from capital after their call/step-up date.

90.4 Capital instruments that do not meet the criteria for inclusion in Common Equity Tier 1 are excluded from Common Equity Tier 1 as of 1 January 2013. However, instruments meeting the following three conditions are phased out over the same horizon described in CAP90.1:

(1) they are issued by a non-joint stock company;[1]

(2) they are treated as equity under the prevailing accounting standards; and

(3) they receive unlimited recognition as part of Tier 1 capital under current national banking law.

Footnotes

[1] *Non-joint stock companies were not addressed in the Basel Committee' s 1998 agreement on instruments eligible for inclusion as they do not issue voting common shares.*

90.5 The following instruments qualify for the above transition arrangements:

(1) instruments issued before 12 September 2010; and

(2) instruments issued prior to 1 January 2013 that meet all of the entry criteria for Additional Tier 1 or Tier 2 apart from the non-viability criteria in CAP10.11 (16) and CAP10.16(10).

FAQ

FAQ1 *If the contractual terms of an instrument issued before 12 September 2010 are amended to remove features that make it ineligible for grandfathering (eg deletion of call options or other incentives to redeem) but without making the instrument fully compliant with the Basel III definition of capital, can the instrument be counted as eligible grandfathered regulatory capital (subject to the limits in CAP90.1)?*

A material change in the terms and conditions of a pre-existing instrument shall be considered in the same way as the issuance of a new instrument. This means that the instrument may only be included in regulatory capital if the revised terms and conditions meet the Basel III eligibility criteria in full. Revisions to terms and conditions cannot be used to extend grandfathering arrangements. This reasoning holds true for all types of capital instruments.

90.6 Public sector capital injections made before 16 December 2010 and that do not comply with the eligibility criteria in CAP10 receive no recognition in regulatory capital after 1 January 2018. The transitional arrangements in CAP90.1 to CAP90.4 do not apply to these instruments.

Transitional arrangements for expected credit loss accounting

90.7 The Committee has determined that it may be appropriate for a jurisdiction to introduce a transitional arrangement for the impact on regulatory capital from the application of expected credit loss (ECL) accounting. Jurisdictions applying a transitional arrangement must implement such an arrangement as follows.

90.8 The transitional arrangement must apply only to provisions that are "new" under an ECL accounting model. "New" provisions are provisions which do not exist under accounting approaches applied prior to the adoption of an ECL accounting model.

90.9 The transitional arrangement must adjust Common Equity Tier 1 capital. Where there is a reduction in Common Equity Tier 1 capital due to new provisions, net of tax effect, upon adoption of an ECL accounting model, the decline in Common Equity Tier 1 capital (the "transitional adjustment amount") must be partially included (ie added back) to Common Equity Tier 1 capital over a number of years (the "transition period") commencing on the effective date of the transition to ECL accounting.

90.10 Jurisdictions must choose whether banks under their supervision determine the transitional adjustment amount throughout the transition period by either:

(1) calculating it just once, at the effective date of the transition to ECL accounting (ie static approach); or

(2) recalculating it periodically to reflect the evolution of a bank's ECL provisions within the transition period (ie dynamic approach).

90.11 The transitional adjustment amount may be calculated based on the impact on Common Equity Tier 1 capital upon adoption of an ECL accounting model or from accounting provisions disclosed before and after the adoption of an ECL accounting model.

90.12 For internal ratings-based (IRB) portfolios, the calculation of transitional adjustment amounts must take account of the shortfall of the stock of provisions to expected losses, as set out in CAP30.13. In some circumstances, an increase in provisions will not be fully reflected in IRB Common Equity Tier 1 capital.

90.13 The transition period commences from the date upon which a bank adopts ECL accounting in a jurisdiction that requires or permits the implementation of an ECL accounting framework. The transition period must be no more than five years.

90.14 During the transition period, the transitional adjustment amount will be partially included in (ie added back to) Common Equity Tier 1 capital. A fraction of the transitional adjustment amount (based on the number of years in the transition period) will be included in Common Equity Tier 1 capital during the first year of the transition period, with the proportion included in Common Equity Tier 1 capital phased out each year thereafter during the course of the transition period on a straight line basis. The impact of ECL provisions on Common Equity Tier 1 capital must not be fully neutralised during the transition period.

90.15 The transitional adjustment amount included in Common Equity Tier 1 capital each year during the transition period must be taken through to other measures of capital as appropriate (eg Tier 1 capital and total capital), and hence to the calculation of the leverage ratio and of large exposures limits.

90.16 Jurisdictions must choose between applying the consequential adjustments listed below or a simpler approach to ensure that banks do not receive inappropriate capital relief. (An example of a simpler approach that would not provide inappropriate capital relief would be amortising the transitional arrangement more rapidly than otherwise.)

(1) Account should be taken of tax effects in calculating the impact of ECL accounting on Common Equity Tier 1 capital.

(2) Any deferred tax asset (DTA) arising from a temporary difference associated with a non-deducted provision amount must be disregarded for regulatory purposes during the transitional period. This means that such DTA amount

must not be considered for Common Equity Tier 1 capital, and in return must not be subject to deduction from Common Equity Tier 1 capital and must not be subject to risk weighting, as applicable.

(3) An accounting provision amount not deducted from Common Equity Tier 1 capital should not:

(a) be included in Tier 2 capital, even if the provision meets the definition of "general" or "excess" provisions;

(b) reduce exposure amounts in the standardised approach even if it meets the definition of a "specific" provision; or

(c) reduce the total exposure measure in the leverage ratio.

90.17 Jurisdictions must publish details of any transitional arrangement applied, the rationale for it, and its implications for supervision of banks (eg whether supervisory decisions will be based solely on regulatory metrics which incorporate the effect of the transitional arrangement). Jurisdictions that choose to implement a transitional arrangement must require their banks to disclose, as set out in DIS20:[2]

(1) whether a transitional arrangement is applied; and

(2) the impact on the bank's regulatory capital and leverage ratios compared to the bank's "fully loaded" capital and leverage ratios had the transitional arrangements not been applied.

Footnotes

[2] *In addition to the required disclosures under Pillar 3, banks may also provide this information prominently on their website.*

90.18 In light of the Covid-19 pandemic, the Committee agreed on the following amendments to the transitional arrangements for the regulatory capital treatment of ECLs set out in CAP90.7 to CAP90.17:

(1) Jurisdictions may apply the existing transitional arrangements, even if they were not initially implemented when banks first adopted the ECL model. They may also choose to apply the alternative transition set out in point (4) below.

(2) Jurisdictions may permit banks to switch from the static approach to the dynamic approach to determine the transitional adjustment amount (even if they have previously switched the approach that they use).

(3) In addition to the two existing approaches to calculate the transitional adjustment amount (the static and dynamic approach), jurisdictions may use alternative methodologies that aim to approximate the cumulative difference between provisions under the ECL accounting model and provisions under the prior incurred loss accounting model.

(4) Irrespective of when a jurisdiction initially started to apply transitional arrangements, for the 2 year period comprising the years 2020 and 2021, jurisdictions may allow banks to add-back up to 100% of the transitional adjustment amount to CET1.[3] The "add-back" amount must then be phased-out on a straight line basis over the subsequent 3 years.

Footnotes

[3] *Jurisdictions that have already implemented the transitional arrangements may choose to add back less than 100% during 2020 and 2021, or take other measures to prevent the add-back from including ECL amounts established before the outbreak of Covid-19.*

90.19 The disclosure requirements of CAP90.17 also apply when the modified transitional arrangements set out in CAP90.18 are used.

CAP99

Application guidance

This chapter contains supporting information on the definition of indirect and synthetic holdings, the calculation of minority interests and the application of transitional arrangements.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Minority interest illustrative example

99.1 Minority interest receives limited recognition in regulatory capital, as described in CAP10.20 to CAP10.26. The following paragraphs provide an illustrative example of how to calculate the amount eligible for inclusion.

99.2 A banking group consists of two legal entities that are both banks. Bank P is the parent and Bank S is the subsidiary and their unconsolidated balance sheets are set out below.

Bank P balance sheet		Bank S balance sheet	
Assets		**Assets**	
Loans to customers	100	Loans to customers	150
Investment in Common Equity Tier 1 of Bank S	7		
Investment in the Additional Tier 1 of Bank S	4		
Investment in the Tier 2 of Bank S	2		
Liabilities and equity		**Liabilities and equity**	
Depositors	70	Depositors	127
Tier 2	10	Tier 2	8
Additional Tier 1	7	Additional Tier 1	5
Common equity	26	Common equity	10

99.3 The balance sheet of Bank P shows that in addition to its loans to customers, it owns 70% of the common shares of Bank S, 80% of the Additional Tier 1 of Bank S and 25% of the Tier 2 capital of Bank S. The ownership of the capital of Bank S is therefore as follows:

Capital issued by Bank S			
	Amount issued to parent (Bank P)	Amount issued to third parties	Total
Common Equity Tier 1	7	3	10
Additional Tier 1	4	1	5
Tier 1	***11***	***4***	***15***
Tier 2	2	6	8
Total capital	***13***	***10***	***23***

99.4 The consolidated balance sheet of the banking group is set out below:

Consolidated balance sheet	
Assets	
Loans to customers	250
Liabilities and equity	
Depositors	197
Tier 2 issued by subsidiary to third parties	6
Tier 2 issued by parent	10
Additional Tier 1 issued by subsidiary to third parties	1
Additional Tier 1 issued by parent	7
Common equity issued by subsidiary to third parties (ie minority interest)	3
Common equity issued by parent	26

99.5 For illustrative purposes Bank S is assumed to have risk-weighted assets of 100. In this example, the minimum capital requirements of Bank S and the subsidiary's contribution to the consolidated requirements are the same since Bank S does not have any loans to Bank P. This means that it is subject to the following

minimum plus capital conservation buffer requirements and has the following surplus capital:

Minimum and surplus capital of Bank S

	Minimum plus capital conservation buffer	Surplus
Common Equity Tier 1	7.0 (= 7.0% of 100)	3.0 (=10 – 7.0)
Tier 1	8.5 (= 8.5% of 100)	6.5 (=10 + 5 – 8.5)
Total capital	10.5 (= 10.5% of 100)	12.5 (=10 + 5 + 8 – 10.5)

99.6 The following table illustrates how to calculate the amount of capital issued by Bank S to include in consolidated capital, following the calculation procedure set out in CAP10.20 to CAP10.26:

Bank S: amount of capital issued to third parties included in consolidated capital

	Total amount issued **(a)**	**Amount issued to third parties** **(b)**	**Surplus** **(c)**	**Surplus attributable to third parties (ie amount excluded from consolidated capital)** **(d)** **=(c) * (b)/(a)**	**Amount included in consolidated capital** **(e) = (b) – (d)**
Common Equity Tier 1	10	3	3.0	0.90	2.10
Tier 1	15	4	6.5	1.73	2.27
Total capital	23	10	12.5	5.43	4.57

99.7 The following table summarises the components of capital for the consolidated group based on the amounts calculated in the table above. Additional Tier 1 is calculated as the difference between Common Equity Tier 1 and Tier 1 and Tier 2 is the difference between Total Capital and Tier 1.

	Total amount issued by parent (all of which is to be included in consolidated capital)	Amount issued by subsidiaries to third parties to be included in consolidated capital	Total amount issued by parent and subsidiary to be included in consolidated capital
Common Equity Tier 1	26	2.10	28.10
Additional Tier 1	*7*	*0.17*	*7.17*
Tier 1	33	2.27	35.27
Tier 2	*10*	*2.30*	*12.30*
Total capital	43	4.57	47.57

Indirect and synthetic holdings

99.8 CAP30.18 to CAP30.31 describes the regulatory adjustments applied to a bank's investments in its own capital or other total loss-absorbing capacity (TLAC) instruments or those of other financial entities, even if they do not have direct holdings. More specifically, these paragraphs require banks to capture the loss that a bank would suffer if the capital or TLAC instrument is permanently written off, and subject this potential loss to the same treatment as a direct exposure. This section defines indirect and synthetic holdings and provides examples.

99.9 An indirect holding arises when a bank invests in an unconsolidated intermediate entity that has an exposure to the capital of an unconsolidated bank, financial or insurance entity and thus gains an exposure to the capital of that financial institution.

99.10 A synthetic holding arises when a bank invests in an instrument where the value of the instrument is directly linked to the value of the capital of an unconsolidated bank, financial or insurance entity.

99.11 Set out below are some examples of indirect and synthetic holdings to help illustrate this treatment:

(1) The bank has an investment in the capital of an entity that is not consolidated for regulatory purposes and is aware that this entity has an investment in the capital of a financial institution.

(2) The bank enters into a total return swap on capital instruments of another financial institution.

(3) The bank provides a guarantee or credit protection to a third party in respect of the third party's investments in the capital of another financial institution.

(4) The bank owns a call option or has written a put option on the capital instruments of another financial institution.

(5) The bank has entered into a forward purchase agreement on the capital of another financial institution.

FAQ

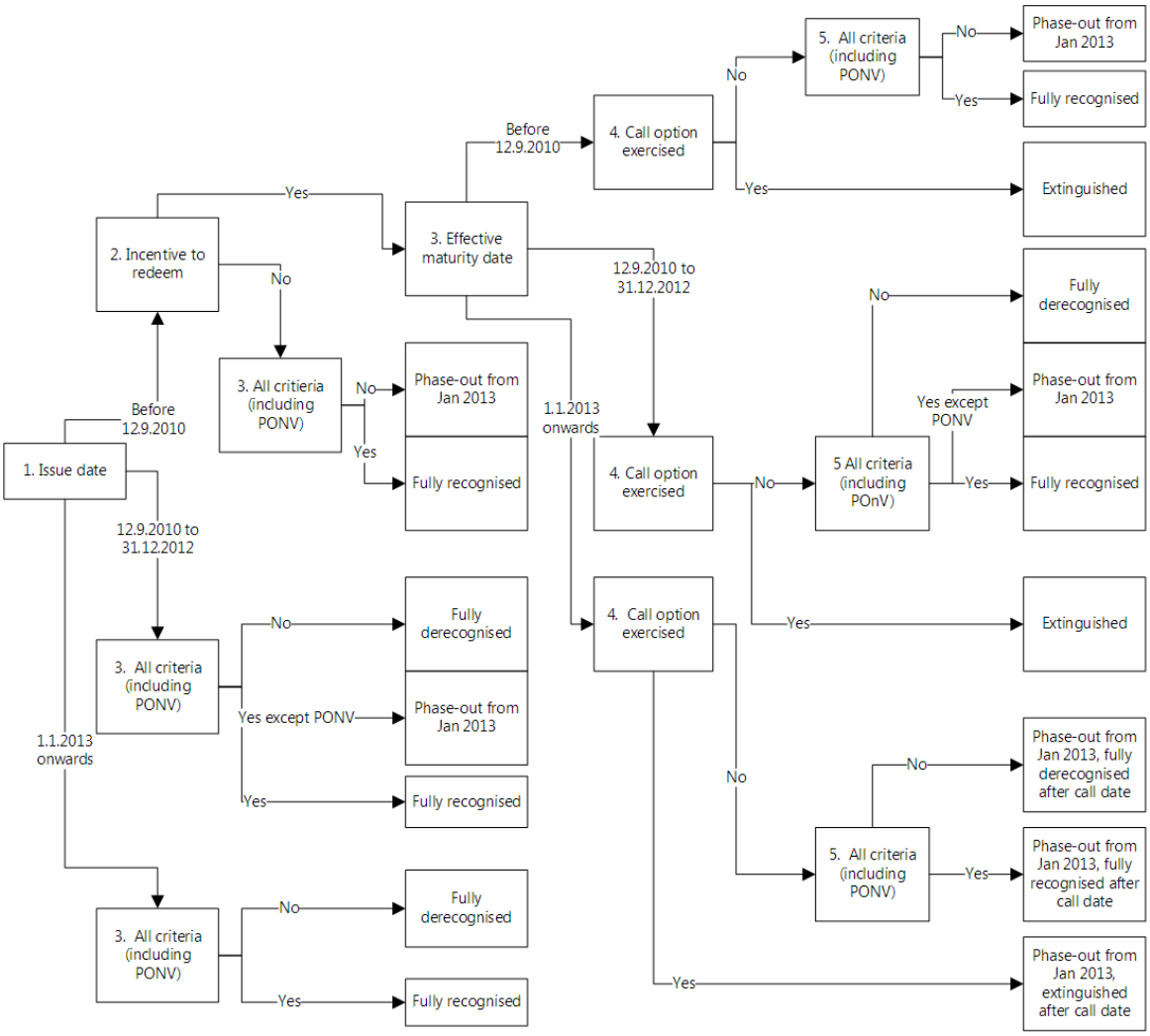
FAQ1 *What would be the prudential treatment applicable to a financial instrument where a bank commits itself to buy newly issued shares of an insurance company for a given amount should certain events occur? For example, consider the following case. Bank A enters into a contract with Firm B (an insurance company). The contract stipulates that, if any of the three events defined below occurs within the next three years, Bank A must buy for €10 million new shares of Firm B (leading to a capital increase for Firm B). The new shares are generally issued with a discount (eg 5%) on the average market price recorded on the trading days following the event. In such a case, Bank A has to provide the cash to Firm B within a predefined timeline (eg 10 days). Event 1: Firm B incurs a technical loss above a threshold (eg €1m) for a specific event (eg natural catastrophe). Event 2: The loss ratio of a given line of business is higher than 120% for two consecutive semesters. Event 3: The share price of Firm B falls below a given value. Bank A is not allowed to sell the financial instrument resulting from this contract to other entities.*

CAP30.18 to CAP30.31 provide that investments in the capital of banking, financial and insurance entities include direct, indirect and synthetic holdings of capital instruments. These instruments must be deducted following a corresponding deduction approach (potentially with the application of a threshold). CAP99.8 to CAP99.12 defines indirect and synthetic holdings and provides examples. The transaction described above has to be regarded as a derivative instrument (in this case, a put option) that has a capital instrument (a share) of a financial sector entity as its underlying. Hence, it should be regarded as a synthetic holding to be deducted from Common Equity Tier 1 as per the applicable deduction rules.

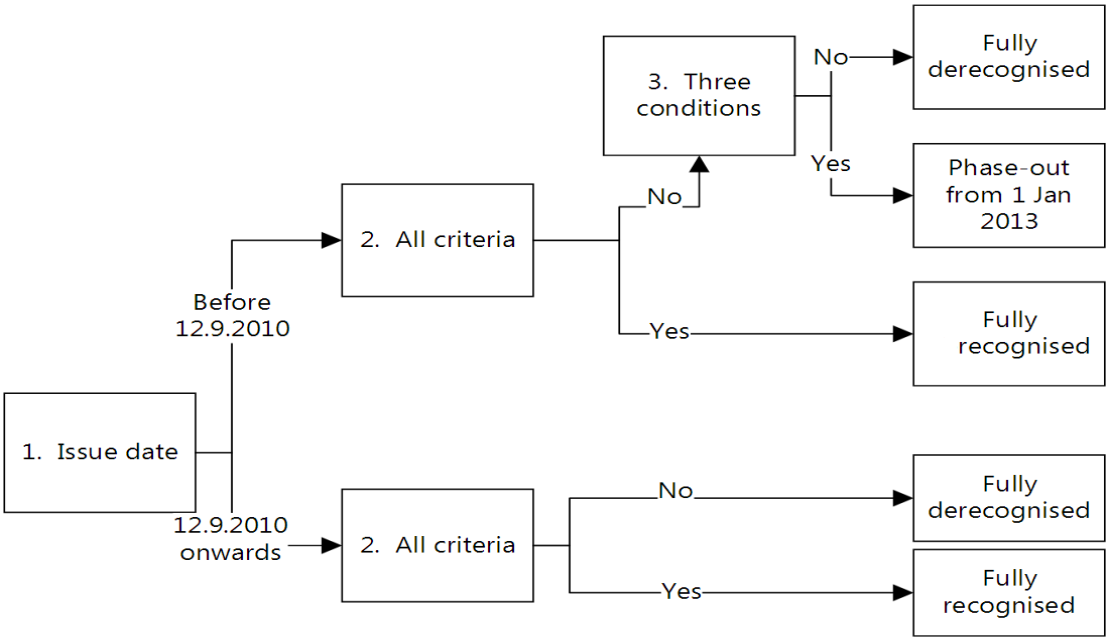
99.12 In all cases, the loss that the bank would suffer on the exposures if the capital of the financial institution is permanently written-off is to be treated as a direct exposure (ie subject to a deduction treatment).

Flowcharts illustrating transitional arrangements

99.13 The flowchart below illustrates the application of transitional arrangements in CAP90.1 to CAP90.3 and CAP90.5. "Phase-out" refers to those transitional arrangements. "PONV" refers to the non-viability requirements in CAP10.11(16) and CAP10.16(10).



99.14 The flowchart below illustrates the application of transitional arrangements in CAP90.4, which also sets out the "three conditions" and "phase-out" arrangements.



RBC

Risk-based capital requirements

This standard describes the framework for risk-based capital requirements.

RBC20

Calculation of minimum risk-based capital requirements

This chapter sets out the minimum regulatory capital requirements under the risk-based framework and how banks must calculate risk-weighted assets.

Version effective as of 01 Jan 2023

Changes to output floor and approaches available to calculate credit and operational risk capital requirements, as set out in the December 2017 Basel III publication, including revised implementation date announced on 27 March 2020. Also, cross references to the securitisation chapters updated to include a reference to the chapter on NPL securitisations (CRE45) published on 26 November 2020.

Minimum risk-based capital requirements

20.1 Banks must meet the following requirements at all times:

(1) Common Equity Tier 1 must be at least 4.5% of risk-weighted assets (RWA).

(2) Tier 1 capital must be at least 6% of RWA.

(3) Total capital must be at least 8.0% of RWA.[1]

Footnotes

[1] *In addition, a Common Equity Tier 1 capital conservation buffer is set at 2.5% of RWA for all banks. Banks may also be subject to a countercyclical capital buffer or higher loss absorbency requirements for systemically important banks. These buffers are described in RBC30 and RBC40.*

20.2 The components of capital referred to in RBC20.1 are defined in CAP10 and must be used net of regulatory adjustments (defined in CAP30) and subject to the transitional arrangements in CAP90. RWA are defined in RBC20.3 and RBC20.4.

Risk-weighted assets

20.3 The Basel framework describes how to calculate RWA for credit risk, market risk and operational risk. The requirements for calculating RWA for credit risk and market risk allow banks to use different approaches, some of which banks may only use with supervisory approval. The nominated approaches of a bank comprise all the approaches that the bank is using to calculate regulatory capital requirements, other than those approaches used solely for the purpose of the output floor calculation outlined below. The nominated approaches of a bank may include those that it has supervisory approval to use and those for which supervisory approval is not required.

20.4 The RWA that banks must use to determine compliance with the requirements set out in RBC20.1 (and the buffers in RBC30 and RBC40) is the higher of:

(1) the sum of the following three elements, calculated using the bank's nominated approaches:

(a) RWA for credit risk (as calculated in RBC20.6 to RBC20.8);

(b) RWA for market risk (as calculated in RBC20.9); and

(c) RWA for operational risk (as calculated in RBC20.10); and

(2) 72.5% of the sum of the elements listed in point (1) above, calculated using only the standardised approaches listed in RBC20.11. This element of this requirement is referred to as the output floor, and the RWA amount that is multiplied by 72.5% is referred to as the base of the output floor. This requirement is subject to transitional arrangements set out in RBC90.

Banking book and trading book boundary

20.5 Before a bank can calculate RWA for credit risk and RWA for market risk, it must follow the requirements of RBC25 to identify the instruments that are in the trading book. The banking book comprises all instruments that are not in the trading book and all other assets of the bank (hereafter "banking book exposures").

RWA for credit risk

20.6 RWA for credit risk (including counterparty credit risk) is calculated as the sum of the following:

(1) Credit RWA for banking book exposures, except the RWA listed in (2) to (6) below, calculated using:

(a) The standardised approach, set out in CRE20 to CRE22; or

(b) The internal ratings-based (IRB) approach, set out in CRE30 to CRE36.

(2) RWA for counterparty credit risk arising from banking book exposures and from trading book instruments (as specified in CRE55), except the exposures listed in (3) to (6) below, using the methods outlined in CRE51.

(3) Credit RWA for equity investments in funds that are held in the banking book calculated using one or more of the approaches set out in CRE60:

(a) The look-through approach.

(b) The mandate-based approach.

(c) The fall-back approach.

(4) RWA for securitisation exposures held in the banking book, calculated using one or more of the approaches set out in CRE40 to CRE45:

(a) Securitisation Standardised Approach (SEC-SA).

(b) Securitisation External Ratings-Based Approach (SEC-ERBA).

(c) Internal Assessment Approach (IAA).

(d) Securitisation Internal Ratings-Based Approach (SEC-IRBA).

(e) A risk weight of 1250% in cases where the bank cannot use (a) to (d) above.

(5) RWA for exposures to central counterparties in the banking book and trading book, calculated using the approach set out in CRE54.

(6) RWA for the risk posed by unsettled transactions and failed trades, where these transactions are in the banking book or trading book and are within scope of the rules set out in CRE70.

20.7 The approaches listed in RBC20.6 specify how banks must measure the size of their exposures (ie the exposure at default) and determine their RWA. Certain types of transactions in the banking book and trading book (such a derivatives and securities financing transactions) give rise to counterparty credit risk, for which the measurement of the size of the exposure can be complex. Therefore, the approaches listed in RBC20.6 include, or cross refer to, the following methods available to determine the size of counterparty credit risk exposures (see CRE51 for an overview of the counterparty credit risk requirements including the types of transactions to which the methods below can be applied):

(1) The standardised approach for measuring counterparty credit risk exposures (SA-CCR), set out in CRE52.

(2) The comprehensive approach, set out in CRE22.40 to CRE22.65.

(3) The value at risk (VaR) models approach, set out in CRE32.39 to CRE32.41.

(4) The internal models method (IMM), set out in CRE53.

20.8 For banks that have supervisory approval to use IMM to calculate counterparty credit risk exposures, RWA for credit risk must be calculated as the higher of:

(1) the sum of elements (1) to (6) in RBC20.6 calculated using IMM with current parameter calibrations; and

(2) the sum of the elements in RBC20.6 using IMM with stressed parameter calibrations.

RWA for market risk

20.9 RWA for market risk is calculated as the sum of the following:

(1) RWA for market risk for instruments in the trading book and for foreign exchange risk and commodities risk for exposures in the banking book, calculated using one or more of the following approaches:

(a) The standardised approach for market risk, set out in MAR20 to MAR23;

(b) The internal models approach (IMA) for market risk, set out in MAR30 to MAR33; or

(c) The simplified standardised approach for market risk, set out in MAR40.

(2) RWA for credit valuation adjustment (CVA) risk in the banking and trading book, calculated using one of the following methods set out in MAR50:

(a) The basic approach to CVA risk (BA-CVA).

(b) The standardised approach to CVA risk (SA-CVA).

(c) 100% of the bank's RWA for counterparty credit risk, for banks that have exposures below a materiality threshold (see MAR50.9).

RWA for operational risk

20.10 RWA for operational risk is calculated using the standardised approach for operational risk, set out in OPE25.

Calculation of the output floor

20.11 To reduce excessive variability of RWA and to enhance the comparability of risk-based capital ratios, banks are subject to a floor requirement that is applied to RWA. The output floor ensures that banks' capital requirements do not fall below a certain percentage of capital requirements derived under standardised approaches. The standardised approaches to be used to calculate the base of the output floor referenced in RBC20.4(2) are as follows:

(1) The standardised approach for credit risk.

(2) The bank's nominated approach for equity investments in funds.

(3) For securitisation exposures in the banking book and when determining the default risk charge component for securitisation exposures in the trading book:

(a) if a bank does not use SEC-IRBA or SEC-IAA, its nominated approach; or

(b) if a bank does use SEC-IRBA or SEC-IAA, then the SEC-ERBA, SEC-SA or a risk-weight of 1250% as determined per the hierarchy of approaches.

(4) For counterparty credit risk exposure measurement:

(a) if a bank does not use IMM or the VaR models approach, then its nominated approach; or

(b) if a bank does use IMM or the VaR models approach, then the SA-CCR or the comprehensive approach.

(5) For market risk:

(a) If a bank uses the IMA for market risk, then the standardised approach for market risk; or

(b) If a bank does not use the IMA for market risk, then its nominated approach.

(6) The bank's nominated approach for CVA risk.

(7) The standardised approach for operational risk.

20.12 RBC20.11 above means that the following approaches are not permitted to be used, directly or by cross reference,[2] in the calculation of the base of the output floor:

(1) IRB approach to credit risk;

(2) SEC-IRBA;

(3) the IMA for market risk;

(4) the VaR models approach to counterparty credit risk; and

(5) the IMM for counterparty credit risk.

Footnotes

[2] *As examples:*

- *Although the requirements for calculating exposures to central counterparties (CRE54) cross refer to IMM as a possible method for calculating exposure values, IMM may not be used when these rules are applied for calculating the base of the output floor.*

- *For the look-through and mandate-based approaches for equity investments in funds, banks must use the standardised approach for credit risk when calculating the RWA of the underlying assets of the funds for the base of the output floor.*

- *Although there is a cross reference in the standardised approach for market risk to the securitisation chapters of the credit risk standard (CRE40 to CRE45), SEC-IRBA may not be used when the standardised approach for market risk is calculated for the base of the output floor.*

20.13 The table below provides a simple example of how the capital floor must be calculated.

Illustration of output floor calculation Table 1

	Pre-floor RWAs	Standardised RWAs	72.5% of standardised RWAs
Credit risk	62	124	-
- of which Asset Class A	45	80	-
- of which Asset Class B	5	32	-
- of which Asset Class C (not modelled)	12	12	-
Market risk	2	4	-
Operational risk (not modelled)	12	12	-
Total RWA	76	140	101.5

As the floored RWAs (101.5) are higher than the pre-floor RWA (76) in this example, the bank would use the former to determine compliance with the requirements set out in RBC20.1 (and the buffers in RBC30 and RBC40).

Minimum standards and use of internal models

20.14 While the Basel framework permits the use of internally modelled approaches for certain risk categories, subject to supervisory approval, a jurisdiction which does not implement some or all of the internally modelled approaches but instead only implements the basic or standardised approaches is compliant with the Basel framework.

RBC25

Boundary between the banking book and the trading book

This chapter sets out the instruments to be included in the trading book (which are subject to market risk capital requirements) and those to be included in the banking book (which are subject to credit risk capital requirements).

Version effective as of 01 Jan 2023

Updated to take account of the January 2019 market risk publication and the revised implementation date announced on 27 March 2020.

Scope of the trading book

25.1 A trading book consists of all instruments that meet the specifications for trading book instruments set out in RBC25.2 through RBC25.13. All other instruments must be included in the banking book.

25.2 Instruments comprise financial instruments, foreign exchange (FX), and commodities. A financial instrument is any contract that gives rise to both a financial asset of one entity and a financial liability or equity instrument of another entity. Financial instruments include both primary financial instruments (or cash instruments) and derivative financial instruments. A financial asset is any asset that is cash, the right to receive cash or another financial asset or a commodity, or an equity instrument. A financial liability is the contractual obligation to deliver cash or another financial asset or a commodity. Commodities also include non-tangible (ie non-physical) goods such as electric power.

FAQ

FAQ1 *Does the credit spread risk (CSR) capital requirement under the market risk framework apply to money market instruments (eg bank bills with a tenor of less than one year and interbank placements)?*

Yes. The CSR capital requirement applies to money market instruments to the extent such instruments are covered instruments (ie they meet the definition of instruments to be included in the trading book as specified in RBC25.2 through RBC25.13.

25.3 Banks may only include a financial instrument, instruments on FX or commodity in the trading book when there is no legal impediment against selling or fully hedging it.

25.4 Banks must fair value daily any trading book instrument and recognise any valuation change in the profit and loss (P&L) account.

FAQ

FAQ1 *May instruments designated under the fair value option be allocated to the trading book?*

Instruments designated under the fair value option may be allocated to the trading book, but only if they comply with all the relevant requirements for trading book instruments set out in RBC25.

Standards for assigning instruments to the regulatory books

25.5 Any instrument a bank holds for one or more of the following purposes must, when it is first recognised on its books, be designated as a trading book instrument, unless specifically otherwise provided for in RBC25.3 or RBC25.8:

(1) short-term resale;

(2) profiting from short-term price movements;

(3) locking in arbitrage profits; or

(4) hedging risks that arise from instruments meeting (1), (2) or (3) above.

FAQ

FAQ1 *Does evidence of periodic sale activity automatically imply that the condition regarding short-term resale in RBC25.5(1) has been met?*

No. Periodic sale activity on its own is insufficient to consider a position as held for short-term resale.

25.6 Any of the following instruments is seen as being held for at least one of the purposes listed in RBC25.5 and must therefore be included in the trading book, unless specifically otherwise provided for in RBC25.3 or RBC25.8:

(1) instruments in the correlation trading portfolio;

(2) instruments that would give rise to a net short credit or equity position in the banking book;[1] or

(3) instruments resulting from underwriting commitments, where underwriting commitments refer only to securities underwriting, and relate only to securities that are expected to be actually purchased by the bank on the settlement date.

Footnotes

[1] *A bank will have a net short risk position for equity risk or credit risk in the banking book if the present value of the banking book increases when an equity price decreases or when a credit spread on an issuer or group of issuers of debt increases.*

FAQ

FAQ1 *What are the operational calculation and frequency for determining instruments giving rise to net short equity or credit positions in the banking book?*

Banks should continuously manage and monitor their banking book positions to ensure that any instrument that individually has the potential to create a net short credit or equity position in the banking book is not actually creating a non-negligible net short position at any point in time.

FAQ2 *Per RBC25.6(2), must a credit default swap (CDS) that hedges loans in the banking book but which gives rise to a net short credit position be allocated to the trading book?*

As a general principle, instruments that give rise to a net short credit or equity position in the banking book must be assigned to the trading book unless a trading book treatment is explicitly excluded for the specific type of position. In this example, the net short position resulting from such instruments (ie the amount which cannot be offset against any long positions) must be treated as a trading book position and be subject to market risk capital requirements.

25.7 Any instrument which is not held for any of the purposes listed in RBC25.5 at inception, nor seen as being held for these purposes according to RBC25.6, must be assigned to the banking book.

25.8 The following instruments must be assigned to the banking book:

(1) unlisted equities;

(2) instruments designated for securitisation warehousing;

(3) real estate holdings, where in the context of assigning instrument to the trading book, real estate holdings relate only to direct holdings of real estate as well as derivatives on direct holdings;

(4) retail and small or medium-sized enterprise (SME) credit;

(5) equity investments in a fund, unless the bank meets at least one of the following conditions:

(a) the bank is able to look through the fund to its individual components and there is sufficient and frequent information, verified by an independent third party, provided to the bank regarding the fund's composition; or

(b) the bank obtains daily price quotes for the fund and it has access to the information contained in the fund's mandate or in the national regulations governing such investment funds;

(6) hedge funds;

(7) derivative instruments and funds that have the above instrument types as underlying assets; or

(8) instruments held for the purpose of hedging a particular risk of a position in the types of instrument above.

FAQ

FAQ1 *Based on RBC25.8(4), are retail and SME lending commitments excluded from the trading book?*

Yes. Retail and SME lending commitments are excluded from the trading book.

25.9 There is a general presumption that any of the following instruments are being held for at least one of the purposes listed in RBC25.5 and therefore are trading book instruments, unless specifically otherwise provided for in RBC25.3 or RBC25.8:

(1) instruments held as accounting trading assets or liabilities;[2]

(2) instruments resulting from market-making activities;

(3) equity investments in a fund excluding those assigned to the banking book in accordance with RBC25.8(5);

(4) listed equities;[3]

(5) trading-related repo-style transaction;[4] or

(6) options including embedded derivatives[5] from instruments that the institution issued out of its own banking book and that relate to credit or equity risk.

Footnotes

[2] *Under IFRS (IAS 39) and US GAAP, these instruments would be designated as held for trading. Under IFRS 9, these instruments would be held within a trading business model. These instruments would be fair valued through the P&L account.*

[3] *Subject to supervisory review, certain listed equities may be excluded from the market risk framework. Examples of equities that may be excluded include, but are not limited to, equity positions arising from deferred compensation plans, convertible debt securities, loan products with interest paid in the form of "equity kickers", equities taken as a debt previously contracted, bank-owned life insurance products, and legislated programmes. The set of listed equities that the bank wishes to exclude from the market risk framework should be made available to, and discussed with, the national supervisor and should be managed by a desk that is separate from desks for proprietary or short-term buy /sell instruments.*

[4] *Repo-style transactions that are (i) entered for liquidity management and (ii) valued at accrual for accounting purposes are not part of the presumptive list of RBC25.9.*

[5] *An embedded derivative is a component of a hybrid contract that includes a non-derivative host such as liabilities issued out of the bank' s own banking book that contain embedded derivatives. The embedded derivative associated with the issued instrument (ie host) should be bifurcated and separately recognised on the bank's balance sheet for accounting purposes.*

FAQ

FAQ1 *What is the definition of "trading-related repo-style transactions"?*

Trading-related repo-style transactions comprise those entered into for the purposes of market-making, locking in arbitrage profits or creating short credit or equity positions.

FAQ2 *How should a bank treat the bifurcation of embedded derivatives per RBC25.9(6)?*

Liabilities issued out of the bank's own banking book that contain embedded derivatives and thereby meet the criteria of RBC25.9(6) should be bifurcated.

This means that banks should split the liability into two components: (i) the embedded derivative, which is assigned to the trading book; and (ii) the residual liability, which is retained in the banking book. No internal risk transfers are necessary for this bifurcation.

Likewise, where such a liability is unwound, or where an embedded option is exercised, both the trading and banking book components are conceptually unwound simultaneously and instantly retired; no transfers between trading and banking book are necessary.

FAQ3 *To which book must an FX option be assigned if it hedges the FX risk of a banking book position?*

An option that manages FX risk in the banking book is covered by the presumptive list of trading book instruments included in RBC25.9(6). Only with explicit supervisory approval may a bank include in its banking book an option that manages banking book FX risk.

FAQ4 *Does the reference in RBC25.9(6) to options that relate to credit or equity risk include floors to an equity-linked bond?*

Yes. A floor to an equity-linked bond is an embedded option with an equity as part of the underlying, and therefore the embedded option should be bifurcated and included in the trading book.

25.10 Banks are allowed to deviate from the presumptive list specified in RBC25.9 according to the process set out below.[6]

(1) If a bank believes that it needs to deviate from the presumptive list established in RBC25.9 for an instrument, it must submit a request to its supervisor and receive explicit approval. In its request, the bank must provide evidence that the instrument is not held for any of the purposes in RBC25.5.

(2) In cases where this approval is not given by the supervisor, the instrument must be designated as a trading book instrument. Banks must document any deviations from the presumptive list in detail on an on-going basis.

Footnotes

[6] *The presumptions for the designation of an instrument to the trading book or banking book set out in this text will be used where a designation of an instrument to the trading book or banking book is not otherwise specified in this text.*

Supervisory powers

25.11 Notwithstanding the process established in RBC25.10 for instruments on the presumptive list, the supervisor may require the bank to provide evidence that an instrument in the trading book is held for at least one of the purposes of RBC25.5 . If the supervisor is of the view that a bank has not provided enough evidence or if the supervisor believes the instrument customarily would belong in the banking book, it may require the bank to assign the instrument to the banking book, except if it is an instrument listed under RBC25.6.

25.12 The supervisor may require the bank to provide evidence that an instrument in the banking book is not held for any of the purposes of RBC25.5. If the supervisor is of the view that a bank has not provided enough evidence, or if the supervisor believes such instruments would customarily belong in the trading book, it may require the bank to assign the instrument to the trading book, except if it is an instrument listed under RBC25.8.

Documentation of instrument designation

25.13 A bank must have clearly defined policies, procedures and documented practices for determining which instruments to include in or to exclude from the trading book for the purposes of calculating their regulatory capital, ensuring compliance with the criteria set forth in this section, and taking into account the bank's risk management capabilities and practices. A bank's internal control functions must conduct an ongoing evaluation of instruments both in and out of the trading book to assess whether its instruments are being properly designated initially as trading or non-trading instruments in the context of the bank's trading activities. Compliance with the policies and procedures must be fully documented and subject to periodic (at least yearly) internal audit and the results must be available for supervisory review.

Restrictions on moving instruments between the regulatory books

25.14 Apart from moves required by RBC25.5 through RBC25.10, there is a strict limit on the ability of banks to move instruments between the trading book and the banking book by their own discretion after initial designation, which is subject to the process in RBC25.15 and RBC25.16. Switching instruments for regulatory arbitrage is strictly prohibited. In practice, switching should be rare and will be allowed by supervisors only in extraordinary circumstances. Examples are a major publicly announced event, such as a bank restructuring that results in the permanent closure of trading desks, requiring termination of the business activity applicable to the instrument or portfolio or a change in accounting standards that allows an item to be fair-valued through P&L. Market events, changes in the liquidity of a financial instrument, or a change of trading intent alone are not valid reasons for reassigning an instrument to a different book. When switching positions, banks must ensure that the standards described in RBC25.5 to RBC25.10 are always strictly observed.

FAQ

FAQ1 *Does the term "change in accounting standards" in RBC25.14 mean a change in the accounting standards themselves or a reclassification within the current accounting standards?*

In the context of RBC25.14, "change in accounting standards" refers to the accounting standards themselves changing, rather than the accounting classification of an instrument changing.

25.15 Without exception, a capital benefit as a result of switching will not be allowed in any case or circumstance. This means that the bank must determine its total capital requirement (across the banking book and trading book) before and immediately after the switch. If this capital requirement is reduced as a result of this switch, the difference as measured at the time of the switch will be imposed on the bank as a disclosed Pillar 1 capital surcharge. This surcharge will be allowed to run off as the positions mature or expire, in a manner agreed with the supervisor. To maintain operational simplicity, it is not envisaged that this additional capital requirement would be recalculated on an ongoing basis, although the positions would continue to also be subject to the ongoing capital requirements of the book into which they have been switched.

FAQ

FAQ1 *If an instrument is reclassified for accounting purposes (eg reclassification to accounting trading assets or liabilities through P&L), an automatic prudential switch may be necessary given the requirements set out in RBC25.5 and RBC25.10(1). In this situation, does RBC25.15 (regarding an additional Pillar 1 capital requirement) apply?*

The disallowance of capital benefits as a result of switching positions from one book to another applies without exception and in any case or circumstance. It is therefore independent of whether the switch has been made at the discretion of the bank or is beyond its control, eg in the case of the delisting of an equity.

25.16 Any reassignment between books must be approved by senior management and the supervisor as follows. Any reallocation of securities between the trading book and banking book, including outright sales at arm's length, should be considered a reassignment of securities and is governed by requirements of this paragraph.

(1) Any reassignment must be approved by senior management thoroughly documented; determined by internal review to be in compliance with the bank's policies; subject to prior approval by the supervisor based on supporting documentation provided by the bank; and publicly disclosed.

(2) Unless required by changes in the characteristics of a position, any such reassignment is irrevocable.

(3) If an instrument is reclassified to be an accounting trading asset or liability there is a presumption that this instrument is in the trading book, as described in RBC25.9. Accordingly, in this case an automatic switch without approval of the supervisor is acceptable.

FAQ

FAQ1 *Does the treatment specified for internal risk transfers apply only to risk transfers done via internal derivatives trades, or does it apply to transfer of securities internally at market value as well?*

The treatment specified for internal risk transfers applies only to risk transfers done via internal derivatives trades. The reallocation of securities between trading and banking book should be considered a re-assignment of securities and is governed by RBC25.16.

FAQ2

Per RBC25.16, if an instrument is re-classified as an accounting trading asset or liability, the switch from the banking book to the trading book can be automatic without supervisory approval. However, the movement of an instrument from the trading book to the banking book requires supervisory approval. Is this interpretation correct?

Yes. Moving instruments between the trading book and the banking book should be rare. Although some national accounting regimes provide flexibility to change the accounting classification for an instrument, reallocating positions to the banking book due to changes in accounting classification without supervisory approval is not permitted by this standard. In all cases, including a case where an instrument is reclassified as an accounting trading asset or liability and per RBC25.16(3) accordingly switched to a trading book instrument for capital requirement purposes without approval of the supervisor, the disallowance of capital requirement benefits specified in RBC25.15 will apply.

25.17 A bank must adopt relevant policies that must be updated at least yearly. Updates should be based on an analysis of all extraordinary events identified during the previous year. Updated policies with changes highlighted must be sent to the appropriate supervisor. Policies must include the following:

(1) The reassignment restriction requirements in RBC25.14 through RBC25.16, especially the restriction that re-designation between the trading book and banking book may only be allowed in extraordinary circumstances, and a description of the circumstances or criteria where such a switch may be considered.

(2) The process for obtaining senior management and supervisory approval for such a transfer.

(3) How a bank identifies an extraordinary event.

(4) A requirement that re-assignments into or out of the trading book be publicly disclosed at the earliest reporting date.

Treatment of internal risk transfers

25.18 An internal risk transfer is an internal written record of a transfer of risk within the banking book, between the banking and the trading book or within the trading book (between different desks).

25.19

There will be no regulatory capital recognition for internal risk transfers from the trading book to the banking book. Thus, if a bank engages in an internal risk transfer from the trading book to the banking book (eg for economic reasons) this internal risk transfer would not be taken into account when the regulatory capital requirements are determined.

25.20 For internal risk transfers from the banking book to the trading book, RBC25.21 to RBC25.27 apply.

Internal risk transfer of credit and equity risk from banking book to trading book

25.21 When a bank hedges a banking book credit risk exposure or equity risk exposure using a hedging instrument purchased through its trading book (ie using an internal risk transfer),

(1) The credit exposure in the banking book is deemed to be hedged for capital requirement purposes if and only if:

(a) the trading book enters into an external hedge with an eligible third-party protection provider that exactly matches the internal risk transfer; and

(b) the external hedge meets the requirements of CRE22.74 to CRE22.75 and CRE22.77 to CRE22.78 vis-à-vis the banking book exposure.[7]

(2) The equity exposure in the banking book is deemed to be hedged for capital requirement purposes if and only if:

(a) the trading book enters into an external hedge from an eligible third-party protection provider that exactly matches the internal risk transfer; and

(b) the external hedge is recognised as a hedge of a banking book equity exposure.

(3) External hedges for the purposes of RBC25.21(1) can be made up of multiple transactions with multiple counterparties as long as the aggregate external hedge exactly matches the internal risk transfer, and the internal risk transfer exactly matches the aggregate external hedge.

Footnotes

[7] *With respect to CRE22.75, the cap of 60% on a credit derivative without a restructuring obligation only applies with regard to recognition of credit risk mitigation of the banking book instrument for regulatory capital purposes and not with regard to the amount of the internal risk transfer.*

25.22 Where the requirements in RBC25.21 are fulfilled, the banking book exposure is deemed to be hedged by the banking book leg of the internal risk transfer for capital purposes in the banking book. Moreover both the trading book leg of the internal risk transfer and the external hedge must be included in the market risk capital requirements.

25.23 Where the requirements in RBC25.21 are not fulfilled, the banking book exposure is not deemed to be hedged by the banking book leg of the internal risk transfer for capital purposes in the banking book. Moreover, the third-party external hedge must be fully included in the market risk capital requirements and the trading book leg of the internal risk transfer must be fully excluded from the market risk capital requirements.

25.24 A banking book short credit position or a banking book short equity position created by an internal risk transfer[8] and not capitalised under banking book rules must be capitalised under the market risk rules together with the trading book exposure.

Footnotes

[8] *Banking book instruments that are over-hedged by their respective documented internal risk transfer create a short (risk) position in the banking book.*

Internal risk transfer of general interest rate risk from banking book to trading book

25.25 When a bank hedges a banking book interest rate risk exposure using an internal risk transfer with its trading book, the trading book leg of the internal risk transfer is treated as a trading book instrument under the market risk framework if and only if:

(1) the internal risk transfer is documented with respect to the banking book interest rate risk being hedged and the sources of such risk;

(2) the internal risk transfer is conducted with a dedicated internal risk transfer trading desk which has been specifically approved by the supervisor for this purpose; and

(3) the internal risk transfer must be subject to trading book capital requirements under the market risk framework on a stand-alone basis for the dedicated internal risk transfer desk, separate from any other GIRR or other market risks generated by activities in the trading book.

FAQ

FAQ1 *Do the trading desk attributes set out in MAR12.4 apply to a general interest rate risk (GIRR) internal risk transfer (IRT) trading desk as defined in paragraph RBC25.25(2)?*

Similar to the notional trading desk treatment set out in MAR12.6 for foreign exchange or commodities positions held in the banking book, GIRR IRTs may be allocated to a trading desk that need not have traders or trading accounts assigned to it. For a GIRR IRT trading desk, only the quantitative trading desk requirements (ie profit and loss attribution test and backtesting) set out in MAR32 apply. The qualitative criteria for trading desks as set out in MAR12.4 do not apply to GIRR IRT trading desks.

A GIRR IRT desk must not have any trading book positions allocated to it, except GIRR IRTs between the trading book and the banking book as well as any external hedges that meet the conditions specified in RBC25.27.

25.26 Where the requirements in RBC25.25 are fulfilled, the banking book leg of the internal risk transfer must be included in the banking book's measure of interest rate risk exposures for regulatory capital purposes.

25.27 The supervisor-approved internal risk transfer desk may include instruments purchased from the market (ie external parties to the bank). Such transactions may be executed directly between the internal risk transfer desk and the market. Alternatively, the internal risk transfer desk may obtain the external hedge from the market via a separate non-internal risk transfer trading desk acting as an agent, if and only if the GIRR internal risk transfer entered into with the non-internal risk transfer trading desk exactly matches the external hedge from the market. In this latter case the respective legs of the GIRR internal risk transfer are included in the internal risk transfer desk and the non-internal risk transfer desk.

Internal risk transfers within the scope of application of the market risk capital requirement

25.28 Internal risk transfers between trading desks within the scope of application of the market risk capital requirements (including FX risk and commodities risk in the banking book) will generally receive regulatory capital recognition. Internal risk transfers between the internal risk transfer desk and other trading desks will only receive regulatory capital recognition if the constraints in RBC25.25 to RBC25.27 are fulfilled.

FAQ

FAQ1 *Does the standard require a specific treatment for internal risk transfers (IRTs) between a trading desk that has an internal model approval and a trading desk without an internal model approval?*

No. There are no constraints on IRTs between trading desks with regard to the scope of the application of the market risk capital requirements. The aggregation of the capital requirements calculated using the standard's standardised approach and its internal models approach does not recognise portfolio effects between trading desks that use either the standardised approach or the internal models approach in order to ensure a sufficiently conservative aggregation of risks.

25.29 The trading book leg of internal risk transfers must fulfil the same requirements under RBC25 as instruments in the trading book transacted with external counterparties.

Eligible hedges for the CVA capital requirement

25.30 Eligible external hedges that are included in the credit valuation adjustment (CVA) capital requirement must be removed from the bank's market risk capital requirement calculation.

FAQ

FAQ1 *Would FX and commodity risk, arising from CVA hedges that are eligible under the CVA standard, also be excluded from the bank's market risk capital requirements calculation?*

Yes.

25.31 Banks may enter into internal risk transfers between the CVA portfolio and the trading book. Such an internal risk transfer consists of a CVA portfolio side and a non-CVA portfolio side. Where the CVA portfolio side of an internal risk transfer is recognised in the CVA risk capital requirement, the CVA portfolio side should be excluded from the market risk capital requirement, while the non-CVA portfolio side should be included in the market risk capital requirement.

25.32 In any case, such internal CVA risk transfers can only receive regulatory capital recognition if the internal risk transfer is documented with respect to the CVA risk being hedged and the sources of such risk.

25.33 Internal CVA risk transfers that are subject to curvature, default risk or residual risk add-on as set out in MAR20 through MAR23 may be recognised in the CVA portfolio capital requirement and market risk capital requirement only if the trading book additionally enters into an external hedge with an eligible third-party protection provider that exactly matches the internal risk transfer.

25.34 Independent from the treatment in the CVA risk capital requirement and the market risk capital requirement, internal risk transfers between the CVA portfolio and the trading book can be used to hedge the counterparty credit risk exposure of a derivative instrument in the trading or banking book as long as the requirements of RBC25.21 are met.

RBC30

Buffers above the regulatory minimum

This chapter describes buffers that banks are expected to maintain above the minimum risk-based capital requirements, as well as the capital conservation requirements that apply to banks that do not maintain such buffers.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Capital conservation buffer

30.1 This chapter outlines the operation of the capital conservation buffer, which is designed to ensure that banks build up capital buffers outside periods of stress which can be drawn down as losses are incurred. The requirement is based on simple capital conservation rules designed to avoid breaches of minimum capital requirements.

30.2 A capital conservation buffer of 2.5%, comprised of Common Equity Tier 1 (CET1), is established above the regulatory minimum capital requirement.[1] Capital distribution constraints will be imposed on a bank when capital levels fall within this range. Banks will be able to conduct business as normal when their capital levels fall into the conservation range as they experience losses. The constraints imposed only relate to distributions, not the operation of the bank.

Footnotes

[1] *Common Equity Tier 1 must first be used to meet the minimum capital and total loss-absorbing capacity (TLAC) requirements if necessary (including the 6% Tier 1, 8% Total capital requirements), before the remainder can contribute to the capital conservation buffer.*

30.3 The distribution constraints imposed on banks when their capital levels fall into the range increase as the banks' capital levels approach the minimum requirements. By design, the constraints imposed on banks with capital levels at the top of the range would be minimal. This reflects an expectation that banks' capital levels will from time to time fall into this range. The Basel Committee does not wish to impose constraints for entering the range that would be so restrictive as to result in the range being viewed as establishing a new minimum capital requirement.

30.4 The table below shows the minimum capital conservation ratios a bank must meet at various levels of CET1 capital ratios. The applicable conservation standards must be recalculated at each distribution date. For example, a bank with a CET1 capital ratio in the range of 5.125% to 5.75% is required to conserve 80% of its earnings in the subsequent payment period (ie pay out no more than 20% in terms of dividends, share buybacks and discretionary bonus payments). If the bank wants to make payments in excess of the constraints imposed by this regime, it would have the option of raising capital in the private sector equal to the amount above the constraint which it wishes to distribute. This would be discussed with the bank's supervisor as part of the capital planning process. The CET1 ratio includes amounts used to meet the 4.5% minimum CET1 requirement, but excludes any additional CET1 needed to meet the 6% Tier 1 and 8% Total

Capital requirements, and also excludes any CET1 needed to meet the total loss-absorbing capacity (TLAC) requirement. For example, a bank with 8% CET1 and no Additional Tier 1 or Tier 2 capital, that has 10% of non-regulatory-capital TLAC instruments, would meet its minimum risk-based capital and risk-based TLAC requirements, but would have a zero conservation buffer and therefore be subject to the 100% constraint on capital distributions.

Individual bank minimum capital conservation standards

CET1 Ratio	Minimum Capital Conservation Ratios (expressed as a percentage of earnings)
4.5% - 5.125%	100%
>5.125% - 5.75%	80%
>5.75% - 6.375%	60%
>6.375% - 7.0%	40%
> 7.0%	0%

FAQ

FAQ1 *RBC30.4 shows the minimum capital conservation ratios a bank must meet at various CET1 ratios. RBC30.5(4) states that the capital conservation buffer "must be capable of being drawn down", but that "banks should not choose in normal times to operate in the buffer range simply to compete with other banks and win market share". Are the following interpretations correct, despite implying some discontinuities in the levels of capital conservation? (a) A non-global systemically important bank (G-SIB) with a CET1 ratio between 5.125% and 5.75% may distribute up to 20% of its earnings, provided that in doing so its CET1 ratio does not fall below 5.125%, ie a bank may only fall into the final quartile of the capital conservation buffer as a result of making losses, rather than distributions. (b) A non-G-SIB with a 10.51% CET1 ratio and no Additional Tier 1 and Tier 2 capital (ie meeting minimum capital and buffer requirements solely with CET1) may make distributions equivalent to only 0.01% of risk-weighted assets (RWA), while a bank with a CET1 ratio of 10.45% (and no Additional Tier 1 and Tier 2 capital) may distribute up to 60% of its earnings, providing its CET1 ratio does not fall into the next quartile of the buffer.*

The limits on distributions set out in the Basel III buffers framework are not intended to operate as set out in interpretations (a) and (b). As stated in RBC30.3, capital buffers are not intended to be viewed as a minimum capital requirement. By design, the constraints imposed on banks with capital levels at the top of the range are minimal and the Committee expects that banks' capital levels will, where necessary, be allowed to fall into the buffer range. The capital conservation ratios set out in RBC30.4 need only take into account the current CET1 ratio of a bank (ie before the next distribution is made). Nonetheless, banks should discuss proposed distributions with their supervisors, who will consider these in the light of banks' capital plans to rebuild buffers over an appropriate timeframe (as anticipated in RBC30.5(4)).

It should be noted that Basel standards constitute minimum requirements and jurisdictions may decide to apply a more conservative treatment.

30.5 Set out below are a number of other key aspects of the requirements:

(1) Elements subject to the restriction on distributions: Items considered to be distributions include dividends and share buybacks, discretionary payments on other Tier 1 capital instruments and discretionary bonus payments to staff. Payments that do not result in a depletion of CET1, which may for example include certain scrip dividends, are not considered distributions. The distribution restrictions do not apply to dividends which satisfy all three of the following conditions:

(a) the dividends cannot legally be cancelled by the bank;

(b) the dividends have already been removed from CET1; and

(c) the dividends were declared in line with the applicable capital conservation standards (as set out in RBC30.4) at the time of declaration.

(2) Definition of earnings: Earnings are defined as distributable profits calculated prior to the deduction of elements subject to the restriction on distributions. Earnings are calculated after the tax which would have been reported had none of the distributable items been paid. As such, any tax impact of making such distributions are reversed out. Where a bank does not have positive earnings and has a CET1 ratio less than 7% (or higher if the capital conservation buffer has been expanded by other buffers), it would be restricted from making positive net distributions.

(3) Solo or consolidated application: The framework should be applied at the consolidated level, ie restrictions would be imposed on distributions out of the consolidated group. National supervisors would have the option of applying the regime at the solo level to conserve resources in specific parts of the group.

(4) Additional supervisory discretion: Although the buffer must be capable of being drawn down, banks should not choose in normal times to operate in the buffer range simply to compete with other banks and win market share. To ensure that this does not happen, supervisors have the additional discretion to impose time limits on banks operating within the buffer range on a case-by-case basis. In any case, supervisors should ensure that the capital plans of banks seek to rebuild buffers over an appropriate timeframe.

Countercyclical buffer

30.6 Losses incurred in the banking sector can be extremely large when a downturn is preceded by a period of excess credit growth. These losses can destabilise the banking sector and spark a vicious circle, whereby problems in the financial system can contribute to a downturn in the real economy that then feeds back on to the banking sector. These interactions highlight the particular importance of the banking sector building up additional capital defences in periods where the risks of system-wide stress are growing markedly.

30.7 The countercyclical buffer aims to ensure that banking sector capital requirements take account of the macro-financial environment in which banks operate. It will be deployed by national jurisdictions when excess aggregate credit growth is judged to be associated with a build-up of system-wide risk to ensure the banking system has a buffer of capital to protect it against future potential losses. This focus on excess aggregate credit growth means that jurisdictions are likely to only need to deploy the buffer on an infrequent basis. The buffer for internationally-active banks will be a weighted average of the buffers deployed across all the jurisdictions to which it has credit exposures. This means that they will likely find themselves subject to a small buffer on a more frequent basis, since credit cycles are not always highly correlated across jurisdictions.

30.8 The countercyclical buffer regime consists of the following elements:

(1) National authorities will monitor credit growth and other indicators that may signal a build up of system-wide risk and make assessments of whether credit growth is excessive and is leading to the build up of system-wide risk. Based on this assessment they will put in place a countercyclical buffer requirement when circumstances warrant. This requirement will be released when system-wide risk crystallises or dissipates.

(2) Internationally active banks will look at the geographic location of their private sector credit exposures and calculate their bank specific countercyclical capital buffer requirement as a weighted average of the requirements that are being applied in jurisdictions to which they have credit exposures.

(3) The countercyclical buffer requirement to which a bank is subject will extend the size of the capital conservation buffer. Banks will be subject to restrictions on distributions if they do not meet the requirement.

National countercyclical buffer requirements

30.9 Each Basel Committee member jurisdiction will identify an authority with the responsibility to make decisions on the size of the countercyclical capital buffer. If the relevant national authority judges a period of excess credit growth to be leading to the build up of system-wide risk, they will consider, together with any other macroprudential tools at their disposal, putting in place a countercyclical buffer requirement. This will vary between zero and 2.5% of risk weighted assets, depending on their judgement as to the extent of the build up of system-wide risk.[2]

Footnotes

[2] *National authorities can implement a range of additional macroprudential tools, including a buffer in excess of 2.5% for banks in their jurisdiction, if this is deemed appropriate in their national context. However, the international reciprocity provisions set out in this regime treat the maximum countercyclical buffer as 2.5%.*

30.10 The document entitled " Guidance for national authorities operating the countercyclical capital buffer ", sets out the principles that national authorities have agreed to follow in making buffer decisions. This document provides information that should help banks to understand and anticipate the buffer decisions made by national authorities in the jurisdictions to which they have credit exposures.

30.11 To give banks time to adjust to a buffer level, a jurisdiction will pre-announce its decision to raise the level of the countercyclical buffer by up to 12 months.[3] Decisions by a jurisdiction to decrease the level of the countercyclical buffer will take effect immediately. The pre-announced buffer decisions and the actual buffers in place for all Committee member jurisdictions will be published on the Bank for International Settlements' (BIS) website .

Footnotes

[3] *Banks outside of this jurisdiction with credit exposures to counterparties in this jurisdiction will also be subject to the increased buffer level after the pre-announcement period in respect of these exposures. However, in cases where the pre-announcement period of a jurisdiction is shorter than 12 months, the home authority of such banks should seek to match the preannouncement period where practical, or as soon as possible (subject to a maximum preannouncement period of 12 months), before the new buffer level comes into effect.*

FAQ

FAQ1 *What are authorities required to disclose when they set the countercyclical capital buffer rate or change the previously announced rate? How should this be disclosed to other authorities, banks, and the general public?*

Authorities need to communicate all buffer decisions. All decisions should also be reported promptly to the BIS. This will enable a list of prevailing buffers, pre-announced buffers, and policy announcements to be published on a dedicated page at the Basel Committee's website (www.bis.org/bcbs/ccyb/index.htm).

Authorities are expected to provide regular updates on their assessment of the macro-financial situation and the prospects for potential buffer actions to prepare banks and their stakeholders for buffer decisions. Explaining how buffer decisions were made, including the information used and how it is synthesised, will help build understanding and the credibility of buffer decisions. Authorities are free to choose the communication vehicles they see as most appropriate for their jurisdiction. Authorities are not formally required to publish a given set of information regarding their countercyclical capital buffer regime and policy decisions. However, as noted in Guidance for national authorities operating the countercyclical capital buffer, since the credit-to-GDP guide should be considered as a useful starting reference point, there is a need to disclose the guide on a regular basis.

FAQ2 *How often are authorities expected to communicate buffer decisions? Do they need to communicate a decision to leave a previously announced countercyclical capital buffer rate unchanged?*

Authorities should communicate buffer decisions at least annually. This includes the case where there is no change in the prevailing buffer rate.

More frequent communications should be made, however, to explain buffer actions when they are taken.

FAQ3 *How much time do banks have to build up the capital buffer add-on? Are there differences between decisions by home and host supervisors?*

The time period between the policy announcement date and the effective date for any increase in the countercyclical buffer is to give banks time to meet the additional capital requirements before they take effect. This time period should be up to 12 months, ie if deemed necessary by the host supervisor, the effective date may be accelerated to less than 12 months following the policy announcement date.

Under jurisdictional reciprocity, home authorities should seek to ensure their banks meet any accelerated timeline where practical, and in any case, subject to a maximum of 12 months following the host jurisdiction's policy announcement date. Finally, banks have discretion to meet the buffer sooner.

FAQ4 *When there has been a decrease in the buffer rate, how quickly can banks use the portion of the buffer that has been released?*

Under Basel III, banks may, in accordance with applicable processes, use the released portion of the countercyclical capital buffer that has been built up as soon as the relevant authority announces a reduction in the capital buffer add-on rate (including the case where the buffer is released in response to a sharp downturn in the credit cycle). This is intended to reduce the risk that the supply of credit will be constrained by regulatory requirements, with potential consequences for the real economy. This timeline also applies to reciprocity; that is, banks in other jurisdictions may also use the buffer immediately once the host authority reduces the buffer rate for credit exposures to its jurisdiction. Notwithstanding this, home and subsidiary regulators could prohibit capital distributions if they considered it imprudent under the circumstances.

Bank specific countercyclical buffer

30.12 Banks will be subject to a countercyclical buffer that varies between zero and 2.5% to total risk weighted assets.[4] The buffer that will apply to each bank will reflect the geographic composition of its portfolio of credit exposures. Banks must meet this buffer with CET1 or be subject to the restrictions on distributions set out in RBC30.17.

Footnotes

[4] *As with the capital conservation buffer, the framework will be applied at the consolidated level. In addition, national supervisors may apply the regime at the solo level to conserve resources in specific parts of the group.*

FAQ

FAQ1 *Does the countercyclical capital buffer apply to total RWA (credit, market, and operational risk), or only to credit risk exposures?*

The bank-specific buffer add-on rate (ie the weighted average of countercyclical capital buffer rates in jurisdictions to which the bank has private sector credit exposures) applies to bank-wide total RWA (including credit, market, and operational risk) as used in for the calculation of all risk-based capital ratios, consistent with it being an extension of the capital conservation buffer.

FAQ2 *At what level of consolidation should the countercyclical capital buffer be calculated?*

Consistent with SCO10, the minimum requirements are applied at the consolidated level. In addition, national authorities may apply the regime at the solo level to conserve resources in specific parts of the group. Host authorities would have the right to demand that the countercyclical capital buffer be held at the individual legal entity level or consolidated level within their jurisdiction, in line with their implementation of the Basel capital requirements.

30.13 Internationally active banks will look at the geographic location of their private sector credit exposures (including non-bank financial sector exposures) and calculate their countercyclical capital buffer requirement as a weighted average of the buffers that are being applied in jurisdictions to which they have an exposure. Credit exposures in this case include all private sector credit exposures that

attract a credit risk capital charge or the risk weighted equivalent trading book capital charges for specific risk, the incremental risk charge and securitisation.

FAQ

FAQ1 *What are "private sector credit exposures"?*

"Private sector credit exposures" refers to exposures to private sector counterparties which attract a credit risk capital charge in the banking book, and the risk-weighted equivalent trading book capital charges for specific risk, the incremental risk charge, and securitisation. Interbank exposures and exposures to the public sector are excluded, but non-bank financial sector exposures are included.

FAQ2 *What does "geographic location" mean? How should the geographic location of exposures on the banking book and the trading book be identified?*

The geographic location of a bank's private sector credit exposures is determined by the location of the counterparties that make up the capital charge, irrespective of the bank's own physical location or its country of incorporation. The location is identified according to the concept of ultimate risk. The geographic location identifies the jurisdiction whose announced countercyclical capital buffer add-on rate is to be applied by the bank to the corresponding credit exposure, appropriately weighted.

FAQ3 *For which jurisdictions is reciprocity mandatory?*

Reciprocity is mandatory for all Basel Committee member jurisdictions. A full list of jurisdictions can be found at www.bis.org/bcbs/membership.htm . The Basel Committee will continue to review the potential for mandatory reciprocity of other non-member jurisdictions' frameworks and, in the interim, strongly encourages voluntary reciprocity.

FAQ4 *What is the maximum level of the buffer rate for which reciprocity is mandatory?*

Reciprocity is mandatory for Basel Committee member jurisdictions up to 2.5% under the Basel framework, irrespective of whether host authorities require a higher add-on.

FAQ5 *When should the host authorities' rates be reciprocated, and can there be deviations (higher or lower)?*

Home authorities must reciprocate buffer add-on rates imposed by any other member jurisdiction, in accordance with the scope of mandatory reciprocity and applicable processes. In particular, home authorities should not implement a lower buffer add-on in respect of their bank's credit exposures to the host jurisdiction, up to a maximum of the buffer rate of 2.5%. For levels in excess of the relevant maximum buffer add-on rate, home authorities may, but are not required to, reciprocate host authorities' buffer requirements. In general, home authorities will always be able to require that the banks they supervise maintain higher buffers if they judge the host authorities' buffer to be insufficient.

FAQ6 *How do banks learn about different countercyclical capital buffer requirements in different countries?*

When member jurisdictions make changes to the countercyclical capital buffer add-on rate, authorities are expected to promptly notify the BIS, so that authorities can require their banks to comply with the new rate. A list of prevailing and pre-announced buffer add-on rates is to be published on the Basel Committee's website (www.bis.org/bcbs/ccyb/index.htm).

FAQ7 *What are the reciprocity requirements for sectoral countercyclical capital buffers or for countercyclical capital buffers introduced by non-Basel Committee members?*

National authorities can implement a range of additional macroprudential tools, including a sectoral countercyclical capital buffer, if this is deemed appropriate in their national context. The Basel III mandatory reciprocity provisions only apply to the countercyclical capital buffer, as defined in the Basel III framework, and not to sectoral requirements or other macroprudential tools, or to countercyclical capital buffer requirements introduced by jurisdictions outside the scope of mandatory reciprocity. However, the Basel III standards do not preclude an authority from voluntarily reciprocating beyond the mandatory reciprocity provisions for the countercyclical capital buffer or from reciprocating other policy tools.

FAQ8 *How is the final bank-specific buffer add-on calculated?*

The final bank-specific buffer add-on amount is calculated as the weighted average of the countercyclical capital buffer add-on rates applicable in the jurisdiction(s) in which a bank has private sector credit exposures (including the bank's home jurisdiction) multiplied by total risk-weighted assets. The weight for the buffer add-on rate applicable in a given jurisdiction is the credit risk charge that relates to private sector credit exposures allocated to that jurisdiction, divided by the bank's total credit risk charge that relates to private sector credit exposures across all jurisdictions. Where the private sector credit exposures (as defined in RBC30.13(FAQ1)) to a jurisdiction, including the home jurisdiction, are zero, the weight to be allocated to the particular jurisdiction would be zero.

30.14 The weighting applied to the buffer in place in each jurisdiction will be the bank's total credit risk charge that relates to private sector credit exposures in that jurisdiction,[5] divided by the bank's total credit risk charge that relates to private sector credit exposures across all jurisdictions.

Footnotes

[5] *When considering the jurisdiction to which a private sector credit exposure relates, banks should use, where possible, an ultimate risk basis; ie it should use the country where the guarantor of the exposure resides, not where the exposure has been booked.*

FAQ

FAQ1 *What is the difference between (the jurisdiction of) "ultimate risk" and (the jurisdiction of) "immediate counterparty" exposures?*

The concepts of "ultimate risk" and "immediate risk" are those used by the BIS' International Banking Statistics . The jurisdiction of "immediate counterparty" refers to the jurisdiction of residence of immediate counterparties, while the jurisdiction of "ultimate risk" is where the final risk lies. For the purpose of the countercyclical capital buffer, banks should use, where possible, exposures on an "ultimate risk" basis.

Table A.1 illustrates the potential differences in determining jurisdictions of ultimate risk versus immediate counterparty for various types of credit exposure. For example, a bank could face the situation where the exposures to a borrower is in one jurisdiction (country A), and the risk mitigant (eg guarantee) is in another jurisdiction (country B). In this case, the "immediate counterparty" is in country A, but the "ultimate risk" is in country B.

Identifying geographic location

"Ultimate risk" versus "immediate counterparty" *Table A.1*

	Ultimate risk	*Immediate counterparty*
Borrower located in jurisdiction A:		
No guarantee	*A*	*A*
Guarantee located in jurisdiction A	*A*	*A*
Guaranteed with counterparty located in jurisdiction A	*A*	*A*
Borrower located in country A:		
Guarantee located in jurisdiction B	*B*	*A*
Guaranteed with counterparty located in jurisdiction B	*B*	*A*
Is a branch of parent located in country B	*B*	*A*
Repo transaction with counterparty in jurisdiction A (independent of geographical location of risk of collateral	*A*	*A*
Securitisation exposures issued in jurisdiction A:		
Debtor of the underlying exposure is located in jurisdiction A	*A*	*A*
	B[1]	*A*

Debtor of the underlying exposure is located in jurisdiction B		
Project finance; borrower in jurisdiction A with project located in jurisdiction B	*B*	*A*
Collective investment undertakings located in jurisdiction A	*Depends on whether the bank has a debt or equity claim on the investment vehicle*[2]	*A*
Trading book exposures to jurisdiction A:		
Standardised Approach	*A*	*A*
Advanced Approach	*A*	*A*

[1] Based on a "see-through" approach, whereby the jurisdiction of ultimate risk is defined as the residence of the debtor of the underlying credit, security or derivatives contract. If this cannot be implemented, the "immediate counterparty" exposure should be used.

[2] The bank has a debt claim on the investment vehicle, the ultimate risk exposure should be allocated to the jurisdiction where the vehicle (or if applicable, its parent/guarantor) resides. If the bank has an equity claim, the ultimate risk exposure should be allocated proportionately to the jurisdictions where the ultimate risk exposures of the vehicle reside.

30.15 For the value-at-risk (VaR) charge for specific risk, the incremental risk charge and the comprehensive risk measurement charge, banks should work with their supervisors to develop an approach that would translate these charges into individual instrument risk weights that would then be allocated to the geographic location of the specific counterparties that make up the charge. However, it may not always be possible to break down the charges in this way due to the charges being calculated on a portfolio by portfolio basis. In such cases, the charge for the relevant portfolio should be allocated to the geographic regions of the constituents of the portfolio by calculating the proportion of the portfolio's total exposure at default (EAD) that is due to the EAD resulting from counterparties in each geographic region.

FAQ

FAQ1 *What does "geographic location" mean? How should the geographic location of exposures on the banking book and the trading book be identified?*

The geographic location of a bank's private sector credit exposures is determined by the location of the counterparties that make up the capital charge, irrespective of the bank's own physical location or its country of incorporation. The location is identified according to the concept of ultimate risk. The geographic location identifies the jurisdiction whose announced countercyclical capital buffer add-on rate is to be applied by the bank to the corresponding credit exposure, appropriately weighted.

FAQ2 *What are the relevant exposures on the trading book for the computation of geographical weights in the buffer add-on?*

As noted in RBC30.13 and RBC30.15, private sector credit exposures subject to the market risk capital framework are the risk weighted equivalent trading book capital charges for specific risk, the incremental risk charge, and securitisation. For the VaR for specific risk, the incremental risk charge, and the comprehensive risk measures, banks should work with their supervisors to develop an approach that would translate these charges into individual instrument risk weights that would then be allocated to the geographic location of specific counterparties. However, it may not always be possible to break down the charges in this way due to the charges being calculated on a portfolio by portfolio basis. In such cases, one method is that the charge for the relevant portfolio should be allocated to the geographic regions of the constituents of the portfolio by calculating the proportion of the portfolio's total EAD that is due to the EAD resulting from counterparties in each geographic region.

The Basel Committee will monitor implementation practices and provide more prescriptive guidance should circumstances warrant it.

Extension of the capital conservation buffer

30.16 The countercyclical buffer requirement to which a bank is subject is implemented through an extension of the capital conservation buffer described in RBC30.1 to RBC30.5.

30.17

The table below shows the minimum capital conservation ratios a bank must meet at various levels of the CET1 capital ratio.[6] When the countercyclical capital buffer is zero in all of the regions to which a bank has private sector credit exposures, the capital levels and restrictions set out in the table are the same as those set out in RBC30.1 to RBC30.5.

Individual bank minimum capital conservation standards

Common Equity Tier 1 (including other fully loss absorbing capital)	Minimum Capital Conservation Ratios (expressed as a percentage of earnings)
Within first quartile of buffer	100%
Within second quartile of buffer	80%
Within Third quartile of buffer	60%
Within Fourth quartile of buffer	40%
Above top of buffer	0%

Footnotes

[6] *Consistent with the conservation buffer, the CET1 ratio in this context includes amounts used to meet the 4.5% minimum CET1 requirement, but excludes any additional CET1 needed to meet the 6% Tier 1 and 8% Total Capital requirements and the minimum TLAC requirement.*

30.18 For illustrative purposes, the following table sets out the conservation ratios a bank must meet at various levels of CET1 capital if the bank is subject to a 2.5% countercyclical buffer requirement.

Individual bank minimum capital conservation standards, when a bank is subject to a 2.5% countercyclical requirement

Common Equity Tier 1 Ratio (including other fully loss absorbing capital)	Minimum Capital Conservation Ratios (expressed as a percentage of earnings)
4.5% - 5.75%	100%
>5.75% - 7.0%	80%
>7.0% - 8.25%	60%
>8.25% - 9.5%	40%
> 9.5%	0%

Frequency of calculation of the countercyclical buffer requirements

30.19 Banks must ensure that their countercyclical buffer requirements are calculated and publically disclosed with at least the same frequency as their minimum capital requirements. The buffer should be based on the latest relevant jurisdictional countercyclical buffers that are available at the date that they calculate their minimum capital requirement.

Capital conservation best practice

30.20 Outside of periods of stress, banks should hold buffers of capital above the regulatory minimum. Implementation of the buffers in this chapter will help increase sector resilience going into a downturn, and provide the mechanism for rebuilding capital during the early stages of economic recovery. Retaining a greater proportion of earnings during a downturn will help ensure that capital remains available to support the ongoing business operations of banks through the period of stress.

30.21 When buffers have been drawn down, one way banks should look to rebuild them is through reducing discretionary distributions of earnings. This could include reducing dividend payments, share-backs and staff bonus payments. Banks may also choose to raise new capital from the private sector as an alternative to conserving internally generated capital. The balance between these options should be discussed with supervisors as part of the capital planning process.

30.22 Greater efforts should be made to rebuild buffers the more they have been depleted. Therefore, in the absence of raising capital in the private sector, the share of earnings retained by banks for the purpose of rebuilding their capital buffers should increase the nearer their actual capital levels are to the minimum capital requirement.

30.23 It is not acceptable for banks which have depleted their capital buffers to use future predictions of recovery as justification for maintaining generous distributions to shareholders, other capital providers and employees. These stakeholders, rather than depositors, must bear the risk that recovery will not be forthcoming. It is also not acceptable for banks which have depleted their capital buffers to try and use the distribution of capital as a way to signal their financial strength. Not only is this irresponsible from the perspective of an individual bank, putting shareholders' interests above depositors, it may also encourage other banks to follow suit. As a consequence, banks in aggregate can end up increasing distributions at the exact point in time when they should be conserving earnings.

RBC40

Systemically important bank buffers

This chapter describes the higher loss absorbency requirements applying to global and domestic systemically important banks.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Higher loss absorbency requirement for G-SIBs

40.1 The aim of the higher loss absorbency requirement, as set out in the report endorsed by the Group of Twenty at its Seoul Summit in November 2010, is to ensure that global systemically important financial institutions have a higher share of their balance sheets funded by instruments which increase the resilience of the institution as a going-concern. Taking into account this going-concern objective, global systemically important banks (G-SIBs) must meet their higher loss absorbency requirement with Common Equity Tier 1 capital only.

40.2 National supervisors have implemented the higher loss absorbency requirement through an extension of the capital conservation buffer, maintaining the division of the buffer into four bands of equal size (as described in RBC30.17).

40.3 If a G-SIB breaches the higher loss absorbency requirement, it is required to agree a capital remediation plan to return to compliance over a time frame to be established by the supervisor. Until it has completed that plan and returned to compliance, it is subject to the limitations on dividend payout defined by the conservation buffer bands, and to other arrangements as required by the supervisor.

40.4 As described in SCO40.19 to SCO40.22, G-SIBs are allocated into buckets based on their scores of systemic importance, with varying levels of higher loss absorbency requirements applied to the different buckets. The cutoff score for G-SIB designation is 130 bps and the buckets corresponding to the different higher loss-absorbency requirements each have a range of 100 bps. The magnitude of the higher loss-absorbency requirement for the highest populated bucket is 2.5% of risk-weighted assets, with an initially empty top bucket of 3.5% of risk-weighted assets. The magnitude of the higher loss absorbency requirement for the lowest bucket is 1.0% of risk-weighted assets. Based on the bucketing approach set out in SCO40.19 to SCO40.22, the magnitude of the higher loss absorbency requirement for each bucket is as follows.

Bucketing approach Table 1

Bucket	Score range	Higher loss absorbency requirement (common equity as a percentage of risk-weighted assets)
5	530-629	3.5%
4	430-529	2.5%
3	330-429	2.0%
2	230-329	1.5%
1	130-229	1.0%

40.5 As noted in SCO40.22, although the bucket thresholds is set initially such that bucket 5 is empty, if this bucket should become populated in the future, a new bucket will be added to maintain incentives for banks to avoid becoming more systemically important. Each new bucket will be equal in size (in terms of scores) to each of the initially populated buckets and the minimum higher loss absorbency requirement for the new buckets will increase in increments of 1% of risk-weighted assets (eg if bucket 5 should become populated, bucket 6 would be created with a minimum higher loss absorbency requirement of 4.5%).

40.6 If a G-SIB progresses to a bucket requiring a higher loss absorbency requirement, it will be required to meet the additional requirement within a time frame of 12 months. After this grace period, if the bank does not meet the higher loss absorbency requirement, the capital retention mechanism for the expanded capital conservation buffer will be applied. If, on the other hand, the G-SIB score falls, resulting in a lower higher loss absorbency requirement, the bank should be immediately released from its previous higher loss absorbency requirement. In these circumstances, national authorities may exert discretion and require a bank to delay the release of higher loss absorbency requirements.

Higher loss absorbency for domestic systemically important banks

40.7 As described in SCO50, a domestic systemically important bank (D-SIB) framework is best understood as taking the complementary perspective to the G-SIB regime by focusing on the impact that the distress or failure of banks (including by international banks) will have on the domestic economy. The principles developed by the Committee for D-SIBs would allow for appropriate national discretion to accommodate structural characteristics of the domestic financial system, including the possibility for countries to go beyond the minimum D-SIB framework and impose additional requirements based on the specific features of the country and its domestic banking sector.

40.8 The principles set out below focus on the higher loss absorbency requirement for D-SIBs. The Committee would like to emphasise that other policy tools, particularly more intensive supervision, can also play an important role in dealing with D-SIBs.

(1) National authorities should document the methodologies and considerations used to calibrate the level of higher loss absorbency that the framework would require for D-SIBs in their jurisdiction. The level of higher loss absorbency calibrated for D-SIBs should be informed by quantitative methodologies (where available) and country-specific factors without prejudice to the use of supervisory judgement.

(2) The higher loss absorbency requirement imposed on a bank should be commensurate with the degree of systemic importance, as identified under SCO50.14 to SCO50.17.

(3) National authorities should ensure that the application of the G-SIB and D-SIB frameworks is compatible within their jurisdictions. Home authorities should impose higher loss absorbency requirements that they calibrate at the parent and/or consolidated level, and host authorities should impose higher loss absorbency requirements that they calibrate at the sub-consolidated/subsidiary level. The home authority should test that the parent bank is adequately capitalised on a standalone basis, including cases in which a D-SIB higher loss absorbency requirement is applied at the subsidiary level. Home authorities should impose the higher of either the D-SIB or G-SIB higher loss absorbency requirements in the case where the banking group has been identified as a D-SIB in the home jurisdiction as well as a G-SIB.

(4) In cases where the subsidiary of a bank is considered to be a D-SIB by a host authority, home and host authorities should make arrangements to

coordinate and cooperate on the appropriate higher loss absorbency requirement, within the constraints imposed by relevant laws in the host jurisdiction.

(5) The higher loss absorbency requirement should be met fully by Common Equity Tier 1. In addition, national authorities should put in place any additional requirements and other policy measures they consider to be appropriate to address the risks posed by a D-SIB.

Principle 1: documenting methodologies for calibration

40.9 The purpose of a higher loss absorbency requirement for D-SIBs is to reduce further the probability of failure compared to non-systemic institutions, reflecting the greater impact a D-SIB failure is expected to have on the domestic financial system and economy.

40.10 It is important for the application of a D-SIB higher loss absorbency, at both the parent and subsidiary level, to be based on a transparent and well articulated assessment framework to ensure the implications of the requirements are well understood by both the home and the host authorities.

40.11 The level of higher loss absorbency for D-SIBs should be subject to policy judgement by national authorities. That said, there needs to be some form of analytical framework that would inform policy judgements. This was the case for the policy judgement made by the Committee on the level of the additional loss absorbency requirement for G-SIBs.

40.12 The policy judgement on the level of higher loss absorbency requirements should also be guided by country-specific factors which could include the degree of concentration in the banking sector or the size of the banking sector relative to gross domestic product (GDP). Specifically, countries that have a larger banking sector relative to GDP are more likely to suffer larger direct economic impacts of the failure of a D-SIB than those with smaller banking sectors. While size-to-GDP is easy to calculate, the concentration of the banking sector could also be considered (as a failure in a medium-sized highly concentrated banking sector would likely create more of an impact on the domestic economy than if it were to occur in a larger, more widely dispersed banking sector).[1]

Footnotes

[1] *Another factor that could be relevant is the funding position of the banking sector, whereby more foreign wholesale funding could increase the transition costs (deleveraging) facing both the financial sector and the domestic economy in the event of a crisis.*

40.13 The use of these factors in calibrating the higher loss absorbency requirement would provide justification for different intensities of policy responses across countries for banks that are otherwise similar across the four key bank-specific factors outlined in SCO50.14 to SCO50.17.

Principle 2: calibration commensurate with systemic importance

40.14 Although the D-SIB framework does not produce scores based on a prescribed methodology as in the case of the G-SIB framework, the higher loss absorbency requirements for D-SIBs should also be decided based on the degree of domestic systemic importance. This is to provide the appropriate incentives to banks which are subject to the higher loss absorbency requirements to reduce (or at least not increase) their systemic importance over time. In the case where there are multiple D-SIB buckets in a jurisdiction, this could imply differentiated levels of higher loss absorbency between D-SIB buckets.

Principle 3: consistency between application of G-SIB and D-SIB frameworks

40.15 National authorities, including host authorities, currently have the capacity to set and impose capital requirements they consider appropriate to banks within their jurisdictions. SCO40.5 states that host authorities of G-SIB subsidiaries may apply an additional loss absorbency requirement at the individual legal entity or consolidated level within their jurisdiction. An imposition of a D-SIB higher loss absorbency by a host authority is no different (except for additional transparency) from their current capacity to impose a Pillar 1 or 2 capital charge. Therefore, the ability of the host authorities to implement a D-SIB higher loss absorbency on local subsidiaries does not raise any new home-host issues.

40.16 National authorities should ensure that banks with the same degree of systemic importance in their jurisdiction, regardless of whether they are domestic banks, subsidiaries of foreign banking groups, or subsidiaries of G-SIBs, are subject to the same higher loss absorbency requirements, ceteris paribus. Banks in a jurisdiction should be subject to a consistent, coherent and non-discriminatory treatment regardless of the ownership. The objective of the host authorities' power to impose higher loss absorbency on subsidiaries is to bolster capital to

mitigate the potential heightened impact of the subsidiaries' failure on the domestic economy due to their systemic nature. This should be maintained in cases where a bank might not be (or might be less) systemic at home, but its subsidiary is (more) systemic in the host jurisdiction.

40.17 An action by the host authorities to impose a D-SIB higher loss absorbency requirement leads to increases in capital at the subsidiary level which can be viewed as a shift in capital from the parent bank to the subsidiary, unless it already holds an adequate capital buffer in the host jurisdiction or the additional capital raised by the subsidiary is from outside investors. This could, in the case of substantial or large subsidiaries, materially decrease the level of capital protecting the parent bank. Under such cases, it is important that the home authority continues to ensure there are sufficient financial resources at the parent level, for example through a solo capital requirement (see also SCO10.4).

40.18 Within a jurisdiction, applying the D-SIB framework to both G-SIBs and non-G-SIBs will help ensure a level playing field within the national context. For example, in a jurisdiction with two banks that are roughly identical in terms of their assessed systemic nature at the domestic level, but where one is a G-SIB and the other is not, national authorities would have the capacity to apply the same D-SIB higher loss absorbency requirement to both. In such cases, the home authorities could face a situation where the higher loss absorbency requirement on the consolidated group will be the higher of those prescribed by the G-SIB and D-SIB frameworks (ie the higher of either the D-SIB or G-SIB requirement).

40.19 Double-counting should be avoided. The higher loss absorbency requirements derived from the G-SIB and D-SIB frameworks should not be additive. This will ensure the overall consistency between the two frameworks and allows the D-SIB framework to take the complementary perspective to the G-SIB framework.

Principle 4: home and host cooperation

40.20 The Committee recognises that there could be some concern that host authorities tend not to have a group-wide perspective when applying higher loss absorbency requirements to subsidiaries of foreign banking groups in their jurisdiction. The home authorities, on the other hand, clearly need to know D-SIB higher loss absorbency requirements on significant subsidiaries since there could be implications for the allocation of financial resources within the banking group.

40.21 In these circumstances, it is important that arrangements to coordinate and cooperate on the appropriate higher loss absorbency requirement between home and host authorities are established and maintained, within the constraints imposed by relevant laws in the host jurisdiction, when formulating higher loss absorbency requirements. This is particularly important to make it possible for the home authority to test the capital position of a parent on a stand-alone basis as mentioned in RBC40.16 and to prevent a situation where the home authorities are surprised by the action of the host authorities. Home and host authorities should coordinate and cooperate with each other on any plan to impose a higher loss absorbency requirement on a subsidiary bank, and the amount of the requirement, before taking any action. The host authority should provide a rationale for their decision, and an indication of the steps the bank would need to take to avoid/reduce such a requirement. The home and host authorities should also discuss:

(1) the resolution regimes (including recovery and resolution plans) in both jurisdictions,

(2) available resolution strategies and any specific resolution plan in place for the firm, and

(3) the extent to which such arrangements should influence higher loss absorbency requirements.

Principle 5: higher loss absorbency requirement met with Common Equity Tier 1 and additional requirements and policy measures to address the risks posed by a D-SIB

40.22 Higher loss absorbency requirements for D-SIBs should be fully met with Common Equity Tier 1 to ensure a maximum degree of consistency with G-SIBs in terms of effective loss-absorbing capacity. This has the benefit of facilitating direct and transparent comparability of the application of requirements across jurisdictions, an element that is considered desirable given the fact that most of these banks will have cross-border operations being in direct competition with each other. In addition, national authorities should put in place any additional requirements and other policy measures they consider to be appropriate to address the risks posed by a D-SIB.

40.23 National authorities should implement the higher loss absorbency requirement through an extension of the capital conservation buffer, maintaining the division of the buffer into four bands of equal size (as described in RBC30.17). This is in line with the treatment of the additional loss absorbency requirement for G-SIBs. The higher loss absorbency requirement for D-SIBs is essentially a requirement that sits on top of the capital buffers and minimum capital requirement, with a pre-determined set of consequences for banks that do not meet this requirement.

RBC90

Transitional arrangements

This chapter describes transitional arrangements for the output floor.

Version effective as of 01 Jan 2023

Implementation date changed to 1 January 2023 and output floor phase-in arrangements updated as announced on 27 March 2020.

90.1 The output floor will be implemented as of 1 January 2023, based on the following calibration phase-in arrangement:

Phase-in arrangements for output floor — Table 1

Date	Calibration
1 January 2023	50%
1 January 2024	55%
1 January 2025	60%
1 January 2026	65%
1 January 2027	70%
1 January 2028	72.5%

90.2 During the phase-in period, supervisors may exercise national discretion to cap the incremental increase in a bank's total risk-weighted assets (RWA) that results from the application of the floor. This transitional cap will be set at 25% of a bank's RWA before the application of the floor. In the example shown in RBC20.13, the application of this national discretion by the supervisor would cap the bank's RWA to 95 (ie a 25% increase of its pre-floor RWA of 76).

CRE

Calculation of RWA for credit risk

This standard describes how to calculate capital requirements for credit risk.

CRE20

Standardised approach: individual exposures

This chapter sets out the standardised approach for credit risk as it applies to individual claims.

Version effective as of 01 Jan 2023

Changes due to the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020. Cross references to the securitisation chapters updated to include a reference to the chapter on NPL securitisations (CRE45) published on 26 November 2020. FAQs on climate related financial risks added on 8 December 2022.

Introduction

20.1 Banks can choose between two broad methodologies for calculating their risk-based capital requirements for credit risk. The first is the standardised approach, which is set out in chapters CRE20 to CRE22:

(1) The standardised approach assigns standardised risk weights to exposures as described in this chapter, CRE20. Risk weighted assets are calculated as the product of the standardised risk weights and the exposure amount. Exposures should be risk-weighted net of specific provisions (including partial write-offs).

(2) To determine the risk weights in the standardised approach for certain exposure classes, in jurisdictions that allow the use of external ratings for regulatory purposes, banks may, as a starting point, use assessments by external credit assessment institutions that are recognised as eligible for capital purposes by national supervisors. The requirements covering the use of external ratings are set out in chapter CRE21.[1]

(3) The credit risk mitigation techniques that are permitted to be recognised under the standardised approach are set out in chapter CRE22.

Footnotes

[1] *The notations in CRE20 to CRE22 follow the methodology used by one institution, Standard and Poor's (S&P). The use of S&P credit ratings is an example only; those of some other external credit assessment institutions could equally well be used. The ratings used throughout this document, therefore, do not express any preferences or determinations on external assessment institutions by the Committee.*

20.2 The second risk-weighted capital treatment for measuring credit risk, the internal ratings-based (IRB) approach, allows banks to use their internal rating systems for credit risk, subject to the explicit approval of the bank's supervisor. The IRB approach is set out in CRE30 to CRE36.

20.3 The treatment of the following exposures is addressed in separate chapters of the credit risk standard:

(1) Equity investments in funds are addressed in CRE60.

(2) Securitisation exposures are addressed in CRE40 to CRE45.

(3) Exposures to central counterparties are addressed in CRE54.

(4) Exposures arising from unsettled transactions and failed trades are addressed in CRE70.

Due diligence requirements

20.4 Consistent with the Committee's guidance on the assessment of credit risk[2] and paragraphs SRP20.12 to SRP20.14 of the supervisory review process standard, banks must perform due diligence to ensure that they have an adequate understanding, at origination and thereafter on a regular basis (at least annually), of the risk profile and characteristics of their counterparties. In cases where ratings are used, due diligence is necessary to assess the risk of the exposure for risk management purposes and whether the risk weight applied is appropriate and prudent.[3] The sophistication of the due diligence should be appropriate to the size and complexity of banks' activities. Banks must take reasonable and adequate steps to assess the operating and financial performance levels and trends through internal credit analysis and/or other analytics outsourced to a third party, as appropriate for each counterparty. Banks must be able to access information about their counterparties on a regular basis to complete due diligence analyses.

Footnotes

[2] *Basel Committee on Banking Supervision, Guidance on credit risk and accounting for expected credit losses, December 2015, available at www.bis.org/bcbs/publ/d350.pdf .*

[3] *The due diligence requirements do not apply to the exposures set out in CRE20.7 to CRE20.12.*

FAQ

FAQ1 *Should banks assess climate-related financial risks as part of the due diligence analyses with respect to counterparty creditworthiness?*

Climate-related financial risks can impact banks' credit risk exposure through their counterparties. To the extent that the risk profile of a counterparty is affected by climate-related financial risks, banks should give proper consideration to the climate-related financial risks as part of the counterparty due diligence. To that end, banks should integrate climate-related financial risks either in their own credit risk assessment or when performing due diligence on external ratings.

20.5 For exposures to entities belonging to consolidated groups, due diligence should, to the extent possible, be performed at the solo entity level to which there is a credit exposure. In evaluating the repayment capacity of the solo entity, banks are expected to take into account the support of the group and the potential for it to be adversely impacted by problems in the group.

20.6 Banks should have in place effective internal policies, processes, systems and controls to ensure that the appropriate risk weights are assigned to counterparties. Banks must be able to demonstrate to their supervisors that their due diligence analyses are appropriate. As part of their supervisory review, supervisors should ensure that banks have appropriately performed their due diligence analyses, and should take supervisory measures where these have not been done.

Exposures to sovereigns

20.7 Exposures to sovereigns and their central banks will be risk-weighted as follows:

Risk weight table for sovereigns and central banks — Table 1

External rating	AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to B–	Below B–	Unrated
Risk weight	0%	20%	50%	100%	150%	100%

20.8 At national discretion, a lower risk weight may be applied to banks' exposures to their sovereign (or central bank) of incorporation denominated in domestic currency and funded[4] in that currency.[5] Where this discretion is exercised, other national supervisors may also permit their banks to apply the same risk weight to domestic currency exposures to this sovereign (or central bank) funded in that currency.

Footnotes

[4] *This is to say that the bank would also have corresponding liabilities denominated in the domestic currency.*

[5] *This lower risk weight may be extended to the risk-weighting of collateral and guarantees under the CRM framework CRE22.*

20.9 For the purpose of risk-weighting exposures to sovereigns, supervisors may recognise the country risk scores assigned by Export Credit Agencies (ECAs). To

qualify, an ECA must publish its risk scores and subscribe to the methodology agreed by the Organisation for Economic Cooperation and Development (OECD). Banks may choose to use the risk scores published by individual ECAs that are recognised by their supervisor, or the consensus risk scores of ECAs participating in the "Arrangement on Officially Supported Export Credits".[6] The OECD-agreed methodology establishes eight risk score categories associated with minimum export insurance premiums. These ECA risk scores will correspond to risk weight categories as detailed below.

Risk weight table for sovereigns and central banks — Table 2

ECA risk scores	0 to 1	2	3	4 to 6	7
Risk weight	0%	20%	50%	100%	150%

Footnotes

[6] *The consensus country risk classifications of the Participants to the Arrangement on Officially Supported Export Credits are available on the OECD's website (www.oecd.org).*

20.10 Exposures to the Bank for International Settlements, the International Monetary Fund, the European Central Bank, the European Union, the European Stability Mechanism and the European Financial Stability Facility may receive a 0% risk weight.

Exposures to non-central government public sector entities (PSEs)

20.11 Exposures to domestic PSEs will be risk-weighted at national discretion, according to either of the following two options.

Risk weight table for PSEs

Option 1: Based on external rating of sovereign Table 3

External rating of the sovereign	AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to B–	Below B–	Unrated
Risk weight under Option 1	20%	50%	100%	100%	150%	100%

Risk weight table for PSEs

Option 2: Based on external rating of PSE Table 4

External rating of the PSE	AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to B–	Below B–	Unrated
Risk weight under Option 2	20%	50%	50%	100%	150%	50%

20.12 Subject to national discretion, exposures to certain domestic PSEs[7] may also be treated as exposures to the sovereigns in whose jurisdictions the PSEs are established. Where this discretion is exercised, other national supervisors may allow their banks to risk-weight exposures to such PSEs in the same manner.

Footnotes

[7] *The following examples outline how PSEs might be categorised when focusing on one specific feature, namely revenue-raising powers. However, there may be other ways of determining the different treatments applicable to different types of PSEs, for instance by focusing on the extent of guarantees provided by the central government:*

(a) Regional governments and local authorities could qualify for the same treatment as claims on their sovereign or central government if these governments and local authorities have specific revenue-raising powers and have specific institutional arrangements the effect of which is to reduce their risk of default.

(b) Administrative bodies responsible to central governments, regional governments or to local authorities and other non-commercial undertakings owned by the governments or local authorities may not warrant the same treatment as claims on their sovereign if the entities do not have revenue-raising powers or other arrangements as described above. If strict lending rules apply to these entities and a declaration of bankruptcy is not possible because of their special public status, it may be appropriate to treat these claims according to Option 1 or 2 for PSEs.

(c) Commercial undertakings owned by central governments, regional governments or by local authorities may be treated as normal commercial enterprises. In particular, if these entities function as a corporate in competitive markets even though the state, a regional authority or a local authority is the major shareholder of these entities, supervisors should decide to consider them as corporates and therefore attach to them the applicable risk weights.

Exposures to multilateral development banks (MDBs)

20.13 For the purposes of calculating capital requirements, a Multilateral Development Bank (MDB) is an institution created by a group of countries that provides financing and professional advice for economic and social development projects. MDBs have large sovereign memberships and may include both developed and /or developing countries. Each MDB has its own independent legal and operational status, but with a similar mandate and a considerable number of joint owners.

20.14 A 0% risk weight will be applied to exposures to MDBs that fulfil to the Committee's satisfaction the eligibility criteria provided below.[8] The Committee will continue to evaluate eligibility on a case-by-case basis. The eligibility criteria for MDBs risk-weighted at 0% are:

(1) very high-quality long-term issuer ratings, ie a majority of an MDB's external ratings must be AAA;[9]

(2) either the shareholder structure comprises a significant proportion of sovereigns with long-term issuer external ratings of AA– or better, or the majority of the MDB's fund-raising is in the form of paid-in equity/capital and there is little or no leverage;

(3) strong shareholder support demonstrated by the amount of paid-in capital contributed by the shareholders; the amount of further capital the MDBs have the right to call, if required, to repay their liabilities; and continued capital contributions and new pledges from sovereign shareholders;

(4) adequate level of capital and liquidity (a case-by-case approach is necessary in order to assess whether each MDB's capital and liquidity are adequate); and,

(5) strict statutory lending requirements and conservative financial policies, which would include among other conditions a structured approval process, internal creditworthiness and risk concentration limits (per country, sector, and individual exposure and credit category), large exposures approval by the board or a committee of the board, fixed repayment schedules, effective monitoring of use of proceeds, status review process, and rigorous assessment of risk and provisioning to loan loss reserve.

Footnotes

[8] *MDBs currently eligible for a 0% risk weight are: the World Bank Group comprising the International Bank for Reconstruction and Development, the International Finance Corporation, the Multilateral Investment Guarantee Agency and the International Development Association, the Asian Development Bank, the African Development Bank, the European Bank for Reconstruction and Development, the Inter-American Development Bank, the European Investment Bank, the European Investment Fund, the Nordic Investment Bank, the Caribbean Development Bank, the Islamic Development Bank, the Council of Europe Development Bank, the International Finance Facility for Immunization, and the Asian Infrastructure Investment Bank.*

[9] *MDBs that request to be added to the list of MDBs eligible for a 0% risk weight must comply with the AAA rating criterion at the time of the application. Once included in the list of eligible MDBs, the rating may be downgraded, but in no case lower than AA–. Otherwise, exposures to such MDBs will be subject to the treatment set out in CRE20.15.*

20.15 For exposures to all other MDBs, banks incorporated in jurisdictions that allow the use of external ratings for regulatory purposes will assign to their MDB exposures the corresponding "base" risk weights determined by the external ratings according to Table 5. Banks incorporated in jurisdictions that do not allow external ratings for regulatory purposes will risk-weight such exposures at 50%.

Risk weight table for MDB exposures — Table 5

External rating of counterparty	AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to B–	Below B–	Unrated
"Base" risk weight	20%	30%	50%	100%	150%	50%

Exposures to banks

20.16 For the purposes of calculating capital requirements, a bank exposure is defined as a claim (including loans and senior debt instruments, unless considered as subordinated debt for the purposes of CRE20.60) on any financial institution that is licensed to take deposits from the public and is subject to appropriate prudential standards and level of supervision.[10] The treatment associated with subordinated bank debt and equities is addressed in CRE20.53 to CRE20.60.

Footnotes

[10] *For internationally active banks, appropriate prudential standards (eg capital and liquidity requirements) and level of supervision should be in accordance with the Basel framework. For domestic banks, appropriate prudential standards are determined by the national supervisors but should include at least a minimum regulatory capital requirement.*

Risk weight determination

20.17 Bank exposures will be risk-weighted based on the following hierarchy:[11]

(1) External Credit Risk Assessment Approach (ECRA): This approach is for banks incorporated in jurisdictions that allow the use of external ratings for regulatory purposes. It applies to all their rated exposures to banks. Banks will apply CRE21.1 to CRE21.21 to determine which rating can be used and for which exposures.

(2) Standardised Credit Risk Assessment Approach (SCRA): This approach is for all exposures of banks incorporated in jurisdictions that do not allow the use of external ratings for regulatory purposes. For exposures to banks that are unrated, this approach also applies to banks incorporated in jurisdictions that allow the use of external ratings for regulatory purposes.

Footnotes

[11] *With the exception of exposures giving rise to Common Equity Tier 1, Additional Tier 1 and Tier 2 items, national supervisors may allow banks belonging to the same institutional protection scheme (such as mutual, cooperatives or savings institutions) in their jurisdictions to apply a lower risk weight than that indicated by the ECRA and SCRA to their intra-group or in-network exposures provided that both counterparties to the exposures are members of the same effective institutional protection scheme that is a contractual or statutory arrangement set up to protect those institutions and seeks to ensure their liquidity and solvency to avoid bankruptcy.*

External Credit Risk Assessment Approach (ECRA)

20.18 Banks incorporated in jurisdictions that allow the use of external ratings for regulatory purposes will assign to their rated bank exposures[12] the corresponding

"base" risk weights determined by the external ratings according to Table 6. Such ratings must not incorporate assumptions of implicit government support, unless the rating refers to a public bank owned by its government.[13] Banks incorporated in jurisdictions that allow the use of external ratings for regulatory purposes must only apply SCRA for their unrated bank exposures, in accordance with CRE20.21.

Risk weight table for bank exposures

External Credit Risk Assessment Approach — Table 6

External rating of counterparty	AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to B–	Below B–
"Base" risk weight	20%	30%	50%	100%	150%
Risk weight for short-term exposures	20%	20%	20%	50%	150%

Footnotes

[12] *An exposure is rated from the perspective of a bank if the exposure is rated by a recognised "eligible credit assessment institution" (ECAI) which has been nominated by the bank (ie the bank has informed its supervisor of its intention to use the ratings of such ECAI for regulatory purposes in a consistent manner CRE21.8. In other words, if an external rating exists but the credit rating agency is not a recognised ECAI by the national supervisor, or the rating has been issued by an ECAI which has not been nominated by the bank, the exposure would be considered as being unrated from the perspective of the bank.*

[13] *Implicit government support refers to the notion that the government would act to prevent bank creditors from incurring losses in the event of a bank default or bank distress. National supervisors may continue to allow banks to use external ratings which incorporate assumptions of implicit government support for up to a period of five years, from the date of implementation of this standard, when assigning the "base" risk weights in Table 6 to their bank exposures.*

20.19 Exposures to banks with an original maturity of three months or less, as well as exposures to banks that arise from the movement of goods across national borders with an original maturity of six months or less[14] can be assigned a risk weight that correspond to the risk weights for short term exposures in Table 6.

Footnotes

[14] *This may include on-balance sheet exposures such as loans and off-balance sheet exposures such as self-liquidating trade-related contingent items.*

20.20 Banks must perform due diligence to ensure that the external ratings appropriately and conservatively reflect the creditworthiness of the bank counterparties. If the due diligence analysis reflects higher risk characteristics than that implied by the external rating bucket of the exposure (ie AAA to AA–; A+ to A– etc), the bank must assign a risk weight at least one bucket higher than the "base" risk weight determined by the external rating. Due diligence analysis must never result in the application of a lower risk weight than that determined by the external rating.

FAQ

FAQ1 *Should banks assess climate-related financial risks as part of the due diligence analyses with respect to counterparty creditworthiness?*

Climate-related financial risks can impact banks' credit risk exposure through their counterparties. To the extent that the risk profile of a counterparty is affected by climate-related financial risks, banks should give proper consideration to the climate-related financial risks as part of the counterparty due diligence. To that end, banks should integrate climate-related financial risks either in their own credit risk assessment or when performing due diligence on external ratings.

Standardised Credit Risk Assessment Approach (SCRA)

20.21 Banks incorporated in jurisdictions that do not allow the use of external ratings for regulatory purposes will apply the SCRA to all their bank exposures. The SCRA also applies to unrated bank exposures for banks incorporated in jurisdictions that allow the use of external ratings for regulatory purposes. The SCRA requires banks to classify bank exposures into one of three risk-weight buckets (ie Grades A, B and C) and assign the corresponding risk weights in Table 7.[15] For the purposes of the SCRA only, "published minimum regulatory requirements" in CRE20.22 to CRE20.30 excludes liquidity standards.

Risk weight table for bank exposures

Standardised Credit Risk Assessment Approach — Table 7

Credit risk assessment of counterparty	Grade A	Grade B	Grade C
"Base" risk weight	40%	75%	150%
Risk weight for short-term exposures	20%	50%	150%

Footnotes

[15] *Under the SCRA, exposures to banks without an external credit rating may receive a risk weight of 30%, provided that the counterparty bank has a Common Equity Tier 1 ratio which meets or exceeds 14% and a Tier 1 leverage ratio which meets or exceeds 5%. The counterparty bank must also satisfy all the requirements for Grade A classification.*

SCRA: Grade A

20.22 Grade A refers to exposures to banks, where the counterparty bank has adequate capacity to meet their financial commitments (including repayments of principal and interest) in a timely manner, for the projected life of the assets or exposures and irrespective of the economic cycles and business conditions.

FAQ

FAQ1 *To what extent should climate-related financial risks be taken into consideration when determining Grade A classification?*

Banks should consider the impact of material climate-related financial risks on the counterparty bank's capacity to meet their financial commitments in a timely manner for the projected life of the bank's assets or exposures to this counterparty bank. Prudent practice by the bank to evaluate the counterparty bank's ability to repay commitments could include incorporating consideration of material climate-related financial risks into the entire credit life cycle, including client due diligence as part of the onboarding process and ongoing monitoring of clients' risk profiles.

20.23 A counterparty bank classified into Grade A must meet or exceed the published minimum regulatory requirements and buffers established by its national supervisor as implemented in the jurisdiction where it is incorporated, except for bank-specific minimum regulatory requirements or buffers that may be imposed through supervisory actions (eg via the Supervisory Review Process, SRP) and not made public. If such minimum regulatory requirements and buffers (other than bank-specific minimum requirements or buffers) are not publicly disclosed or otherwise made available by the counterparty bank, then the counterparty bank must be assessed as Grade B or lower.

20.24 If as part of its due diligence, a bank assesses that a counterparty bank does not meet the definition of Grade A in CRE20.22 and CRE20.23, exposures to the counterparty bank must be classified as Grade B or Grade C.

SCRA: Grade B

20.25 Grade B refers to exposures to banks, where the counterparty bank is subject to substantial credit risk, such as repayment capacities that are dependent on stable or favourable economic or business conditions.

20.26 A counterparty bank classified into Grade B must meet or exceed the published minimum regulatory requirements (excluding buffers) established by its national supervisor as implemented in the jurisdiction where it is incorporated, except for bank-specific minimum regulatory requirements that may be imposed through supervisory actions (eg via the Supervisory Review Process, SRP) and not made public. If such minimum regulatory requirements are not publicly disclosed or otherwise made available by the counterparty bank then the counterparty bank must be assessed as Grade C.

20.27

Banks will classify all exposures that do not meet the requirements outlined in CRE20.22 and CRE20.23 into Grade B, unless the exposure falls within Grade C under CRE20.28 to CRE20.30.

SCRA: Grade C

20.28 Grade C refers to higher credit risk exposures to banks, where the counterparty bank has material default risks and limited margins of safety. For these counterparties, adverse business, financial, or economic conditions are very likely to lead, or have led, to an inability to meet their financial commitments.

20.29 At a minimum, if any of the following triggers is breached, a bank must classify the exposure into Grade C:

(1) The counterparty bank does not meet the criteria for being classified as Grade B with respect to its published minimum regulatory requirements, as set out in CRE20.25 and CRE20.26; or

(2) Where audited financial statements are required, the external auditor has issued an adverse audit opinion or has expressed substantial doubt about the counterparty bank's ability to continue as a going concern in its financial statements or audited reports within the previous 12 months.

20.30 Even if the triggers set out in CRE20.29 are not breached, a bank may assess that the counterparty bank meets the definition in CRE20.28. In that case, the exposure to such counterparty bank must be classified into Grade C.

20.31 Exposures to banks with an original maturity of three months or less, as well as exposures to banks that arise from the movement of goods across national borders with an original maturity of six months or less,[16] can be assigned a risk weight that correspond to the risk weights for short term exposures in Table 7.

Footnotes

[16] *This may include on-balance sheet exposures such as loans and off-balance sheet exposures such as self-liquidating trade-related contingent items.*

20.32 To reflect transfer and convertibility risk under the SCRA, a risk-weight floor based on the risk weight applicable to exposures to the sovereign of the country where the bank counterparty is incorporated will be applied to the risk weight assigned to bank exposures. The sovereign floor applies when: (i) the exposure is not in the local currency of the jurisdiction of incorporation of the debtor bank;

and (ii) for a borrowing booked in a branch of the debtor bank in a foreign jurisdiction, when the exposure is not in the local currency of the jurisdiction in which the branch operates. The sovereign floor will not apply to short-term (ie with a maturity below one year) self-liquidating, trade-related contingent items that arise from the movement of goods.

Exposures to covered bonds

20.33 Covered bonds are bonds issued by a bank or mortgage institution that are subject by law to special public supervision designed to protect bond holders. Proceeds deriving from the issue of these bonds must be invested in conformity with the law in assets which, during the whole period of the validity of the bonds, are capable of covering claims attached to the bonds and which, in the event of the failure of the issuer, would be used on a priority basis for the reimbursement of the principal and payment of the accrued interest.

Eligible assets

20.34 In order to be eligible for the risk weights set out in CRE20.38, the underlying assets (the cover pool) of covered bonds as defined in CRE20.33 shall meet the requirements set out in CRE20.37 and shall include any of the following:

(1) claims on, or guaranteed by, sovereigns, their central banks, public sector entities or multilateral development banks;

(2) claims secured by residential real estate that meet the criteria set out in CRE20.71 and with a loan-to-value ratio of 80% or lower;

(3) claims secured by commercial real estate that meets the criteria set out in CRE20.71 and with a loan-to-value ratio of 60% or lower; or

(4) claims on, or guaranteed by banks that qualify for a 30% or lower risk weight. However, such assets cannot exceed 15% of covered bond issuances.

20.35 The nominal value of the pool of assets assigned to the covered bond instrument (s) by its issuer should exceed its nominal outstanding value by at least 10%. The value of the pool of assets for this purpose does not need to be that required by the legislative framework. However, if the legislative framework does not stipulate a requirement of at least 10%, the issuing bank needs to publicly disclose on a regular basis that their cover pool meets the 10% requirement in practice. In addition to the primary assets listed in this paragraph, additional collateral may include substitution assets (cash or short term liquid and secure assets held in substitution of the primary assets to top up the cover pool for management purposes) and derivatives entered into for the purposes of hedging the risks arising in the covered bond program.

20.36 The conditions set out in CRE20.34 and CRE20.35 must be satisfied at the inception of the covered bond and throughout its remaining maturity.

Disclosure requirements

20.37 Exposures in the form of covered bonds are eligible for the treatment set out in CRE20.38, provided that the bank investing in the covered bonds can demonstrate to its national supervisors that:

(1) it receives portfolio information at least on:

(a) the value of the cover pool and outstanding covered bonds;

(b) the geographical distribution and type of cover assets, loan size, interest rate and currency risks;

(c) the maturity structure of cover assets and covered bonds; and

(d) the percentage of loans more than 90 days past due; and

(2) the issuer makes the information referred to in point (1) available to the bank at least semi-annually.

20.38 Covered bonds that meet the criteria set out in the CRE20.34 to CRE20.37 shall be risk-weighted based on the issue-specific rating or the issuer's risk weight according to the rules outlined in CRE21.1 to CRE21.21. For covered bonds with issue-specific ratings,[17] the risk weight shall be determined according to Table 8. For unrated covered bonds, the risk weight would be inferred from the issuer's ECRA or SCRA risk weight according to Table 9.

Risk weight table for rated covered bond exposures — Table 8

Issue-specific rating of the covered bond	AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to B–	Below B–
"Base" risk weight	10%	20%	20%	50%	100%

Risk weight table for unrated covered bond exposures — Table 9

Risk weight of the issuing bank	20%	30%	40%	50%	75%	100%	150%
"Base" risk weight	10%	15%	20%	25%	35%	50%	100%

Footnotes

[17] *An exposure is rated from the perspective of a bank if the exposure is rated by a recognised ECAI which has been nominated by the bank (ie the bank has informed its supervisor of its intention to use the ratings of such ECAI for regulatory purposes in a consistent manner (see CRE21.8). In other words, if an external rating exists but the credit rating agency is not a recognised ECAI by the national supervisor, or the rating has been issued by an ECAI which has not been nominated by the bank, the exposure would be considered as being unrated from the perspective of the bank.*

20.39 Banks must perform due diligence to ensure that the external ratings appropriately and conservatively reflect the creditworthiness of the covered bond and the issuing bank. If the due diligence analysis reflects higher risk characteristics than that implied by the external rating bucket of the exposure (ie AAA to AA–; A+ to A– etc), the bank must assign a risk weight at least one bucket higher than the "base" risk weight determined by the external rating. Due diligence analysis must never result in the application of a lower risk weight than that determined by the external rating.

FAQ

FAQ1 *Should banks assess climate-related financial risks as part of the due diligence analyses with respect to covered bonds and their issuing banks?*

Climate-related financial risks can impact banks' exposure through the creditworthiness of the covered bond and the issuing bank. To the extent that the creditworthiness of the covered bond and the issuing bank is affected by climate-related financial risks, banks should give proper consideration to the climate-related financial risks as part of the due diligence. To that end, banks should integrate climate-related financial risks either in their own credit risk assessment or when performing due diligence on external ratings.

Exposures to securities firms and other financial institutions

20.40 Exposures to securities firms and other financial institutions will be treated as exposures to banks provided that these firms are subject to prudential standards and a level of supervision equivalent to those applied to banks (including capital and liquidity requirements). National supervisors should determine whether the regulatory and supervisory framework governing securities firms and other financial institutions in their own jurisdictions is equivalent to that which is applied to banks in their own jurisdictions. Where the regulatory and supervisory framework governing securities firms and other financial institutions is determined to be equivalent to that applied to banks in a jurisdiction, other national supervisors may allow their banks to risk weight such exposures to securities firms and other financial institutions as exposures to banks. Exposures to all other securities firms and financial institutions will be treated as exposures to corporates.

Exposures to corporates

20.41 For the purposes of calculating capital requirements, exposures to corporates include exposures (loans, bonds, receivables, etc) to incorporated entities, associations, partnerships, proprietorships, trusts, funds and other entities with similar characteristics, except those which qualify for one of the other exposure classes. The treatment associated with subordinated debt and equities of these counterparties is addressed in CRE20.53 to CRE20.62. The corporate exposure class includes exposures to insurance companies and other financial corporates that do not meet the definitions of exposures to banks, or securities firms and other financial institutions, as determined in CRE20.16 and CRE20.40 respectively. The corporate exposure class does not include exposures to individuals. The corporate exposure class differentiates between the following subcategories:

(1) General corporate exposures;

(2) Specialised lending exposures, as defined in CRE20.48.

General corporate exposures

20.42 For corporate exposures of banks incorporated in jurisdictions that allow the use of external ratings for regulatory purposes, banks will assign "base" risk weights according to Table 10.[18] Banks must perform due diligence to ensure that the external ratings appropriately and conservatively reflect the creditworthiness of the counterparties. Banks which have assigned risk weights to their rated bank exposures based on CRE20.18 must assign risk weights for all their corporate exposures according to Table 10. If the due diligence analysis reflects higher risk characteristics than that implied by the external rating bucket of the exposure (ie AAA to AA–; A+ to A– etc), the bank must assign a risk weight at least one bucket higher than the "base" risk weight determined by the external rating. Due diligence analysis must never result in the application of a lower risk weight than that determined by the external rating.

Footnotes

[18] *An exposure is rated from the perspective of a bank if the exposure is rated by a recognised ECAI which has been nominated by the bank (ie the bank has informed its supervisor of its intention to use the ratings of such ECAI for regulatory purposes in a consistent manner CRE21.8. In other words, if an external rating exists but the credit rating agency is not a recognised ECAI by the national supervisor, or the rating has been issued by an ECAI which has not been nominated by the bank, the exposure would be considered as being unrated from the perspective of the bank.*

FAQ

FAQ1 *Should banks assess climate-related financial risks as part of the due diligence analyses with respect to counterparty creditworthiness?*

Climate-related financial risks can impact banks' credit risk exposure through their counterparties. To the extent that the risk profile of a counterparty is affected by climate-related financial risks, banks should give proper consideration to the climate-related financial risks as part of the counterparty due diligence. To that end, banks should integrate climate-related financial risks either in their own credit risk assessment or when performing due diligence on external ratings.

20.43 Unrated corporate exposures of banks incorporated in jurisdictions that allow the use of external ratings for regulatory purposes will receive a 100% risk weight, with the exception of unrated exposures to corporate small or medium-sized entities (SMEs), as described in CRE20.47.

Risk weight table for corporate exposures

Jurisdictions that use external ratings for regulatory purposes — Table 10

External rating of counterparty	AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to BB–	Below BB–	Unrated
"Base" risk weight	20%	50%	75%	100%	150%	100%

20.44 For corporate exposures of banks incorporated in jurisdictions that do not allow the use of external ratings for regulatory purposes, banks will assign a 100% risk weight to all corporate exposures, with the exception of:

(1) exposures to corporates identified as "investment grade" in CRE20.46; and

(2) exposures to corporate SMEs in CRE20.47.

20.45 Banks must apply the treatment set out in CRE20.44 to their corporate exposures if they have assigned risk weights to their rated bank exposures based on CRE20.21.

20.46 Banks in jurisdictions that do not allow the use of external ratings for regulatory purposes may assign a 65% risk weight to exposures to "investment grade" corporates. An "investment grade" corporate is a corporate entity that has adequate capacity to meet its financial commitments in a timely manner and its ability to do so is assessed to be robust against adverse changes in the economic cycle and business conditions. When making this determination, the bank should assess the corporate entity against the investment grade definition taking into account the complexity of its business model, performance against industry and peers, and risks posed by the entity's operating environment. Moreover, the corporate entity (or its parent company) must have securities outstanding on a recognised securities exchange.

FAQ

FAQ1 *To what extent should banks assess whether the corporate has sufficiently accounted for climate-related financial risks in order to meet the "investment grade" definition?*

When determining whether a given corporate meets the investment grade definition, banks should consider and evaluate how material climate-related financial risks might impact the capacity of the corporate to meet its financial commitments in a timely manner even under adverse changes in the economic cycle and business conditions.

Banks should also rely on a systematic credit review process to identify at an early stage whether the credit quality of the corporate has decreased such that it no longer meets the "investment grade" definition. Given the uncertainty of the materiality and timing of the impact of climate-related financial risks, banks should continue to evaluate the impact of climate-related financial risks as the capacity to evaluate climate-related financial risk data improves.

20.47 Corporate SMEs are defined as corporate exposures where the reported annual sales for the consolidated group of which the corporate counterparty is a part is less than or equal to €50 million for the most recent financial year. In some jurisdictions (eg emerging economies), national supervisors might deem it

appropriate to define SMEs in a more conservative manner (ie with a lower level of sales). For unrated exposures to corporate SMEs in jurisdictions that allow the use of external ratings for regulatory purposes, and for all exposures to corporate SMEs in jurisdictions that do not allow the use of external ratings for regulatory purposes, an 85% risk weight will be applied. Exposures to SMEs that meet the criteria in CRE20.65(1) to CRE20.65(3) will be treated as regulatory retail SME exposures and risk weighted at 75%.

Specialised lending

20.48 A corporate exposure will be treated as a specialised lending exposure if such lending possesses some or all of the following characteristics, either in legal form or economic substance:

(1) The exposure is not related to real estate and is within the definitions of object finance, project finance or commodities finance under CRE20.49. If the activity is related to real estate, the treatment would be determined in accordance with CRE20.69 to CRE20.91;

(2) The exposure is typically to an entity (often a special purpose vehicle (SPV)) that was created specifically to finance and/or operate physical assets;

(3) The borrowing entity has few or no other material assets or activities, and therefore little or no independent capacity to repay the obligation, apart from the income that it receives from the asset(s) being financed. The primary source of repayment of the obligation is the income generated by the asset(s), rather than the independent capacity of the borrowing entity; and

(4) The terms of the obligation give the lender a substantial degree of control over the asset(s) and the income that it generates.

20.49 Exposures described in CRE20.48 will be classified in one of the following three subcategories of specialised lending:

(1) Project finance refers to the method of funding in which the lender looks primarily to the revenues generated by a single project, both as the source of repayment and as security for the loan. This type of financing is usually for large, complex and expensive installations such as power plants, chemical processing plants, mines, transportation infrastructure, environment, media,

and telecoms. Project finance may take the form of financing the construction of a new capital installation, or refinancing of an existing installation, with or without improvements.

(2) Object finance refers to the method of funding the acquisition of equipment (eg ships, aircraft, satellites, railcars, and fleets) where the repayment of the loan is dependent on the cash flows generated by the specific assets that have been financed and pledged or assigned to the lender.

(3) Commodities finance refers to short-term lending to finance reserves, inventories, or receivables of exchange-traded commodities (eg crude oil, metals, or crops), where the loan will be repaid from the proceeds of the sale of the commodity and the borrower has no independent capacity to repay the loan.

20.50 Banks incorporated in jurisdictions that allow the use of external ratings for regulatory purposes will assign to their specialised lending exposures the risk weights determined by the issue-specific external ratings, if these are available, according to Table 10. Issuer ratings must not be used (ie CRE21.12 does not apply in the case of specialised lending exposures).

20.51 For specialised lending exposures for which an issue-specific external rating is not available, and for all specialised lending exposures of banks incorporated in jurisdictions that do not allow the use of external ratings for regulatory purposes, the following risk weights will apply:

(1) Object and commodities finance exposures will be risk-weighted at 100%;

(2) Project finance exposures will be risk-weighted at 130% during the pre-operational phase and 100% during the operational phase. Project finance exposures in the operational phase which are deemed to be high quality, as described in CRE20.52, will be risk weighted at 80%. For this purpose, operational phase is defined as the phase in which the entity that was specifically created to finance the project has

(a) a positive net cash flow that is sufficient to cover any remaining contractual obligation, and

(b) declining long-term debt.

20.52

A high quality project finance exposure refers to an exposure to a project finance entity that is able to meet its financial commitments in a timely manner and its ability to do so is assessed to be robust against adverse changes in the economic cycle and business conditions. The following conditions must also be met:

(1) The project finance entity is restricted from acting to the detriment of the creditors (eg by not being able to issue additional debt without the consent of existing creditors);

(2) The project finance entity has sufficient reserve funds or other financial arrangements to cover the contingency funding and working capital requirements of the project;

(3) The revenues are availability-based[19] or subject to a rate-of-return regulation or take-or-pay contract;

(4) The project finance entity's revenue depends on one main counterparty and this main counterparty shall be a central government, PSE or a corporate entity with a risk weight of 80% or lower;

(5) The contractual provisions governing the exposure to the project finance entity provide for a high degree of protection for creditors in case of a default of the project finance entity;

(6) The main counterparty or other counterparties which similarly comply with the eligibility criteria for the main counterparty will protect the creditors from the losses resulting from a termination of the project;

(7) All assets and contracts necessary to operate the project have been pledged to the creditors to the extent permitted by applicable law; and

(8) Creditors may assume control of the project finance entity in case of its default.

Footnotes

[19] *Availability-based revenues mean that once construction is completed, the project finance entity is entitled to payments from its contractual counterparties (eg the government), as long as contract conditions are fulfilled. Availability payments are sized to cover operating and maintenance costs, debt service costs and equity returns as the project finance entity operates the project. Availability payments are not subject to swings in demand, such as traffic levels, and are adjusted typically only for lack of performance or lack of availability of the asset to the public.*

FAQ

FAQ1 *To what extent does the classification as high-quality project finance require consideration of climate-related financial risks?*

Changes in environmental policy, technological progress or investor sentiment can leave projects exposed to transition risks. At the same time, projects may be exposed to physical risks depending on their type and location.

When assessing the ability of a project finance entity to meet its financial commitments in a timely manner, banks should consider the extent to which climate-related financial risks may have an adverse impact on the ability of a project finance entity to meet its financial commitments in a timely manner. Given uncertainty of the materiality and timing of the impact of climate-related financial risks, banks should evaluate on an ongoing basis the impact of climate-related financial risks as the capacity to evaluate climate-related financial risk data improves.

Subordinated debt, equity and other capital instruments

20.53 The treatment described in CRE20.57 to CRE20.60 applies to subordinated debt, equity and other regulatory capital instruments issued by either corporates or banks, provided that such instruments are not deducted from regulatory capital or risk-weighted at 250% according to CAP30, or risk weighted at 1250% according to CRE20.62. It also excludes equity investments in funds treated under CRE60.

20.54 Equity exposures are defined on the basis of the economic substance of the instrument. They include both direct and indirect ownership interests,[20] whether voting or non-voting, in the assets and income of a commercial enterprise or of a financial institution that is not consolidated or deducted. An instrument is considered to be an equity exposure if it meets all of the following requirements:

(1) It is irredeemable in the sense that the return of invested funds can be achieved only by the sale of the investment or sale of the rights to the investment or by the liquidation of the issuer;

(2) It does not embody an obligation on the part of the issuer; and

(3) It conveys a residual claim on the assets or income of the issuer.

Footnotes

[20] *Indirect equity interests include holdings of derivative instruments tied to equity interests, and holdings in corporations, partnerships, limited liability companies or other types of enterprises that issue ownership interests and are engaged principally in the business of investing in equity instruments.*

20.55 In addition to instruments classified as equity as a result of paragraph CRE20.54, the following instruments must be categorised as an equity exposure:

(1) An instrument with the same structure as those permitted as Tier 1 capital for banking organisations.

(2) An instrument that embodies an obligation on the part of the issuer and meets any of the following conditions:

(a) The issuer may defer indefinitely the settlement of the obligation;

(b) The obligation requires (or permits at the issuer's discretion) settlement by issuance of a fixed number of the issuer's equity shares;

(c) The obligation requires (or permits at the issuer's discretion) settlement by issuance of a variable number of the issuer's equity shares and (ceteris paribus) any change in the value of the obligation is attributable to, comparable to, and in the same direction as, the change in the value of a fixed number of the issuer's equity shares;[21] or,

(d) The holder has the option to require that the obligation be settled in equity shares, unless either (i) in the case of a traded instrument, the supervisor is content that the bank has demonstrated that the

instrument trades more like the debt of the issuer than like its equity, or (ii) in the case of non-traded instruments, the supervisor is content that the bank has demonstrated that the instrument should be treated as a debt position. In cases (i) and (ii), the bank may decompose the risks for regulatory purposes, with the consent of the supervisor.

Footnotes

[21] *For certain obligations that require or permit settlement by issuance of a variable number of the issuer's equity shares, the change in the monetary value of the obligation is equal to the change in the fair value of a fixed number of equity shares multiplied by a specified factor. Those obligations meet the conditions of item (c) if both the factor and the referenced number of shares are fixed. For example, an issuer may be required to settle an obligation by issuing shares with a value equal to three times the appreciation in the fair value of 1,000 equity shares. That obligation is considered to be the same as an obligation that requires settlement by issuance of shares equal to the appreciation in the fair value of 3,000 equity shares.*

20.56 Debt obligations and other securities, partnerships, derivatives or other vehicles structured with the intent of conveying the economic substance of equity ownership are considered an equity holding.[22] This includes liabilities from which the return is linked to that of equities.[23] Conversely, equity investments that are structured with the intent of conveying the economic substance of debt holdings or securitisation exposures would not be considered an equity holding.[24]

Footnotes

[22] *Equities that are recorded as a loan but arise from a debt/equity swap made as part of the orderly realisation or restructuring of the debt are included in the definition of equity holdings. However, these instruments may not attract a lower capital charge than would apply if the holdings remained in the debt portfolio.*

[23] *Supervisors may decide not to require that such liabilities be included where they are directly hedged by an equity holding, such that the net position does not involve material risk.*

[24] *The national supervisor has the discretion to re-characterise debt holdings as equites for regulatory purposes and to otherwise ensure the proper treatment of holdings under the supervisory review process, SRP.*

20.57 Banks will assign a risk weight of 400% to speculative unlisted equity exposures described in CRE20.58 and a risk weight of 250% to all other equity holdings, with the exception of those equity holdings referred to in CRE20.59.

20.58 Speculative unlisted equity exposures are defined as equity investments in unlisted companies that are invested for short-term resale purposes or are considered venture capital or similar investments which are subject to price volatility and are acquired in anticipation of significant future capital gains.[25]

Footnotes

[25] *For example, investments in unlisted equities of corporate clients with which the bank has or intends to establish a long-term business relationship and debt-equity swaps for corporate restructuring purposes would be excluded.*

20.59 National supervisors may allow banks to assign a risk weight of 100% to equity holdings made pursuant to national legislated programmes that provide significant subsidies for the investment to the bank and involve government oversight and restrictions on the equity investments. Such treatment can only be accorded to equity holdings up to an aggregate of 10% of the bank's Total capital. Examples of restrictions are limitations on the size and types of businesses in which the bank is investing, allowable amounts of ownership interests, geographical location and other pertinent factors that limit the potential risk of the investment to the bank.

20.60 Banks will assign a risk weight of 150% to subordinated debt and capital instruments other than equities. Any liabilities that meet the definition of "other TLAC liabilities" in CAP30.3 to CAP30.5 and that are not deducted from regulatory capital are considered to be subordinated debt for the purposes of this paragraph.

20.61 Notwithstanding the risk weights specified in CRE20.57 to CRE20.60, the risk weight for investments in significant minority- or majority-owned and –controlled commercial entities depends upon the application of two materiality thresholds:

(1) for individual investments, 15% of the bank's capital; and

(2) for the aggregate of such investments, 60% of the bank's capital.

20.62 Investments in significant minority- or majority-owned and –controlled commercial entities below the materiality thresholds in CRE20.61 must be risk-weighted as specified in CRE20.54 to CRE20.60. Investments in excess of the materiality thresholds must be risk-weighted at 1250%.

Retail exposure class

20.63 The retail exposure class excludes exposures within the real estate exposure class. The retail exposure class includes the following types of exposures:

(1) exposures to an individual person or persons; and

(2) exposures to SMEs (as defined in CRE20.47) that meet the "regulatory retail" criteria set out in CRE20.65(1) to CRE20.65(3) below. Exposures to SMEs that do not meet these criteria will be treated as corporate SMEs exposures under CRE20.47.

20.64 Exposures within the retail exposure class will be treated according to CRE20.65 to CRE20.67 below. For the purpose of determining risk weighted assets, the retail exposure class consists of the follow three sets of exposures:

(1) "Regulatory retail" exposures that do not arise from exposures to "transactors" (as defined in CRE20.66).

(2) "Regulatory retail" exposures to "transactors".

(3) "Other retail" exposures.

20.65 "Regulatory retail" exposures are defined as retail exposures that meet all of the criteria listed below:

(1) Product criterion: the exposure takes the form of any of the following: revolving credits and lines of credit (including credit cards, charge cards and overdrafts), personal term loans and leases (eg instalment loans, auto loans and leases, student and educational loans, personal finance) and small business facilities and commitments. Mortgage loans, derivatives and other securities (such as bonds and equities), whether listed or not, are specifically excluded from this category.

(2) Low value of individual exposures: the maximum aggregated exposure to one counterparty cannot exceed an absolute threshold of €1 million.

(3) Granularity criterion: no aggregated exposure to one counterparty[26] can exceed 0.2%[27] of the overall regulatory retail portfolio, unless national supervisors have determined another method to ensure satisfactory diversification of the regulatory retail portfolio. Defaulted retail exposures are to be excluded from the overall regulatory retail portfolio when assessing the granularity criterion.

Footnotes

[26] *Aggregated exposure means gross amount (ie not taking any credit risk mitigation into account) of all forms of retail exposures, excluding residential real estate exposures. In case of off-balance sheet claims, the gross amount would be calculated after applying credit conversion factors. In addition, "to one counterparty" means one or several entities that may be considered as a single beneficiary (eg in the case of a small business that is affiliated to another small business, the limit would apply to the bank's aggregated exposure on both businesses).*

[27] *To apply the 0.2% threshold of the granularity criterion, banks must: first, identify the full set of exposures in the retail exposure class (as defined by CRE20.63); second, identify the subset of exposure that meet product criterion and do not exceed the threshold for the value of aggregated exposures to one counterparty (as defined by CRE20.65(1) and CRE20.65(2) respectively); and third, exclude any exposures that have a value greater than 0.2% of the subset before exclusions.*

20.66 "Transactors" are obligors in relation to facilities such as credit cards and charge cards where the balance has been repaid in full at each scheduled repayment date for the previous 12 months. Obligors in relation to overdraft facilities would also be considered as transactors if there has been no drawdown over the previous 12 months.

20.67

"Other retail" exposures are defined as exposures to an individual person or persons that do not meet all of the regulatory retail criteria in CRE20.65.

20.68 The risk weights that apply to exposures in the retail asset class are as follows:

(1) Regulatory retail exposures that do not arise from exposures to transactors (as defined in CRE20.66) will be risk weighted at 75%.

(2) Regulatory retail exposures that arise from exposures to transactors (as defined in CRE20.66) will be risk weighted at 45%.

(3) Other retail exposures will be risk weighted at 100%.

Real estate exposure class

20.69 Real estate is immovable property that is land, including agricultural land and forest, or anything treated as attached to land, in particular buildings, in contrast to being treated as movable/personal property. The real estate exposure asset class consists of:

(1) Exposures secured by real estate that are classified as "regulatory real estate" exposures.

(2) Exposures secured by real estate that are classified as "other real estate" exposures.

(3) Exposures that are classified as "land acquisition, development and construction" (ADC) exposures.

20.70 "Regulatory real estate" exposures consist of:

(1) "Regulatory residential real estate" exposures that are not "materially dependent on cash flows generated by the property".

(2) "Regulatory residential real estate" exposures that are "materially dependent on cash flows generated by the property".

(3) "Regulatory commercial real estate" exposures that are not "materially dependent on cash flows generated by the property".

(4) "Regulatory commercial real estate" exposures that are "materially dependent on cash flows generated by the property".

Regulatory real estate exposures

20.71 For an exposure secured by real estate to be classified as a "regulatory real estate" exposure, the loan must meet the following requirements:

(1) Finished property: the exposure must be secured by a fully completed immovable property. This requirement does not apply to forest and agricultural land. Subject to national discretion, supervisors may allow this criteria to be met by loans to individuals that are secured by residential property under construction or land upon which residential property would be constructed, provided that: (i) the property is a one-to-four family residential housing unit that will be the primary residence of the borrower and the lending to the individual is not, in effect, indirectly financing land acquisition, development and construction exposures described in CRE20.90; or (ii) sovereign or PSEs involved have the legal powers and ability to ensure that the property under construction will be finished.

(2) Legal enforceability: any claim on the property taken must be legally enforceable in all relevant jurisdictions. The collateral agreement and the legal process underpinning it must be such that they provide for the bank to realise the value of the property within a reasonable time frame.

(3) Claims over the property: the loan is a claim over the property where the lender bank holds a first lien over the property, or a single bank holds the first lien and any sequentially lower ranking lien(s) (ie there is no intermediate lien from another bank) over the same property. However, in jurisdictions where junior liens provide the holder with a claim for collateral that is legally enforceable and constitute an effective credit risk mitigant, junior liens held by a different bank than the one holding the senior lien may also be recognised.[28] In order to meet the above requirements, the national frameworks governing liens should ensure the following: (i) each bank holding a lien on a property can initiate the sale of the property independently from other entities holding a lien on the property; and (ii) where the sale of the property is not carried out by means of a public auction, entities holding a senior lien take reasonable steps to obtain a fair market value or the best price that may be obtained in the circumstances when exercising any power of sale on their own (ie it is not possible for the entity holding the senior lien to sell the property on its own at a discounted value in detriment of the junior lien).[29]

(4) Ability of the borrower to repay: the borrower must meet the requirements set according to CRE20.73.

(5) Prudent value of property: the property must be valued according to the criteria in CRE20.74 to CRE20.76 for determining the value in the loan-to-value ratio (LTV). Moreover, the value of the property must not depend materially on the performance of the borrower.

(6) Required documentation: all the information required at loan origination and for monitoring purposes must be properly documented, including information on the ability of the borrower to repay and on the valuation of the property.

Footnotes

[28] *Likewise, this would apply to junior liens held by the same bank that holds the senior lien in case there is an intermediate lien from another bank (ie the senior and junior liens held by the bank are not in sequential ranking order).*

[29] *In certain jurisdictions, the majority of bank loans to individuals for the purchase of residential property are not provided as mortgages in legal form. Instead, they are typically provided as loans that are guaranteed by a highly rated monoline guarantor that is required to repay the bank in full if the borrower defaults, and where the bank has legal right to take a mortgage on the property in the event that the guarantor fails. These loans may be treated as residential real estate exposures (rather than guaranteed loans) if the following additional conditions are met:*

(a) the borrower shall be contractually committed not to grant any mortgage lien without the consent of the bank that granted the loan;

(b) the guarantor shall be either a bank or a financial institution subject to capital requirements comparable to those applied to banks or an insurance undertaking;

(c) the guarantor shall establish a fully-funded mutual guarantee fund or equivalent protection for insurance undertakings to absorb credit risk losses, whose calibration shall be periodically reviewed by its supervisors and subject to periodic stress testing; and

(d) the bank shall be contractually and legally allowed to take a mortgage on the property in the event that the guarantor fails.

20.72 The risk weights for regulatory real estate exposures will apply to jurisdictions where structural factors result in sustainably low credit losses associated with the exposures to the real estate market. National supervisors should evaluate whether the risk weights in the corresponding risk weight tables are too low for these types of exposures in their jurisdictions based on default experience and other factors such as market price stability. Supervisors may require banks in their jurisdictions to increase these risk weights as appropriate.

FAQ

FAQ1 *To what extent should supervisors consider climate-related financial risks in evaluating whether the risk weights in the corresponding risk weight tables are too low?*

In this evaluation, national supervisors should also consider climate-related financial risks, including the potential damage effects or value losses emerging from climate-related financial risks (eg weather related hazards, the implementation of climate-policy standards or changes in investment and consumption patterns derived from transition policies).

20.73 National supervisors should ensure that banks put in place underwriting policies with respect to the granting of mortgage loans that include the assessment of the ability of the borrower to repay. Underwriting policies must define a metric(s) (such as the loan's debt service coverage ratio) and specify its (their) corresponding relevant level(s) to conduct such assessment.[30] Underwriting policies must also be appropriate when the repayment of the mortgage loan depends materially on the cash flows generated by the property, including relevant metrics (such as an occupancy rate of the property). National supervisors may provide guidance on appropriate definitions and levels for these metrics in their jurisdictions.

Footnotes

[30] *Metrics and levels for measuring the ability to repay should mirror the Financial Stability Board (FSB) Principles for sound residential mortgage underwriting practices (April 2012).*

20.74 The LTV is the amount of the loan divided by the value of the property. When calculating the LTV, the loan amount will be reduced as the loan amortises. The value of the property will be maintained at the value measured at origination, with the following exceptions:

(1) The national supervisors elect to require banks to revise the property value downward. If the value has been adjusted downwards, a subsequent upwards adjustment can be made but not to a higher value than the value at origination.

(2) The value must be adjusted if an extraordinary, idiosyncratic event occurs resulting in a permanent reduction of the property value.

(3) Modifications made to the property that unequivocally increase its value could also be considered in the LTV.

20.75 The LTV must be prudently calculated in accordance with the following requirements:

(1) Amount of the loan: includes the outstanding loan amount and any undrawn committed amount of the mortgage loan.[31] The loan amount must be calculated gross of any provisions and other risk mitigants, except for pledged deposits accounts with the lending bank that meet all requirements for on-balance sheet netting and have been unconditionally and irrevocably pledged for the sole purposes of redemption of the mortgage loan.[32]

(2) Value of the property: the valuation must be appraised independently[33] using prudently conservative valuation criteria. To ensure that the value of the property is appraised in a prudently conservative manner, the valuation must exclude expectations on price increases and must be adjusted to take into account the potential for the current market price to be significantly above the value that would be sustainable over the life of the loan. National supervisors should provide guidance setting out prudent valuation criteria where such guidance does not already exist under national law. If a market value can be determined, the valuation should not be higher than the market value.[34]

Footnotes

[31] *If a bank grants different loans secured by the same property and they are sequential in ranking order (ie there is no intermediate lien from another bank), the different loans should be considered as a single exposure for risk-weighting purposes, and the amount of the loans should be added to calculate the LTV.*

[32] *In jurisdictions where junior liens held by a different bank than that holding the senior lien are recognised (in accordance with CRE20.71), the loan amount of the junior liens must include all other loans secured with liens of equal or higher ranking than the bank's lien securing the loan for purposes of defining the LTV bucket and risk weight for the junior lien. If there is insufficient information for ascertaining the ranking of the other liens, the bank should assume that these liens rank pari passu with the junior lien held by the bank. This treatment does not apply to exposures that are risk weighted according to the loan splitting approach CRE20.83 and CRE20.86, where the junior lien would be taken into account in the calculation of the value of the property. The bank will first determine the "base" risk weight based on Tables 11, 12, 13 or 14 as applicable and adjust the "base" risk weight by a multiplier of 1.25, for application to the loan amount of the junior lien. If the "base" risk weight corresponds to the lowest LTV bucket, the multiplier will not be applied. The resulting risk weight of multiplying the "base" risk weight by 1.25 will be capped at the risk weight applied to the exposure when the requirements in CRE20.71 are not met.*

[33] *The valuation must be done independently from the bank's mortgage acquisition, loan processing and loan decision process.*

[34] *In the case where the mortgage loan is financing the purchase of the property, the value of the property for LTV purposes will not be higher than the effective purchase price.*

FAQ

FAQ1 *To what extent should banks consider climate-related financial risks when determining property value?*

Banks should determine whether the current market value incorporates the potential changes in the value of properties emerging from climate-related financial risks (eg potential damage related to weather hazard, the implementation of climate-policy standards or changes in investment and consumption patterns derived from transition policies). National supervisors should consider jurisdiction-specific features that account for climate-related financial risks when setting out prudent valuation criteria.

20.76 A guarantee or financial collateral may be recognised as a credit risk mitigant in relation to exposures secured by real estate if it qualifies as eligible collateral under the credit risk mitigation framework. This may include mortgage insurance [35] if it meets the operational requirements of the credit risk mitigation framework for a guarantee. Banks may recognise these risk mitigants in calculating the exposure amount; however, the LTV bucket and risk weight to be applied to the exposure amount must be determined before the application of the appropriate credit risk mitigation technique.

Footnotes

[35] *A bank's use of mortgage insurance should mirror the FSB Principles for sound residential mortgage underwriting (April 2012).*

Definition of "regulatory residential real estate" exposures

20.77 A "regulatory residential real estate" exposure is a regulatory real estate exposure that is secured by a property that has the nature of a dwelling and satisfies all applicable laws and regulations enabling the property to be occupied for housing purposes (ie residential property).[36]

Footnotes

[36] *For residential property under construction described in CRE20.71(1), this means there should be an expectation that the property will satisfy all applicable laws and regulations enabling the property to be occupied for housing purposes.*

Definition of "regulatory commercial real estate" exposures

20.78 A "regulatory commercial real estate" exposure is regulatory real estate exposure that is not a regulatory residential real estate exposure.

Definition of exposures that are "materially dependent on cash flows generated by the property"

20.79 Regulatory real estate exposures (both residential and commercial) are classified as exposures that are "materially dependent on cash flows generated by the property" when the prospects for servicing the loan materially depend on the cash flows generated by the property securing the loan rather than on the underlying capacity of the borrower to service the debt from other sources. The primary source of these cash flows would generally be lease or rental payments, or the sale of the property. The distinguishing characteristic of these exposures compared to other regulatory real estate exposures is that both the servicing of the loan and the prospects for recovery in the event of default depend materially on the cash flows generated by the property securing the exposure.

20.80 It is expected that the material dependence condition, set out in CRE20.79 above, would predominantly apply to loans to corporates, SMEs or SPVs, but is not restricted to those borrower types. As an example, a loan may be considered materially dependent if more than 50% of the income from the borrower used in the bank's assessment of its ability to service the loan is from cash flows generated by the residential property. National supervisors may provide further guidance setting out criteria on how material dependence should be assessed for specific exposure types.

20.81 As exceptions to the definition contained in CRE20.79 above, the following types of regulatory real estate exposures are not classified as exposures that are materially dependent on cash flows generated by the property:

(1) An exposure secured by a property that is the borrower's primary residence;

(2) An exposure secured by an income-producing residential housing unit, to an individual who has mortgaged less than a certain number of properties or housing units, as specified by national supervisors;

(3) An exposure secured by residential real estate property to associations or cooperatives of individuals that are regulated under national law and exist with the only purpose of granting its members the use of a primary residence in the property securing the loans; and

(4) An exposure secured by residential real estate property to public housing companies and not-for-profit associations regulated under national law that exist to serve social purposes and to offer tenants long-term housing.

Risk weights for regulatory residential real estate exposures that are not materially dependent on cash flows generated by the property

20.82 For regulatory residential real estate exposures that are not materially dependent on cash flow generated by the property, the risk weight to be assigned to the total exposure amount will be determined based on the exposure's LTV ratio in Table 11 below. The use of the risk weights in Table 11 is referred to as the "whole loan" approach.

Whole loan approach risk weights for regulatory residential real estate exposures that are not materially dependent on cash flows generated by the property — Table 11

	LTV ≤ 50%	50% < LTV ≤ 60%	60% < LTV ≤ 80%	80% < LTV ≤ 90%	90% < LTV ≤ 100%	LTV > 100%
Risk weight	20%	25%	30%	40%	50%	70%

20.83 As an alternative to the whole loan approach for regulatory residential real estate exposures that are not materially dependent on cash flows generated by the property, jurisdictions may apply the "loan splitting" approach. Under the loan splitting approach, the risk weight of 20% is applied to the part of the exposure up to 55% of the property value and the risk weight of the counterparty (as prescribed in CRE20.89(1)) is applied to the residual exposure.[37] Where there are liens on the property that are not held by the bank, the treatment is as follows:

(1) Where a bank holds the junior lien and there are senior liens not held by the bank, to determine the part of the bank's exposure that is eligible for the 20% risk weight, the amount of 55% of the property value should be reduced by the amount of the senior liens not held by the bank. For example, for a loan of €70,000 to an individual secured on a property valued at €100,000, where there is also a senior ranking lien of €10,000 held by another institution, the bank will apply a risk weight of 20% to €45,000 (=max (€55,000 - €10,000, 0)) of the exposure and, according to CRE20.89(1), a risk weight of 75% to the residual exposure of €25,000.

(2) Where liens not held by the bank rank pari passu with the bank's lien, to determine the part of the bank's exposure that is eligible for the 20% risk weight, the amount of 55% of the property value, reduced by the amount of more senior liens not held by the bank (if any), should be reduced by the product of: (i) 55% of the property value, reduced by the amount of any senior liens (if any, both held by the bank and held by other institutions); and (ii) the amount of liens not held by the bank that rank pari passu with the bank's lien divided by the sum of all pari passu liens. For example, for a loan of €70,000 to an individual secured on a property valued at €100,000, where there is also a pari passu ranking lien of €10,000 held by another institution, the bank will apply a risk weight of 20% to €48,125 (=€55,000 - €55,000 * €10,000/€80,000) of the exposure and, according to CRE20.89(1), a risk weight of 75% to the residual exposure of €21,875. If both the loan and the bank's lien is only €30,000 and there is additionally a more senior lien of €10,000 not held by the bank, the property value remaining available is €33,750 (= (€55,000 - €10,000) - ((€55,000 - €10,000) * €10,000/(€10,000+ €30,000)), and the bank will apply a risk weight of 20% to €30,000.

Footnotes

[37] *For example, for a loan of €70,000 to an individual secured on a property valued at €100,000, the bank will apply a risk weight of 20% to €55,000 of the exposure and, according to CRE20.89(1), a risk weight of 75% to the residual exposure of €15,000. This gives total risk weighted assets for the exposure of €22,250 =(0.20 * €55,000) + (0.75 * €15,000).*

Risk weights for regulatory residential real estate exposures that are materially dependent on cash flows generated by the property

20.84 For regulatory residential real estate exposures that are materially dependent on cash flows generated by the property, the risk weight to be assigned to the total exposure amount will be determined based on the exposure's LTV ratio in Table 12 below.

Risk weights for regulatory residential real estate exposures that are materially dependent on cash flows generated by the property — Table 12

	LTV ≤ 50%	50% < LTV ≤ 60%	60% < LTV ≤ 80%	80% < LTV ≤ 90%	90% < LTV ≤ 100%	LTV > 100%
Risk weight	30%	35%	45%	60%	75%	105%

Risk weights for regulatory commercial real estate exposures that are not materially dependent on cash flows generated by the property

20.85 For regulatory commercial real estate exposures that are not materially dependent on cash flow generated by the property, the risk weight to be assigned to the total exposure amount will be determined based on the exposure's LTV in Table 13 below (which sets out a whole loan approach). The risk weight of the counterparty for the purposes of Table 13 below and CRE20.86 below is prescribed in CRE20.89(1).

Whole loan approach risk weights for regulatory commercial real estate exposures that are not materially dependent on cash flows generated by the property — Table 13

	LTV ≤ 60%	LTV > 60%
Risk weight	Min (60%, RW of counterparty)	RW of counterparty

20.86 As an alternative to the whole loan approach for regulatory commercial real estate exposures that are not materially dependent on cash flows generated by the property, jurisdictions may apply the "loan splitting" approach. Under the loan splitting approach, the risk weight of 60% or the risk weight of the counterparty, whichever is lower, is applied to the part of the exposure up to 55% of the property value[38], and the risk weight of the counterparty is applied to the residual exposure.

Footnotes

[38] *Where there are liens on the property that are not held by the bank, the part of the exposure up to 55% of the property value should be reduced by the amount of the senior liens not held by the bank and by a pro-rata percentage of any liens pari passu with the bank's lien but not held by the bank. See CRE20.83 for examples of how this methodology applies in the case of residential retail exposures.*

Risk weights for regulatory commercial real estate exposures that are materially dependent on cash flows generated by the property

20.87 For regulatory commercial real estate exposures that are materially dependent on cash flows generated by the property[39], the risk weight to be assigned to the total exposure amount will be determined based on the exposure's LTV in Table 14 below. [40]

Whole loan approach risk weights for regulatory commercial real estate exposures that are materially dependent on cash flows generated by the property — Table 14

	LTV ≤ 60%	60% < LTV ≤ 80%	LTV > 80%
Risk weight	70%	90%	110%

Footnotes

[39] *For such exposures, national supervisors may allow banks to apply the risk weights applicable for regulatory commercial real estate exposures that are not materially dependent on cash flows generated by the property (ie the treatment set out in CRE20.85 to CRE20.86), subject to the following conditions: (i) the losses stemming from commercial real estate lending up to 60% of LTV must not exceed 0.3% of the outstanding loans in any given year and (ii) overall losses stemming from commercial real estate lending must not exceed 0.5% of the outstanding loans in any given year. If either of these tests are not satisfied in a given year, the eligibility of the exemption will cease and the exposures where the prospect for servicing the loan materially depend on cash flows generated by the property securing the loan rather than the underlying capacity of the borrower to service the debt from other sources will again be risk weighted according to CRE20.87 until both tests are satisfied again in the future. Jurisdictions applying such treatment must publicly disclose whether these conditions are met.*

[40] *National supervisors may also require that the risk weight treatment described in CRE20.87 be applied to exposures where the servicing of the loan materially depends on the cash flows generated by a portfolio of properties owned by the borrower.*

Definition of "other real estate" exposures and applicable risk weights

20.88 An "other real estate" exposure is an exposure within the real estate asset class that is not a regulatory real estate exposure (as defined in CRE20.71 above) and is not a land ADC exposure (as defined in CRE20.90 below).

20.89 Other real estate exposures are risk weighted as follows:

(1) The risk weight of the counterparty is used for other real estate exposures that are not materially dependent on the cash flows generated by the property. For exposures to individuals the risk weight applied will be 75%. For exposures to SMEs, the risk weight applied will be 85%. For exposures to other counterparties, the risk weight applied is the risk weight that would be assigned to an unsecured exposure to that counterparty.

(2) The risk weight of 150% is used for other real estate exposures that are materially dependent on the cash flows generated by the property.

Definition of land acquisition, development and construction exposures and applicable risk weights

20.90 Land ADC exposures[41] refers to loans to companies or SPVs financing any of the land acquisition for development and construction purposes, or development and construction of any residential or commercial property. ADC exposures will be risk-weighted at 150%, unless they meet the criteria in CRE20.91.

Footnotes

[41] *ADC exposures do not include the acquisition of forest or agricultural land, where there is no planning consent or intention to apply for planning consent.*

20.91 ADC exposures to residential real estate may be risk weighted at 100%, provided that the following criteria are met:

(1) prudential underwriting standards meet the requirements in CRE20.71 (ie the requirements that are used to classify regulatory real estate exposures) where applicable;

(2) pre-sale or pre-lease contracts amount to a significant portion of total contracts or substantial equity at risk.[42] Pre-sale or pre-lease contracts must be legally binding written contracts and the purchaser/renter must have made a substantial cash deposit which is subject to forfeiture if the contract is terminated. Equity at risk should be determined as an appropriate amount of borrower-contributed equity to the real estate's appraised as-completed value.

Footnotes

[42] *National supervisors will give further guidance on the appropriate levels of pre-sale or pre-lease contracts and/or equity at risk to be applied in their jurisdictions.*

Risk weight multiplier to certain exposures with currency mismatch

20.92 For unhedged retail and residential real estate exposures to individuals where the lending currency differs from the currency of the borrower's source of income, banks will apply a 1.5 times multiplier to the applicable risk weight according to CRE20.63 to CRE20.68 and CRE20.82 to CRE20.84, subject to a maximum risk weight of 150%.

20.93 For the purposes of CRE20.92, an unhedged exposure refers to an exposure to a borrower that has no natural or financial hedge against the foreign exchange risk resulting from the currency mismatch between the currency of the borrower's income and the currency of the loan. A natural hedge exists where the borrower, in its normal operating procedures, receives foreign currency income that matches the currency of a given loan (eg remittances, rental incomes, salaries). A financial hedge generally includes a legal contract with a financial institution (eg forward contract). For the purposes of application of the multiplier, only these natural or financial hedges are considered sufficient where they cover at least 90% of the loan instalment, regardless of the number of hedges.

Off-balance sheet items

20.94 Off-balance sheet items will be converted into credit exposure equivalents through the use of credit conversion factors (CCF). In the case of commitments, the committed but undrawn amount of the exposure would be multiplied by the CCF. For these purposes, commitment means any contractual arrangement that has been offered by the bank and accepted by the client to extend credit, purchase assets or issue credit substitutes.[43] It includes any such arrangement that can be unconditionally cancelled by the bank at any time without prior notice to the obligor. It also includes any such arrangement that can be cancelled by the bank if the obligor fails to meet conditions set out in the facility documentation, including conditions that must be met by the obligor prior to any initial or subsequent drawdown under the arrangement. Counterparty risk weightings for over-the-counter (OTC) derivative transactions will not be subject to any specific ceiling.

Footnotes

[43] *At national discretion, a jurisdiction may exempt certain arrangements from the definition of commitments provided that the following conditions are met: (i) the bank receives no fees or commissions to establish or maintain the arrangements; (ii) the client is required to apply to the bank for the initial and each subsequent drawdown; (iii) the bank has full authority, regardless of the fulfilment by the client of the conditions set out in the facility documentation, over the execution of each drawdown; and (iv) the bank's decision on the execution of each drawdown is only made after assessing the creditworthiness of the client immediately prior to drawdown. Exempted arrangements that meet the above criteria are limited to certain arrangements for corporates and SMEs, where counterparties are closely monitored on an ongoing basis.*

20.95 A 100% CCF will be applied to the following items:

(1) Direct credit substitutes, eg general guarantees of indebtedness (including standby letters of credit serving as financial guarantees for loans and securities) and acceptances (including endorsements with the character of acceptances).

(2) Sale and repurchase agreements and asset sales with recourse[44] where the credit risk remains with the bank.

(3) The lending of banks' securities or the posting of securities as collateral by banks, including instances where these arise out of repo-style transactions (ie repurchase/reverse repurchase and securities lending/securities borrowing transactions). The risk-weighting treatment for counterparty credit risk must be applied in addition to the credit risk charge on the securities or posted collateral, where the credit risk of the securities lent or posted as collateral remains with the bank. This paragraph does not apply to posted collateral related to derivative transactions that is treated in accordance with the counterparty credit risk standards.

(4) Forward asset purchases, forward forward deposits and partly paid shares and securities,[45] which represent commitments with certain drawdown.

(5) Off-balance sheet items that are credit substitutes not explicitly included in any other category.

Footnotes

[44] *These items are to be weighted according to the type of asset and not according to the type of counterparty with whom the transaction has been entered into.*

[45] *These items are to be weighted according to the type of asset and not according to the type of counterparty with whom the transaction has been entered into.*

20.96 A 50% CCF will be applied to note issuance facilities and revolving underwriting facilities regardless of the maturity of the underlying facility.

20.97 A 50% CCF will be applied to certain transaction-related contingent items (eg performance bonds, bid bonds, warranties and standby letters of credit related to particular transactions).

20.98 A 40% CCF will be applied to commitments, regardless of the maturity of the underlying facility, unless they qualify for a lower CCF.

20.99 A 20% CCF will be applied to both the issuing and confirming banks of short-term self-liquidating trade letters of credit arising from the movement of goods (eg documentary credits collateralised by the underlying shipment). Short term in this context means with a maturity below one year.

20.100 A 10% CCF will be applied to commitments that are unconditionally cancellable at any time by the bank without prior notice, or that effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness. National supervisors should evaluate various factors in the jurisdiction, which may constrain banks' ability to cancel the commitment in practice, and consider applying a higher CCF to certain commitments as appropriate.

20.101 Where there is an undertaking to provide a commitment on an off-balance sheet item, banks are to apply the lower of the two applicable CCFs.[46]

Footnotes

[46] *For example, if a bank has a commitment to open short-term self-liquidating trade letters of credit arising from the movement of goods, a 20% CCF will be applied (instead of a 40% CCF); and if a bank has an unconditionally cancellable commitment described in CRE20.100 to issue direct credit substitutes, a 10% CCF will be applied (instead of a 100% CCF).*

Exposures that give rise to counterparty credit risk

20.102 For exposures that give rise to counterparty credit risk according to CRE51.4 (ie OTC derivatives, exchange-traded derivatives, long settlement transactions and securities financing transactions), the exposure amount to be used in the determination of RWA is to be calculated under the rules set out in CRE50 to CRE54.

Credit derivatives

20.103 A bank providing credit protection through a first-to-default or second-to-default credit derivative is subject to capital requirements on such instruments. For first-to-default credit derivatives, the risk weights of the assets included in the basket must be aggregated up to a maximum of 1250% and multiplied by the nominal amount of the protection provided by the credit derivative to obtain the risk-weighted asset amount. For second-to-default credit derivatives, the treatment is similar; however, in aggregating the risk weights, the asset with the lowest risk-weighted amount can be excluded from the calculation. This treatment applies respectively for nth-to-default credit derivatives, for which the n-1 assets with the lowest risk-weighted amounts can be excluded from the calculation.

Defaulted exposures

20.104 For risk-weighting purposes under the standardised approach, a defaulted exposure is defined as one that is past due for more than 90 days, or is an exposure to a defaulted borrower. A defaulted borrower is a borrower in respect of whom any of the following events have occurred:

(1) Any material credit obligation that is past due for more than 90 days. Overdrafts will be considered as being past due once the customer has breached an advised limit or been advised of a limit smaller than current outstandings;

(2) Any material credit obligation is on non-accrued status (eg the lending bank no longer recognises accrued interest as income or, if recognised, makes an equivalent amount of provisions);

(3) A write-off or account-specific provision is made as a result of a significant perceived decline in credit quality subsequent to the bank taking on any credit exposure to the borrower;

(4) Any credit obligation is sold at a material credit-related economic loss;

(5) A distressed restructuring of any credit obligation (ie a restructuring that may result in a diminished financial obligation caused by the material forgiveness, or postponement, of principal, interest or (where relevant) fees) is agreed by the bank;

(6) The borrower's bankruptcy or a similar order in respect of any of the borrower's credit obligations to the banking group has been filed;

(7) The borrower has sought or has been placed in bankruptcy or similar protection where this would avoid or delay repayment of any of the credit obligations to the banking group; or

(8) Any other situation where the bank considers that the borrower is unlikely to pay its credit obligations in full without recourse by the bank to actions such as realising security.

20.105 For retail exposures, the definition of default can be applied at the level of a particular credit obligation, rather than at the level of the borrower. As such, default by a borrower on one obligation does not require a bank to treat all other obligations to the banking group as defaulted.

20.106 With the exception of residential real estate exposures treated under CRE20.107, the unsecured or unguaranteed portion of a defaulted exposure shall be risk-weighted net of specific provisions and partial write-offs as follows:

(1) 150% risk weight when specific provisions are less than 20% of the outstanding amount of the loan; and

(2) 100% risk weight when specific provisions are equal or greater than 20% of the outstanding amount of the loan.[47]

Footnotes

[47] *National supervisors have discretion to reduce the risk weight to 50% when specific provisions are no less than 50% of the outstanding amount of the loan.*

20.107 Defaulted residential real estate exposures where repayments do not materially depend on cash flows generated by the property securing the loan shall be risk-weighted net of specific provisions and partial write-offs at 100%. Guarantees or financial collateral which are eligible according to the credit risk mitigation framework might be taken into account in the calculation of the exposure in accordance with CRE20.76.

20.108 For the purpose of defining the secured or guaranteed portion of the defaulted exposure, eligible collateral and guarantees will be the same as for credit risk mitigation purposes (see CRE22).

Other assets

20.109 CAP30.32 specifies a deduction treatment for the following exposures: significant investments in the common shares of unconsolidated financial institutions, mortgage servicing rights, and deferred tax assets that arise from temporary differences. The exposures are deducted in the calculation of Common Equity Tier 1 if they exceed the thresholds set out in CAP30.32 and CAP30.33. A 250% risk weight applies to the amount of the three "threshold deduction" items listed in CAP30.32 that are not deducted by CAP30.32 or CAP30.33.

20.110 The standard risk weight for all other assets will be 100%, with the exception of the following exposures:

(1) A 0% risk weight will apply to:

(a) cash owned and held at the bank or in transit; and

(b) gold bullion held at the bank or held in another bank on an allocated basis, to the extent the gold bullion assets are backed by gold bullion liabilities.

(2) A 20% risk weight will apply to cash items in the process of collection.

FAQ

FAQ1 *In 2016, the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) revised the accounting for lease transactions. Both require that most leases will be reflected on a lessee's balance sheet as an obligation to make lease payments (a liability) and a related right-of-use (ROU) asset (an asset). According to FAQ2 of CAP30.7, an ROU asset should not be deducted from regulatory capital so long as the underlying asset being leased is a tangible asset. When the ROU asset is not deducted from regulatory capital, should it be included in RWA and, if so, what risk weight should apply?*

Yes, the ROU asset should be included in RWA. The intent of the revisions to the lease accounting standards was to more appropriately reflect the economics of leasing transactions, including both the lessee's obligation to make future lease payments, as well as an ROU asset reflecting the lessee's control over the leased item's economic benefits during the lease term. The ROU asset should be risk-weighted at 100%, consistent with the risk weight applied historically to owned tangible assets and to a lessee's leased assets under leases accounted for as finance leases in accordance with existing accounting standards.

CRE21

Standardised approach: use of external ratings

This chapter sets out for the standardised approach to credit risk the conditions to recognise an external credit assessment institution and related implementation considerations.

Version effective as of 01 Jan 2023

Changes due to the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020.

Recognition of external ratings by national supervisors

The recognition process

21.1 In jurisdictions that allow the use of external ratings for regulatory purposes, only credit assessments from credit rating agencies recognised as external credit assessment institutions (ECAIs) will be allowed. National supervisors are responsible for determining on a continuous basis whether an ECAI meets the criteria listed in CRE21.2 and recognition should only be provided in respect of ECAI ratings for types of exposure where all criteria and conditions are met. National supervisors should also take into account the criteria and conditions provided in the International Organization of Securities Commissions' Code of Conduct Fundamentals for Credit Rating Agencies[1] when determining ECAI eligibility. The supervisory process for recognising ECAIs should be made public to avoid unnecessary barriers to entry.

Footnotes

[1] *Available at www.iosco.org/library/pubdocs/pdf/IOSCOPD482.pdf .*

Eligibility criteria

21.2 An ECAI must satisfy each of the following eight criteria.

(1) Objectivity: The methodology for assigning external ratings must be rigorous, systematic, and subject to some form of validation based on historical experience. Moreover, external ratings must be subject to ongoing review and responsive to changes in financial condition. Before being recognised by supervisors, a rating methodology for each market segment, including rigorous backtesting, must have been established for at least one year and preferably three years.

(2) Independence: An ECAI should be independent and should not be subject to political or economic pressures that may influence the rating. In particular, an ECAI should not delay or refrain from taking a rating action based on its potential effect (economic, political or otherwise). The rating process should be as free as possible from any constraints that could arise in situations where the composition of the board of directors or the shareholder structure of the credit rating agency may be seen as creating a conflict of interest. Furthermore, an ECAI should separate operationally, legally and, if practicable, physically its rating business from other businesses and analysts.

(3) International access/transparency: The individual ratings, the key elements underlining the ratings assessments and whether the issuer participated in the rating process should be publicly available on a non-selective basis, unless they are private ratings, which should be at least available to both domestic and foreign institutions with legitimate interest and on equivalent terms. In addition, the ECAI's general procedures, methodologies and assumptions for arriving at ratings should be publicly available.

(4) Disclosure: An ECAI should disclose the following information: its code of conduct; the general nature of its compensation arrangements with assessed entities; any conflict of interest, the ECAI's compensation arrangements, its rating assessment methodologies, including the definition of default, the time horizon, and the meaning of each rating; the actual default rates experienced in each assessment category; and the transitions of the ratings, eg the likelihood of AA ratings becoming A over time. A rating should be disclosed as soon as practicably possible after issuance. When disclosing a rating, the information should be provided in plain language, indicating the nature and limitation of credit ratings and the risk of unduly relying on them to make investments.

(5) Resources: An ECAI should have sufficient resources to carry out high-quality credit assessments. These resources should allow for substantial ongoing contact with senior and operational levels within the entities assessed in order to add value to the credit assessments. In particular, ECAIs should assign analysts with appropriate knowledge and experience to assess the creditworthiness of the type of entity or obligation being rated. Such assessments should be based on methodologies combining qualitative and quantitative approaches.

(6) Credibility: To some extent, credibility is derived from the criteria above. In addition, the reliance on an ECAI's external ratings by independent parties (investors, insurers, trading partners) is evidence of the credibility of the ratings of an ECAI. The credibility of an ECAI is also underpinned by the existence of internal procedures to prevent the misuse of confidential information. In order to be eligible for recognition, an ECAI does not have to assess firms in more than one country.

(7) No abuse of unsolicited ratings: ECAIs must not use unsolicited ratings to put pressure on entities to obtain solicited ratings. Supervisors should consider whether to continue recognising such ECAIs as eligible for capital adequacy purposes, if such behaviour is identified.

(8) Cooperation with the supervisor: ECAIs should notify the supervisor of significant changes to methodologies and provide access to external ratings and other relevant data in order to support initial and continued determination of eligibility.

21.3 Regarding the disclosure of conflicts of interest referenced in CRE21.2(4) above, at a minimum, the following situations and their influence on the ECAI's credit rating methodologies or credit rating actions shall be disclosed:

(1) The ECAI is being paid to issue a credit rating by the rated entity or by the obligor, originator, underwriter, or arranger of the rated obligation;

(2) The ECAI is being paid by subscribers with a financial interest that could be affected by a credit rating action of the ECAI;

(3) The ECAI is being paid by rated entities, obligors, originators, underwriters, arrangers, or subscribers for services other than issuing credit ratings or providing access to the ECAI's credit ratings;

(4) The ECAI is providing a preliminary indication or similar indication of credit quality to an entity, obligor, originator, underwriter, or arranger prior to being hired to determine the final credit rating for the entity, obligor, originator, underwriter, or arranger; and

(5) The ECAI has a direct or indirect ownership interest in a rated entity or obligor, or a rated entity or obligor has a direct or indirect ownership interest in the ECAI.

21.4 Regarding the disclosure of an ECAI's compensation arrangements referenced in CRE21.2(4) above:

(1) An ECAI should disclose the general nature of its compensation arrangements with rated entities, obligors, lead underwriters, or arrangers.

(2) When the ECAI receives from a rated entity, obligor, originator, lead underwriter, or arranger compensation unrelated to its credit rating services, the ECAI should disclose such unrelated compensation as a percentage of total annual compensation received from such rated entity, obligor, lead underwriter, or arranger in the relevant credit rating report or elsewhere, as appropriate.

(3) An ECAI should disclose in the relevant credit rating report or elsewhere, as appropriate, if it receives 10% or more of its annual revenue from a single client (eg a rated entity, obligor, originator, lead underwriter, arranger, or subscriber, or any of their affiliates).

Implementation considerations in jurisdictions that allow use of external ratings for regulatory purposes

The mapping process

21.5 Supervisors will be responsible for assigning eligible ECAIs' ratings to the risk weights available under the standardised risk weighting framework, ie deciding which rating categories correspond to which risk weights. The mapping process should be objective and should result in a risk weight assignment consistent with that of the level of credit risk reflected in the tables above. It should cover the full spectrum of risk weights.

21.6 When conducting such a mapping process, factors that supervisors should assess include, among others, the size and scope of the pool of issuers that each ECAI covers, the range and meaning of the ratings that it assigns, and the definition of default used by the ECAI.

21.7 In order to promote a more consistent mapping of ratings into the available risk weights and help supervisors in conducting such a process, *Standardised approach - implementing the mapping process (April 2019)* provides guidance as to how such a mapping process may be conducted.

21.8 Banks must use the chosen ECAIs and their ratings consistently for all types of exposure where they have been recognised by their supervisor as an eligible ECAI, for both risk-weighting and risk management purposes. Banks are not allowed to "cherry-pick" the ratings provided by different ECAIs and to arbitrarily change the use of ECAIs.

Multiple external ratings

21.9 If there is only one rating by an ECAI chosen by a bank for a particular exposure, that rating should be used to determine the risk weight of the exposure.

21.10 If there are two ratings by ECAIs chosen by a bank that map into different risk weights, the higher risk weight will be applied.

21.11 If there are three or more ratings with different risk weights, the two ratings that correspond to the lowest risk weights should be referred to. If these give rise to the same risk weight, that risk weight should be applied. If different, the higher risk weight should be applied.

Determination of whether an exposure is rated: Issue-specific and issuer ratings

21.12 Where a bank invests in a particular issue that has an issue-specific rating, the risk weight of the exposure will be based on this rating. Where the bank's exposure is not an investment in a specific rated issue, the following general principles apply.

(1) In circumstances where the borrower has a specific rating for an issued debt – but the bank's exposure is not an investment in this particular debt – a high-quality credit rating (one which maps into a risk weight lower than that which applies to an unrated exposure) on that specific debt may only be applied to the bank's unrated exposure if this exposure ranks in all respects pari passu or senior to the exposure with a rating. If not, the external rating cannot be used and the unassessed exposure will receive the risk weight for unrated exposures.

(2) In circumstances where the borrower has an issuer rating, this rating typically applies to senior unsecured exposures to that issuer. Consequently, only senior exposures to that issuer will benefit from a high-quality issuer rating. Other unassessed exposures of a highly rated issuer will be treated as unrated. If either the issuer or a single issue has a low-quality rating (mapping into a risk weight equal to or higher than that which applies to unrated exposures), an unassessed exposure to the same counterparty that ranks pari passu or is subordinated to either the senior unsecured issuer rating or the exposure with a low-quality rating will be assigned the same risk weight as is applicable to the low-quality rating.

(3) In circumstances where the issuer has a specific high-quality rating (one which maps into a lower risk weight) that only applies to a limited class of liabilities (such as a deposit rating or a counterparty risk rating), this may only be used in respect of exposures that fall within that class.

21.13 Whether the bank intends to rely on an issuer- or an issue-specific rating, the rating must take into account and reflect the entire amount of credit risk exposure the bank has with regard to all payments owed to it. For example, if a bank is owed both principal and interest, the rating must fully take into account and reflect the credit risk associated with repayment of both principal and interest.

21.14

In order to avoid any double-counting of credit enhancement factors, no supervisory recognition of credit risk mitigation techniques will be taken into account if the credit enhancement is already reflected in the issue specific rating (see CRE22.5).

Domestic currency and foreign currency ratings

21.15 Where exposures are risk-weighted based on the rating of an equivalent exposure to that borrower, the general rule is that foreign currency ratings would be used for exposures in foreign currency. Domestic currency ratings, if separate, would only be used to risk-weight exposures denominated in the domestic currency.[2]

Footnotes

[2] *However, when an exposure arises through a bank's participation in a loan that has been extended, or has been guaranteed against convertibility and transfer risk, by certain multilateral development banks (MDBs), its convertibility and transfer risk can be considered by national supervisors to be effectively mitigated. To qualify, MDBs must have preferred creditor status recognised in the market and be included in the first footnote to CRE20.14. In such cases, for risk-weighting purposes, the borrower's domestic currency rating may be used instead of its foreign currency rating. In the case of a guarantee against convertibility and transfer risk, the local currency rating can be used only for the portion that has been guaranteed. The portion of the loan not benefiting from such a guarantee will be risk-weighted based on the foreign currency rating.*

Short-term/long-term ratings

21.16 For risk-weighting purposes, short-term ratings are deemed to be issue-specific. They can only be used to derive risk weights for exposures arising from the rated facility. They cannot be generalised to other short-term exposures, except under the conditions of CRE21.18. In no event can a short-term rating be used to support a risk weight for an unrated long-term exposure. Short-term ratings may only be used for short-term exposures against banks and corporates. The table[3] [4] below provides a framework for banks' exposures to specific short-term facilities, such as a particular issuance of commercial paper:

Risk weight table for specific short-term ratings Table 15

External rating	A-1/P-1	A-2/P-2	A-3/P-3	Others
Risk weight	20%	50%	100%	150%

Footnotes

[3] *The notations follow the methodology used by S&P and by Moody's Investors Service. The A-1 rating of S&P includes both A-1+ and A-1–.*

[4] *The "others" category includes all non-prime and B or C ratings.*

21.17 If a short-term rated facility attracts a 50% risk-weight, unrated short-term exposures cannot attract a risk weight lower than 100%. If an issuer has a short-term facility with an external rating that warrants a risk weight of 150%, all unrated exposures, whether long-term or short-term, should also receive a 150% risk weight, unless the bank uses recognised credit risk mitigation techniques for such exposures.

21.18 In cases where short-term ratings are available, the following interaction with the general preferential treatment for short-term exposures to banks as described in CRE20.19 will apply:

(1) The general preferential treatment for short-term exposures applies to all exposures to banks of up to three months original maturity when there is no specific short-term exposure rating.

(2) When there is a short-term rating and such a rating maps into a risk weight that is more favourable (ie lower) or identical to that derived from the general preferential treatment, the short-term rating should be used for the specific exposure only. Other short-term exposures would benefit from the general preferential treatment.

(3) When a specific short-term rating for a short term exposure to a bank maps into a less favourable (higher) risk weight, the general short-term preferential treatment for interbank exposures cannot be used. All unrated short-term exposures should receive the same risk weighting as that implied by the specific short-term rating.

21.19

When a short-term rating is to be used, the institution making the assessment needs to meet all of the eligibility criteria for recognising ECAIs, as described in CRE21.2, in terms of its short-term ratings.

Level of application of the rating

21.20 External ratings for one entity within a corporate group cannot be used to risk-weight other entities within the same group.

Use of unsolicited ratings

21.21 As a general rule, banks should use solicited ratings from eligible ECAIs. National supervisors may allow banks to use unsolicited ratings in the same way as solicited ratings if they are satisfied that the credit assessments of unsolicited ratings are not inferior in quality to the general quality of solicited ratings.

CRE22

Standardised approach: credit risk mitigation

This chapter sets out the standardised approaches for the recognition of credit risk mitigation, such as collateral and guarantees.

Version effective as of 01 Jan 2023

Changes due to the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020. Also, cross references to the securitisation chapters updated to include a reference to the chapter on NPL securitisations (CRE45) published on 26 November 2020.

Overarching issues

Introduction

22.1 Banks use a number of techniques to mitigate the credit risks to which they are exposed. For example, exposures may be collateralised by first-priority claims, in whole or in part with cash or securities, a loan exposure may be guaranteed by a third party, or a bank may buy a credit derivative to offset various forms of credit risk. Additionally banks may agree to net loans owed to them against deposits from the same counterparty.[1]

Footnotes

[1] *In this section, "counterparty" is used to denote a party to whom a bank has an on- or off-balance sheet credit exposure. That exposure may, for example, take the form of a loan of cash or securities (where the counterparty would traditionally be called the borrower), of securities posted as collateral, of a commitment or of exposure under an over-the-counter (OTC) derivatives contract.*

22.2 The framework set out in this chapter is applicable to banking book exposures that are risk-weighted under the standardised approach.

General requirements

22.3 No transaction in which credit risk mitigation (CRM) techniques are used shall receive a higher capital requirement than an otherwise identical transaction where such techniques are not used.

22.4 The requirements of the disclosure standard (DIS40) must be fulfilled for banks to obtain capital relief in respect of any CRM techniques.

22.5 The effects of CRM must not be double-counted. Therefore, no additional supervisory recognition of CRM for regulatory capital purposes will be granted on exposures for which the risk weight already reflects that CRM. Consistent with CRE21.13, principal-only ratings will also not be allowed within the CRM framework.

22.6 While the use of CRM techniques reduces or transfers credit risk, it may simultaneously increase other risks (ie residual risks). Residual risks include legal, operational, liquidity and market risks. Therefore, banks must employ robust procedures and processes to control these risks, including strategy; consideration of the underlying credit; valuation; policies and procedures; systems; control of roll-off risks; and management of concentration risk arising from the bank's use of CRM techniques and its interaction with the bank's overall credit risk profile. Where these risks are not adequately controlled, supervisors may impose additional capital charges or take other supervisory actions as outlined in the supervisory review process standard (SRP).

22.7 In order for CRM techniques to provide protection, the credit quality of the counterparty must not have a material positive correlation with the employed CRM technique or with the resulting residual risks (as defined in CRE22.6). For example, securities issued by the counterparty (or by any counterparty-related entity) provide little protection as collateral and are thus ineligible.

22.8 In the case where a bank has multiple CRM techniques covering a single exposure (eg a bank has both collateral and a guarantee partially covering an exposure), the bank must subdivide the exposure into portions covered by each type of CRM technique (eg portion covered by collateral, portion covered by guarantee) and the risk-weighted assets of each portion must be calculated separately. When credit protection provided by a single protection provider has differing maturities, they must be subdivided into separate protection as well.

Legal requirements

22.9 In order for banks to obtain capital relief for any use of CRM techniques, all documentation used in collateralised transactions, on-balance sheet netting agreements, guarantees and credit derivatives must be binding on all parties and legally enforceable in all relevant jurisdictions. Banks must have conducted sufficient legal review to verify this and have a well-founded legal basis to reach this conclusion, and undertake such further review as necessary to ensure continuing enforceability.

General treatment of maturity mismatches

22.10 For the purposes of calculating risk-weighted assets, a maturity mismatch occurs when the residual maturity of a credit protection arrangement (eg hedge) is less than that of the underlying exposure.

22.11 In the case of financial collateral, maturity mismatches are not allowed under the simple approach (see CRE22.33).

22.12 Under the other approaches, when there is a maturity mismatch the credit protection arrangement may only be recognised if the original maturity of the arrangement is greater than or equal to one year, and its residual maturity is greater than or equal to three months. In such cases, credit risk mitigation may be partially recognised as detailed below in CRE22.13.

22.13 When there is a maturity mismatch with recognised credit risk mitigants, the following adjustment applies, where:

(1) P_a = value of the credit protection adjusted for maturity mismatch

(2) P = credit protection amount (eg collateral amount, guarantee amount) adjusted for any haircuts

(3) t = min {T, residual maturity of the credit protection arrangement expressed in years}

(4) T = min {five years, residual maturity of the exposure expressed in years}

$$P_a = P \cdot \frac{t - 0.25}{T - 0.25}$$

22.14 The maturity of the underlying exposure and the maturity of the hedge must both be defined conservatively. The effective maturity of the underlying must be gauged as the longest possible remaining time before the counterparty is scheduled to fulfil its obligation, taking into account any applicable grace period. For the hedge, (embedded) options that may reduce the term of the hedge must be taken into account so that the shortest possible effective maturity is used. For example: where, in the case of a credit derivative, the protection seller has a call option, the maturity is the first call date. Likewise, if the protection buyer owns the call option and has a strong incentive to call the transaction at the first call date, for example because of a step-up in cost from this date on, the effective maturity is the remaining time to the first call date.

Currency mismatches

22.15 Currency mismatches are allowed under all approaches. Under the simple approach there is no specific treatment for currency mismatches, given that a minimum risk weight of 20% (floor) is generally applied. Under the comprehensive approach and in case of guarantees and credit derivatives, a specific adjustment for currency mismatches is prescribed in CRE22.52 and CRE22.82 to CRE22.83, respectively.

Overview of credit risk mitigation techniques

Collateralised transactions

22.16 A collateralised transaction is one in which:

(1) banks have a credit exposure or a potential credit exposure; and

(2) that credit exposure or potential credit exposure is hedged in whole or in part by collateral posted by a counterparty or by a third party on behalf of the counterparty.

22.17 Where banks take eligible financial collateral, they may reduce their regulatory capital requirements through the application of CRM techniques.[2]

Footnotes

[2] *Alternatively, banks with appropriate supervisory approval may instead use the internal models method for counterparty credit risk (CRE53) to determine the exposure amount, taking into account collateral.*

22.18 Banks may opt for either:

(1) The simple approach, which replaces the risk weight of the counterparty with the risk weight of the collateral for the collateralised portion of the exposure (generally subject to a 20% floor); or

(2) The comprehensive approach, which allows a more precise offset of collateral against exposures, by effectively reducing the exposure amount by a volatility-adjusted value ascribed to the collateral.

22.19 Detailed operational requirements for both the simple approach and comprehensive approach are given in CRE22.32 to CRE22.65. Banks may operate under either, but not both, approaches in the banking book.

22.20 For collateralised OTC transactions, exchange traded derivatives and long settlement transactions, banks may use the standardised approach for counterparty credit risk (CRE52) or the internal models method (CRE53) to calculate the exposure amount, in accordance with CRE22.66 to CRE22.67.

On-balance sheet netting

22.21

Where banks have legally enforceable netting arrangements for loans and deposits that meet the conditions in CRE22.68 and CRE22.69 they may calculate capital requirements on the basis of net credit exposures as set out in that paragraph.

Guarantees and credit derivatives

22.22 Where guarantees or credit derivatives fulfil the minimum operational conditions set out in CRE22.70 to CRE22.72, banks may take account of the credit protection offered by such credit risk mitigation techniques in calculating capital requirements.

22.23 A range of guarantors and protection providers are recognised and a substitution approach applies for capital requirement calculations. Only guarantees issued by or protection provided by entities with a lower risk weight than the counterparty lead to reduced capital charges for the guaranteed exposure, since the protected portion of the counterparty exposure is assigned the risk weight of the guarantor or protection provider, whereas the uncovered portion retains the risk weight of the underlying counterparty.

22.24 Detailed conditions and operational requirements for guarantees and credit derivatives are given in CRE22.70 to CRE22.84.

Collateralised transactions

General requirements

22.25 Before capital relief is granted in respect of any form of collateral, the standards set out below in CRE22.26 to CRE22.31 must be met, irrespective of whether the simple or the comprehensive approach is used. Banks that lend securities or post collateral must calculate capital requirements for both of the following: (i) the credit risk or market risk of the securities, if this remains with the bank; and (ii) the counterparty credit risk arising from the risk that the borrower of the securities may default.

22.26 The legal mechanism by which collateral is pledged or transferred must ensure that the bank has the right to liquidate or take legal possession of it, in a timely manner, in the event of the default, insolvency or bankruptcy (or one or more otherwise-defined credit events set out in the transaction documentation) of the counterparty (and, where applicable, of the custodian holding the collateral). Additionally, banks must take all steps necessary to fulfil those requirements under the law applicable to the bank's interest in the collateral for obtaining and maintaining an enforceable security interest, eg by registering it with a registrar, or for exercising a right to net or set off in relation to the title transfer of the collateral.

22.27 Banks must have clear and robust procedures for the timely liquidation of collateral to ensure that any legal conditions required for declaring the default of the counterparty and liquidating the collateral are observed, and that collateral can be liquidated promptly.

22.28 Banks must ensure that sufficient resources are devoted to the orderly operation of margin agreements with OTC derivative and securities-financing counterparties, as measured by the timeliness and accuracy of its outgoing margin calls and response time to incoming margin calls. Banks must have collateral risk management policies in place to control, monitor and report:

(1) the risk to which margin agreements expose them (such as the volatility and liquidity of the securities exchanged as collateral);

(2) the concentration risk to particular types of collateral;

(3) the reuse of collateral (both cash and non-cash) including the potential liquidity shortfalls resulting from the reuse of collateral received from counterparties; and

(4) the surrender of rights on collateral posted to counterparties.

22.29 Where the collateral is held by a custodian, banks must take reasonable steps to ensure that the custodian segregates the collateral from its own assets.

22.30 A capital requirement must be applied on both sides of a transaction. For example, both repos and reverse repos will be subject to capital requirements. Likewise, both sides of a securities lending and borrowing transaction will be subject to explicit capital charges, as will the posting of securities in connection with derivatives exposures or with any other borrowing transaction.

22.31 Where a bank, acting as an agent, arranges a repo-style transaction (ie repurchase /reverse repurchase and securities lending/borrowing transactions) between a customer and a third party and provides a guarantee to the customer that the third party will perform on its obligations, then the risk to the bank is the same as

if the bank had entered into the transaction as a principal. In such circumstances, a bank must calculate capital requirements as if it were itself the principal.

The simple approach : general requirements

22.32 Under the simple approach, the risk weight of the counterparty is replaced by the risk weight of the collateral instrument collateralising or partially collateralising the exposure.

22.33 For collateral to be recognised in the simple approach, it must be pledged for at least the life of the exposure and it must be marked to market and revalued with a minimum frequency of six months. Those portions of exposures collateralised by the market value of recognised collateral receive the risk weight applicable to the collateral instrument. The risk weight on the collateralised portion is subject to a floor of 20% except under the conditions specified in CRE22.36 to CRE22.39. The remainder of the exposure must be assigned the risk weight appropriate to the counterparty. Maturity mismatches are not allowed under the simple approach (see CRE22.10 to CRE22.11).

The simple approach: eligible financial collateral

22.34 The following collateral instruments are eligible for recognition in the simple approach:

(1) Cash (as well as certificates of deposit or comparable instruments issued by the lending bank) on deposit with the bank that is incurring the counterparty exposure.[3] [4]

(2) Gold.

(3) In jurisdictions that allow the use of external ratings for regulatory purposes:

(a) Debt securities rated[5] by a recognised external credit assessment institution (ECAI) where these are either:

(i) at least BB– when issued by sovereigns or public sector entities (PSEs) that are treated as sovereigns by the national supervisor; or

(ii) at least BBB– when issued by other entities (including banks and other prudentially regulated financial institutions); or

(iii) at least A-3/P-3 for short-term debt instruments.

(b) Debt securities not rated by a recognised ECAI where these are:

(i) issued by a bank; and

(ii) listed on a recognised exchange; and

(iii) classified as senior debt; and

(iv) all rated issues of the same seniority by the issuing bank are rated at least BBB– or A-3/P-3 by a recognised ECAI; and

(v) the bank holding the securities as collateral has no information to suggest that the issue justifies a rating below BBB– or A-3/P-3 (as applicable); and

(vi) the supervisor is sufficiently confident that the market liquidity of the security is adequate.

(4) In jurisdictions that do not allow the use of external ratings for regulatory purposes, the following securities will be eligible provided that the supervisor is sufficiently confident that the market liquidity of the security is adequate:

(a) Debt securities issued by sovereigns or PSEs that are treated as sovereigns by the national supervisor;

(b) Debt securities issued by banks assigned to Grade A under the standardised credit risk assessment approach;

(c) Other debt securities issued by "investment grade" entities as defined in CRE22.76, and

(d) Securitisation exposures with a risk weight of less than 100% in the Securitisation Standardised Approach set out in CRE41.

(5) Equities (including convertible bonds) that are included in a main index.

(6) Undertakings for Collective Investments in Transferable Securities (UCITS) and mutual funds where:

(a) a price for the units is publicly quoted daily; and

(b) the UCITS/mutual fund is limited to investing in the instruments listed in this paragraph.[6]

Footnotes

[3] *Cash-funded credit-linked notes issued by the bank against exposures in the banking book that fulfil the criteria for credit derivatives are treated as cash-collateralised transactions.*

[4] *When cash on deposit, certificates of deposit or comparable instruments issued by the lending bank are held as collateral at a third-party bank in a non-custodial arrangement, if they are openly pledged /assigned to the lending bank and if the pledge/assignment is unconditional and irrevocable, the exposure amount covered by the collateral (after any necessary haircuts for currency risk) receives the risk weight of the third-party bank.*

[5] *When debt securities that do not have an issue specific rating are issued by a rated sovereign, banks may treat the sovereign issuer rating as the rating of the debt security.*

[6] *However, the use or potential use by a UCITS/mutual fund of derivative instruments solely to hedge investments listed in this paragraph and CRE22.45 shall not prevent units in that UCITS/mutual fund from being eligible financial collateral.*

22.35 Resecuritisations as defined in the securitisation chapters (CRE40 to CRE45) are not eligible financial collateral.

Simple approach: exemptions to the risk-weight floor

22.36 Repo-style transactions that fulfil all of the following conditions are exempted from the risk-weight floor under the simple approach:

(1) Both the exposure and the collateral are cash or a sovereign security or PSE security qualifying for a 0% risk weight under the standardised approach (CRE20);

(2) Both the exposure and the collateral are denominated in the same currency;

(3) Either the transaction is overnight or both the exposure and the collateral are marked to market daily and are subject to daily remargining;

(4) Following a counterparty's failure to remargin, the time that is required between the last mark-to-market before the failure to remargin and the liquidation of the collateral is considered to be no more than four business days;

(5) The transaction is settled across a settlement system proven for that type of transaction;

(6) The documentation covering the agreement is standard market documentation for repo-style transactions in the securities concerned;

(7) The transaction is governed by documentation specifying that if the counterparty fails to satisfy an obligation to deliver cash or securities or to deliver margin or otherwise defaults, then the transaction is immediately terminable; and

(8) Upon any default event, regardless of whether the counterparty is insolvent or bankrupt, the bank has the unfettered, legally enforceable right to immediately seize and liquidate the collateral for its benefit.

22.37 Core market participants may include, at the discretion of the national supervisor, the following entities:

(1) Sovereigns, central banks and PSEs;

(2) Banks and securities firms;

(3) Other financial companies (including insurance companies) eligible for a 20% risk weight in the standardised approach;

(4) Regulated mutual funds that are subject to capital or leverage requirements;

(5) Regulated pension funds; and

(6) Qualifying central counterparties.

22.38 Repo transactions that fulfil the requirement in CRE22.36 receive a 10% risk weight, as an exemption to the risk weight floor described in CRE22.33. If the counterparty to the transaction is a core market participant, banks may apply a risk weight of 0% to the transaction.

22.39 The 20% floor for the risk weight on a collateralised transaction does not apply and a 0% risk weight may be applied to the collateralised portion of the exposure where the exposure and the collateral are denominated in the same currency, and either:

(1) the collateral is cash on deposit as defined in CRE22.34(1); or

(2) the collateral is in the form of sovereign/PSE securities eligible for a 0% risk weight, and its market value has been discounted by 20%.

The comprehensive approach : general requirements

22.40 In the comprehensive approach, when taking collateral, banks must calculate their adjusted exposure to a counterparty in order to take account of the risk mitigating effect of that collateral. Banks must use the applicable supervisory haircuts to adjust both the amount of the exposure to the counterparty and the value of any collateral received in support of that counterparty to take account of possible future fluctuations in the value of either,[7] as occasioned by market movements. Unless either side of the transaction is cash or a zero haircut is applied, the volatility-adjusted exposure amount is higher than the nominal exposure and the volatility-adjusted collateral value is lower than the nominal collateral value.

Footnotes

[7] *Exposure amounts may vary where, for example, securities are being lent.*

22.41 The size of the haircuts that banks must use depends on the prescribed holding period for the transaction. For the purposes of CRE22, the holding period is the period of time over which exposure or collateral values are assumed to move before the bank can close out the transaction. The supervisory prescribed minimum holding period is used as the basis for the calculation of the standard supervisory haircuts.

22.42 The holding period, and thus the size of the individual haircuts depends on the type of instrument, type of transaction, residual maturity and the frequency of marking to market and remargining as provided in CRE22.49 to CRE22.51. For example, repo-style transactions subject to daily marking-to-market and to daily remargining will receive a haircut based on a 5-business day holding period and secured lending transactions with daily mark-to-market and no remargining clauses will receive a haircut based on a 20-business day holding period. Haircuts must be scaled up using the square root of time formula depending on the actual frequency of remargining or marking to market. This formula is included in CRE22.59.

22.43 Additionally, where the exposure and collateral are held in different currencies, banks must apply an additional haircut to the volatility-adjusted collateral amount in accordance with CRE22.52 and CRE22.82 to CRE22.83 to take account of possible future fluctuations in exchange rates.

22.44 The effect of master netting agreements covering securities financing transactions (SFTs) can be recognised for the calculation of capital requirements subject to the conditions and requirements in CRE22.62 to CRE22.65. Where SFTs are subject to a master netting agreement whether they are held in the banking book or trading book, a bank may choose not to recognise the netting effects in calculating capital. In that case, each transaction will be subject to a capital charge as if there were no master netting agreement.

The comprehensive approach: eligible financial collateral

22.45 The following collateral instruments are eligible for recognition in the comprehensive approach:

(1) All of the instruments listed in CRE22.34;

(2) Equities and convertible bonds that are not included in a main index but which are listed on a recognised security exchange;

(3) UCITS/mutual funds which include the instruments in point (2).

The comprehensive approach: calculation of capital requirement

22.46 For a collateralised transaction, the exposure amount after risk mitigation is calculated using the formula that follows, where:

(1) E^* = the exposure value after risk mitigation

(2) E = current value of the exposure

(3) H_e = haircut appropriate to the exposure

(4) C = the current value of the collateral received

(5) H_c = haircut appropriate to the collateral

(6) H_{fx} = haircut appropriate for currency mismatch between the collateral and exposure

$$E^* = max\left\{0, E \cdot \left(1 + H_e\right) - C \cdot \left(1 - H_c - H_{fx}\right)\right\}$$

22.47 In the case of maturity mismatches, the value of the collateral received (collateral amount) must be adjusted in accordance with CRE22.10 to CRE22.14.

22.48 The exposure amount after risk mitigation (E^*) must be multiplied by the risk weight of the counterparty to obtain the risk-weighted asset amount for the collateralised transaction.

22.49 In jurisdictions that allow the use of external ratings for regulatory purposes, the following supervisory haircuts (assuming daily mark-to-market, daily remargining and a 10-business day holding period), expressed as percentages, must be used to determine the haircuts appropriate to the collateral (H_c) and to the exposure (H_e):

Supervisory haircuts for comprehensive approach

Jurisdictions that allow the use of external ratings for regulatory purposes

Issue rating for debt securities	Residual maturity	Sovereigns	Other issuers	Securitisation exposures
AAA to AA–/A-1	≤ 1 year	0.5	1	2
	>1 year, ≤ 3 years	2	3	8
	>3 years, ≤ 5 years		4	
	>5 years, ≤ 10 years	4	6	16
	> 10 years		12	
A+ to BBB–/ A-2/A-3/P-3 and unrated bank securities CRE22.34(3)(b)	≤ 1 year	1	2	4
	>1 year, ≤ 3 years	3	4	12
	>3 years, ≤ 5 years		6	
	>5 years, ≤ 10 years	6	12	24
	> 10 years		20	
BB+ to BB–	All	15	Not eligible	Not eligible
Main index equities (including convertible bonds) and gold		20		
Other equities and convertible bonds listed on a recognised exchange		30		
UCITS/mutual funds		Highest haircut applicable to any security in which the fund can invest, unless the bank can apply the look-through approach (LTA) for equity investments in funds, in which case the bank may use a weighted average of haircuts applicable to instruments held by the fund.		

Cash in the same currency	0

22.50 In jurisdictions that do not allow the use of external ratings for regulatory purposes, the following supervisory haircuts (assuming daily mark-to-market, daily remargining and a 10-business day holding period), expressed as percentages, must be used to determine the haircuts appropriate to the collateral (H_c) and to the exposure (H_e):

Supervisory haircuts for comprehensive approach

Jurisdictions that do not allow the use of external ratings for regulatory purposes

<table>
<tr><td rowspan="2"></td><td rowspan="2">Residual maturity</td><td colspan="3">Issuer's risk weight (only for securities issued by sovereigns</td><td colspan="2">Other investment-grade securities, consistent with paragraphs CRE22.34(4)(c)</td></tr>
<tr><td>0%</td><td>20% or 50%</td><td>100%</td><td>Non-securitisation exposures</td><td>Senior securitisation exposures with SA risk weight < 100%</td></tr>
<tr><td rowspan="5">Debt securities</td><td>≤ 1 year</td><td>0.5</td><td>1</td><td>15</td><td>2</td><td>4</td></tr>
<tr><td>> 1 year, ≤ 3 years</td><td rowspan="2">2</td><td rowspan="2">3</td><td rowspan="2">15</td><td>4</td><td rowspan="2">12</td></tr>
<tr><td>> 3 years, ≤ 5 years</td><td>6</td></tr>
<tr><td>> 5 years, ≤ 10 years</td><td rowspan="2">4</td><td rowspan="2">6</td><td rowspan="2">15</td><td>12</td><td rowspan="2">24</td></tr>
<tr><td>> 10 years</td><td>20</td></tr>
<tr><td>Main index equities (including convertible bonds) and gold</td><td colspan="6">20</td></tr>
<tr><td>Other equities and convertible bonds listed on a recognised exchange</td><td colspan="6">30</td></tr>
<tr><td>UCITS/mutual funds</td><td colspan="6">Highest haircut applicable to any security in which the fund can invest, unless the bank can apply the look-through approach (LTA) for equity investments in funds, in which case the bank may use a weighted average of haircuts applicable to instruments held by the fund.</td></tr>
</table>

Cash in the same currency	0
Other exposure types	30

22.51 In paragraphs CRE22.49 to CRE22.50:

(1) "Sovereigns" includes: PSEs that are treated as sovereigns by the national supervisor, as well as multilateral development banks receiving a 0% risk weight.

(2) "Other issuers" includes: PSEs that are not treated as sovereigns by the national supervisor.

(3) "Securitisation exposures" refers to exposures that meet the definition set forth in the securitisation framework.

(4) "Cash in the same currency" refers to eligible cash collateral specified in CRE22.34(1).

22.52 The haircut for currency risk (H_{fx}) where exposure and collateral are denominated in different currencies is 8% (also based on a 10-business day holding period and daily mark-to-market).

22.53 For SFTs and secured lending transactions, a haircut adjustment may need to be applied in accordance with CRE22.56 to CRE22.59.

22.54 For SFTs in which the bank lends, or posts as collateral, non-eligible instruments, the haircut to be applied on the exposure must be 30%. For transactions in which the bank borrows non-eligible instruments, credit risk mitigation may not be applied.

22.55 Where the collateral is a basket of assets, the haircut (H) on the basket must be calculated using the formula that follows, where:

(1) a_i is the weight of the asset (as measured by units of currency) in the basket

(2) H_i the haircut applicable to that asset

$$H = \sum_i a_i H_i$$

The comprehensive approach: adjustment for different holding periods and non-daily mark-to-market or remargining

22.56 For some transactions, depending on the nature and frequency of the revaluation and remargining provisions, different holding periods and thus different haircuts must be applied. The framework for collateral haircuts distinguishes between repo-style transactions (ie repo/reverse repos and securities lending/borrowing), " other capital markets-driven transactions" (ie OTC derivatives transactions and margin lending) and secured lending. In capital-market-driven transactions and repo-style transactions, the documentation contains remargining clauses; in secured lending transactions, it generally does not.

22.57 The minimum holding period for various products is summarised in the following table:

Minimum holding periods

Summary of minimum holding periods and remargining/revaluation periods

Transaction type	Minimum holding period	Minimum remargining /revaluation period
Repo-style transaction	five business days	daily remargining
Other capital market transactions	10 business days	daily remargining
Secured lending	20 business days	daily revaluation

22.58 Regarding the minimum holding periods set out in CRE22.57, if a netting set includes both repo-style and other capital market transactions, the minimum holding period of ten business days must be used. Furthermore, a higher minimum holding period must be used in the following cases:

(1) For all netting sets where the number of trades exceeds 5,000 at any point during a quarter, a 20 business day minimum holding period for the following quarter must be used.

(2) For netting sets containing one or more trades involving illiquid collateral, a minimum holding period of 20 business days must be used. "Illiquid collateral" must be determined in the context of stressed market conditions and will be characterised by the absence of continuously active markets where a counterparty would, within two or fewer days, obtain multiple price quotations that would not move the market or represent a price reflecting a market discount. Examples of situations where trades are deemed illiquid for this purpose include, but are not limited to, trades that are not marked daily and trades that are subject to specific accounting treatment for valuation purposes (eg repo-style transactions referencing securities whose fair value is determined by models with inputs that are not observed in the market).

(3) If a bank has experienced more than two margin call disputes on a particular netting set over the previous two quarters that have lasted longer than the bank's estimate of the margin period of risk (as defined in CRE50.19), then for the subsequent two quarters the bank must use a minimum holding period that is twice the level that would apply excluding the application of this sub-paragraph.

22.59 When the frequency of remargining or revaluation is longer than the minimum, the minimum haircut numbers must be scaled up depending on the actual number of business days between remargining or revaluation. The 10-business day haircuts provided in CRE22.49 to CRE22.51 are the default haircuts and these haircuts must be scaled up or down using the formula below, where:

(1) H = haircut

(2) H_{10} = 10-business day haircut for instrument

(3) T_M = minimum holding period for the type of transaction.

(4) N_R = actual number of business days between remargining for capital market transactions or revaluation for secured transactions

$$H = H_{10}\sqrt{\frac{N_R + (T_M - 1)}{10}}$$

The comprehensive approach: exemptions under the comprehensive approach for qualifying repo-style transactions involving core market participants

22.60 For repo-style transactions with core market participants as defined in CRE22.37 and that satisfy the conditions in CRE22.36 supervisors may apply a haircut of zero.

22.61 Where, under the comprehensive approach, a supervisor applies a specific carve-out to repo-style transactions in securities issued by its domestic government, other supervisors may choose to allow banks incorporated in their jurisdiction to adopt the same approach to the same transactions.

The comprehensive approach: treatment under the comprehensive approach of SFTs covered by master netting agreements

22.62 The effects of bilateral netting agreements covering SFTs may be recognised on a counterparty-by-counterparty basis if the agreements are legally enforceable in each relevant jurisdiction upon the occurrence of an event of default and regardless of whether the counterparty is insolvent or bankrupt. In addition, netting agreements must:

(1) provide the non-defaulting party the right to terminate and close out in a timely manner all transactions under the agreement upon an event of default, including in the event of insolvency or bankruptcy of the counterparty;

(2) provide for the netting of gains and losses on transactions (including the value of any collateral) terminated and closed out under it so that a single net amount is owed by one party to the other;

(3) allow for the prompt liquidation or set-off of collateral upon the event of default; and

(4) be, together with the rights arising from the provisions required in (1) to (3) above, legally enforceable in each relevant jurisdiction upon the occurrence of an event of default and regardless of the counterparty's insolvency or bankruptcy.

22.63 Netting across positions in the banking and trading book may only be recognised when the netted transactions fulfil the following conditions:

(1) All transactions are marked to market daily;[8] and

(2) The collateral instruments used in the transactions are recognised as eligible financial collateral in the banking book.

Footnotes

[8] *The holding period for the haircuts depends, as in other repo-style transactions, on the frequency of margining.*

22.64 The formula in CRE22.65 will be used to calculate the counterparty credit risk capital requirements for SFTs with netting agreements. This formula includes the current exposure, an amount for systematic exposure of the securities based on the net exposure, an amount for the idiosyncratic exposure of the securities based on the gross exposure, and an amount for currency mismatch. All other rules regarding the calculation of haircuts under the comprehensive approach stated in CRE22.40 to CRE22.61 equivalently apply for banks using bilateral netting agreements for SFTs.

22.65 Banks using standard supervisory haircuts for SFTs conducted under a master netting agreement must use the formula that follows to calculate their exposure amount, where:

(1) E^* is the exposure value of the netting set after risk mitigation

(2) E_i is the current value of all cash and securities lent, sold with an agreement to repurchase or otherwise posted to the counterparty under the netting agreement

(3) C_j is the current value of all cash and securities borrowed, purchased with an agreement to resell or otherwise held by the bank under the netting agreement

(4) $$net\,exposure = \left|\sum_s E_s H_s\right|$$

(5) $$gross\,exposure = \sum_s E_s \left|H_s\right|$$

(6) E_s is the net current value of each security issuance under the netting set (always a positive value)

(7) H_s is the haircut appropriate to E_s as described in tables of CRE22.49 to CRE22.51, as applicable

(a) H_s has a positive sign if the security is lent, sold with an agreement to repurchased, or transacted in manner similar to either securities lending or a repurchase agreement

(b) H_s has a negative sign if the security is borrowed, purchased with an agreement to resell, or transacted in a manner similar to either a securities borrowing or reverse repurchase agreement

(8) N is the number of security issues contained in the netting set (except that issuances where the value Es is less than one tenth of the value of the largest Es in the netting set are not included the count)

(9) E_{fx} is the absolute value of the net position in each currency fx different from the settlement currency

(10) H_{fx} is the haircut appropriate for currency mismatch of currency fx

$$E^{*} = max\left\{0; \sum_{i} E_{i} - \sum_{j} C_{j} + 0.4 \cdot net\ exposure + 0.6 \cdot \frac{gross\ exposure}{\sqrt{N}} + \sum_{fx}\left(E_{fx} \cdot H_{fx}\right)\right\}$$

Collateralised OTC derivatives, exchange traded derivatives and long settlement transactions

22.66 Under the standardised approach for counterparty credit risk (SA-CCR, CRE52), the calculation of the counterparty credit risk charge for an individual contract will be calculated using the following formula, where:

(1) Alpha = 1.4

(2) RC = the replacement cost calculated according to CRE52.3 to CRE52.20

(3) PFE = the amount for potential future exposure calculated according to CRE52.21 to CRE52.73

$$Exposure\ amount = alpha \cdot \left(RC + PFE\right)$$

22.67 As an alternative to the SA-CCR for the calculation of the counterparty credit risk charge, banks may also use the internal models method as set out in CRE53, subject to supervisory approval.

On-balance sheet netting

22.68 A bank may use the net exposure of loans and deposits as the basis for its capital adequacy calculation in accordance with the formula in CRE22.46, when the bank:

(1) has a well-founded legal basis for concluding that the netting or offsetting agreement is enforceable in each relevant jurisdiction regardless of whether the counterparty is insolvent or bankrupt;

(2) is able at any time to determine those assets and liabilities with the same counterparty that are subject to the netting agreement;

(3) monitors and controls its roll-off risks; and

(4) monitors and controls the relevant exposures on a net basis,

22.69 When calculating the net exposure described in the paragraph above, assets (loans) are treated as exposure and liabilities (deposits) as collateral. The haircuts are zero except when a currency mismatch exists. A 10-business day holding period applies when daily mark-to-market is conducted. For on-balance sheet netting, the requirements in CRE22.49 and CRE22.59 and CRE22.10 to CRE22.14 must be applied.

Guarantees and credit derivatives

Operational requirements for guarantees and credit derivatives

22.70 If conditions set below are met, banks can substitute the risk weight of the counterparty with the risk weight of the guarantor.

22.71 A guarantee (counter-guarantee) or credit derivative must satisfy the following requirements:

(1) it represents a direct claim on the protection provider;

(2) it is explicitly referenced to specific exposures or a pool of exposures, so that the extent of the cover is clearly defined and incontrovertible;

(3) other than non-payment by a protection purchaser of money due in respect of the credit protection contract it is irrevocable;

(4) there is no clause in the contract that would allow the protection provider unilaterally to cancel the credit cover, change the maturity agreed ex post, or that would increase the effective cost of cover as a result of deteriorating credit quality in the hedged exposure;

(5) it must be unconditional; there should be no clause in the protection contract outside the direct control of the bank that could prevent the protection provider from being obliged to pay out in a timely manner in the event that the underlying counterparty fails to make the payment(s) due.

22.72 In the case of maturity mismatches, the amount of credit protection that is provided must be adjusted in accordance with CRE22.10 to CRE22.14.

Specific operational requirements for guarantees

22.73 In addition to the legal certainty requirements in CRE22.9, in order for a guarantee to be recognised, the following requirements must be satisfied:

(1) On the qualifying default/non-payment of the counterparty, the bank may in a timely manner pursue the guarantor for any monies outstanding under the documentation governing the transaction. The guarantor may make one lump sum payment of all monies under such documentation to the bank, or the guarantor may assume the future payment obligations of the counterparty covered by the guarantee. The bank must have the right to receive any such payments from the guarantor without first having to take legal action in order to pursue the counterparty for payment.

(2) The guarantee is an explicitly documented obligation assumed by the guarantor.

(3) Except as noted in the following sentence, the guarantee covers all types of payments the underlying counterparty is expected to make under the documentation governing the transaction, for example notional amount, margin payments, etc. Where a guarantee covers payment of principal only, interests and other uncovered payments must be treated as an unsecured amount in accordance with the rules for proportional cover described in CRE22.80.

Specific operational requirements for credit derivatives

22.74 In addition to the legal certainty requirements in CRE22.9, in order for a credit derivative contract to be recognised, the following requirements must be satisfied:

(1) The credit events specified by the contracting parties must at a minimum cover:

(a) failure to pay the amounts due under terms of the underlying obligation that are in effect at the time of such failure (with a grace period that is closely in line with the grace period in the underlying obligation);

(b) bankruptcy, insolvency or inability of the obligor to pay its debts, or its failure or admission in writing of its inability generally to pay its debts as they become due, and analogous events; and

(c) restructuring[9] of the underlying obligation involving forgiveness or postponement of principal, interest or fees that results in a credit loss event (ie write-off, specific provision or other similar debit to the profit and loss account).

(2) If the credit derivative covers obligations that do not include the underlying obligation, point (7) below governs whether the asset mismatch is permissible.

(3) The credit derivative shall not terminate prior to expiration of any grace period required for a default on the underlying obligation to occur as a result of a failure to pay. In the case of a maturity mismatch, the provisions of CRE22.10 to CRE22.14 must be applied.

(4) Credit derivatives allowing for cash settlement are recognised for capital purposes insofar as a robust valuation process is in place in order to estimate loss reliably. There must be a clearly specified period for obtaining post-credit-event valuations of the underlying obligation. If the reference obligation specified in the credit derivative for purposes of cash settlement is different from the underlying obligation, section (7) below governs whether the asset mismatch is permissible.

(5) If the protection purchaser's right/ability to transfer the underlying obligation to the protection provider is required for settlement, the terms of the underlying obligation must provide that any required consent to such transfer may not be unreasonably withheld.

(6) The identity of the parties responsible for determining whether a credit event has occurred must be clearly defined. This determination must not be the sole responsibility of the protection seller. The protection buyer must have the right/ability to inform the protection provider of the occurrence of a credit event.

(7) A mismatch between the underlying obligation and the reference obligation under the credit derivative (ie the obligation used for purposes of determining cash settlement value or the deliverable obligation) is permissible if:

   (a) the reference obligation ranks pari passu with or is junior to the underlying obligation; and

   (b) the underlying obligation and reference obligation share the same obligor (ie the same legal entity) and legally enforceable cross-default or cross-acceleration clauses are in place.

(8) A mismatch between the underlying obligation and the obligation used for purposes of determining whether a credit event has occurred is permissible if:

(a) the latter obligation ranks pari passu with or is junior to the underlying obligation; and

(b) the underlying obligation and reference obligation share the same obligor (ie the same legal entity) and legally enforceable cross-default or cross-acceleration clauses are in place.

Footnotes

[9] *When hedging corporate exposures, this particular credit event is not required to be specified provided that: (1) a 100% vote is needed to amend maturity, principal, coupon, currency or seniority status of the underlying corporate exposure; and (2) the legal domicile in which the corporate exposure is governed has a well-established bankruptcy code that allows for a company to reorganise/restructure and provides for an orderly settlement of creditor claims. If these conditions are not met, then the treatment in CRE22.75 may be eligible.*

FAQ

FAQ1 *The conditions outlined in CRE22.74(6) indicates that, in order for a credit derivative contract to be recognised, the identity of the parties responsible for determining whether a credit event has occurred must be clearly defined (the so-called "Determinations Committee"); this determination must not be the sole responsibility of the protection seller; the protection buyer must have the right/ability to inform the protection provider of the occurrence of a credit event. Given the recently developed market practice of the Big Bang Protocol, which all in the credit derivatives industry have signed, how does this protocol affect the recognition of credit derivatives?*

Credit derivatives under the Big Bang Protocol can still be recognised. CRE22.74 is still satisfied by: (1) the protection buyer having the right /ability to request a ruling from the Determinations Committee, so the buyer is not powerless; and (2) the Determinations Committee being independent of the protection seller. This means that the roles and identities are clearly defined in the protocol, and the determination of a credit event is not the sole responsibility of the protection seller.

22.75 When the restructuring of the underlying obligation is not covered by the credit derivative, but the other requirements in CRE22.74 are met, partial recognition of the credit derivative will be allowed. If the amount of the credit derivative is less than or equal to the amount of the underlying obligation, 60% of the amount of the hedge can be recognised as covered. If the amount of the credit derivative is larger than that of the underlying obligation, then the amount of eligible hedge is capped at 60% of the amount of the underlying obligation.

Range of eligible guarantors (counter-guarantors)/protection providers and credit derivatives

22.76 Credit protection given by the following entities can be recognised when they have a lower risk weight than the counterparty:

(1) Sovereign entities,[10] PSEs, multilateral development banks (MDBs), banks, securities firms and other prudentially regulated financial institutions with a lower risk weight than the counterparty;[11]

(2) In jurisdictions that allow the use of external ratings for regulatory purposes:

(a) other entities that are externally rated except when credit protection is provided to a securitisation exposure. This would include credit protection provided by a parent, subsidiary and affiliate companies when they have a lower risk weight than the obligor;

(b) when credit protection is provided to a securitisation exposure, other entities that currently are externally rated BBB– or better and that were externally rated A– or better at the time the credit protection was provided. This would include credit protection provided by parent, subsidiary and affiliate companies when they have a lower risk weight than the obligor.

(3) In jurisdictions that do not allow the use of external ratings for regulatory purposes:

(a) Other entities, defined as "investment grade" meaning they have adequate capacity to meet their financial commitments (including repayments of principal and interest) in a timely manner, irrespective of the economic cycle and business conditions. When making this determination, the bank should assess the entity against the investment grade definition taking into account the complexity of its business model, performance against industry and peers, and risks posed by the entity's operating environment. Moreover, the following conditions will have to be met:

(i) For corporate entities (or the entity's parent company), they must have securities outstanding on a recognised securities exchange;

(ii) The creditworthiness of these "investment grade entities" is not positively correlated with the credit risk of the exposures for which they provided guarantees.

(b) Parent, subsidiary and affiliate companies of the obligor where their creditworthiness is not positively correlated with the credit risk of the exposures for which they provided guarantees. For an intra-group company to be recognised as eligible guarantor, the credit risk of the whole group should be taken into account.

Footnotes

[10] *This includes the Bank for International Settlements, the International Monetary Fund, the European Central Bank, the European Union, the European Stability Mechanism and the European Financial Stability Facility, as well as MDBs eligible for a 0% risk weight as defined in CRE20.14.*

[11] *A prudentially regulated financial institution is defined as: a legal entity supervised by a regulator that imposes prudential requirements consistent with international norms or a legal entity (parent company or subsidiary) included in a consolidated group where any substantial legal entity in the consolidated group is supervised by a regulator that imposes prudential requirements consistent with international norms. These include, but are not limited to, prudentially regulated insurance companies, broker/dealers, thrifts and futures commission merchants, and qualifying central counterparties as defined in CRE54.*

22.77 Only credit default swaps and total return swaps that provide credit protection equivalent to guarantees are eligible for recognition.[12] The following exception applies: where a bank buys credit protection through a total return swap and records the net payments received on the swap as net income, but does not record offsetting deterioration in the value of the asset that is protected (either through reductions in fair value or by an addition to reserves), the credit protection will not be recognised.

Footnotes

[12] *Cash-funded credit-linked notes issued by the bank against exposures in the banking book that fulfil all minimum requirements for credit derivatives are treated as cash-collateralised transactions. However, in this case the limitations regarding the protection provider as set out in CRE22.76 do not apply.*

22.78 First-to-default and all other nth-to-default credit derivatives (ie by which a bank obtains credit protection for a basket of reference names and where the first- or nth–to-default among the reference names triggers the credit protection and terminates the contract) are not eligible as a credit risk mitigation technique and therefore cannot provide any regulatory capital relief. In transactions in which a bank provided credit protection through such instruments, it shall apply the treatment described in CRE20.102.

Risk-weight treatment of transactions in which eligible credit protection is provided

22.79 The general risk-weight treatment for transactions in which eligible credit protection is provided is as follows:

(1) The protected portion is assigned the risk weight of the protection provider. The uncovered portion of the exposure is assigned the risk weight of the underlying counterparty.

(2) Materiality thresholds on payments below which the protection provider is exempt from payment in the event of loss are equivalent to retained first-loss positions. The portion of the exposure that is below a materiality threshold must be assigned a risk weight of 1250% by the bank purchasing the credit protection.

22.80 Where losses are shared pari passu on a pro rata basis between the bank and the guarantor, capital relief is afforded on a proportional basis, ie the protected portion of the exposure receives the treatment applicable to eligible guarantees /credit derivatives, with the remainder treated as unsecured.

22.81 Where the bank transfers a portion of the risk of an exposure in one or more tranches to a protection seller or sellers and retains some level of the risk of the loan, and the risk transferred and the risk retained are of different seniority, banks may obtain credit protection for either the senior tranches (eg the second-loss portion) or the junior tranche (eg the first-loss portion). In this case the rules as set out in the securitisation standard apply.

Currency mismatches

22.82 Where the credit protection is denominated in a currency different from that in which the exposure is denominated – ie there is a currency mismatch – the amount of the exposure deemed to be protected must be reduced by the application of a haircut H_{FX}, using the formula that follows, where:

(1) G = nominal amount of the credit protection

(2) H_{FX} = haircut appropriate for currency mismatch between the credit protection and underlying obligation

$$G_A = G \cdot \left(1 - H_{FX}\right)$$

22.83 The currency mismatch haircut for a 10-business day holding period (assuming daily marking to market) is 8%. This haircut must be scaled up using the square root of time formula, depending on the frequency of revaluation of the credit protection as described in CRE22.59.

Sovereign guarantees and counter-guarantees

22.84 As specified in CRE20.8, a lower risk weight may be applied at national discretion to a bank's exposures to the sovereign (or central bank) where the bank is incorporated and where the exposure is denominated in domestic currency and funded in that currency. National supervisors may extend this treatment to portions of exposures guaranteed by the sovereign (or central bank), where the guarantee is denominated in the domestic currency and the exposure is funded in that currency. An exposure may be covered by a guarantee that is indirectly counter-guaranteed by a sovereign. Such an exposure may be treated as covered by a sovereign guarantee provided that:

(1) the sovereign counter-guarantee covers all credit risk elements of the exposure;

(2) both the original guarantee and the counter-guarantee meet all operational requirements for guarantees, except that the counter-guarantee need not be direct and explicit to the original exposure; and

(3) the supervisor is satisfied that the cover is robust and that no historical evidence suggests that the coverage of the counter-guarantee is less than effectively equivalent to that of a direct sovereign guarantee.

CRE30

IRB approach: overview and asset class definitions

This chapter sets out an overview of the internal ratings-based approach to credit risk, including the categorisation of exposures, a description of the available approaches and the roll-out requirements.

Version effective as of 01 Jan 2023

Changes due to the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020.

Overview

30.1 This chapter describes the internal ratings-based (IRB) approach for credit risk. Subject to certain minimum conditions and disclosure requirements, banks that have received supervisory approval to use the IRB approach may rely on their own internal estimates of risk components in determining the capital requirement for a given exposure. The risk components include measures of the probability of default (PD), loss given default (LGD), the exposure at default (EAD), and effective maturity (M). In some cases, banks may be required to use a supervisory value as opposed to an internal estimate for one or more of the risk components.

30.2 The IRB approach is based on measures of unexpected losses (UL) and expected losses. The risk-weight functions, as outlined in CRE31, produce capital requirements for the UL portion. Expected losses are treated separately, as outlined in CRE35.

30.3 In this chapter, first the asset classes (eg corporate exposures and retail exposures) eligible for the IRB approach are defined. Second, there is a description of the risk components to be used by banks by asset class. Third, the requirements are outlined that relate to a bank's adoption of the IRB approach at the asset class level and the related roll-out requirements. In cases where an IRB treatment is not specified, the risk weight for those other exposures is 100%, except when a 0% risk weight applies under the standardised approach, and the resulting risk-weighted assets are assumed to represent UL only. Moreover, banks must apply the risk weights referenced in CRE20.61, CRE20.62 and CRE20.109 of the standardised approach to the exposures referenced in those paragraphs (that is, investments that are assessed against certain materiality thresholds).

FAQ

FAQ1 *In 2016, the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) revised the accounting for lease transactions. Both require that most leases will be reflected on a lessee's balance sheet as an obligation to make lease payments (a liability) and a related right-of-use (ROU) asset (an asset). According to FAQ2 of CAP30.7, an ROU asset should not be deducted from regulatory capital so long as the underlying asset being leased is a tangible asset. When the ROU asset is not deducted from regulatory capital, should it be included in RWA and, if so, what risk weight should apply?*

Yes, the ROU asset should be included in RWA. The intent of the revisions to the lease accounting standards was to more appropriately reflect the economics of leasing transactions, including both the lessee's obligation to make future lease payments, as well as an ROU asset reflecting the lessee's control over the leased item's economic benefits during the lease term. The ROU asset should be risk-weighted at 100%, consistent with the risk weight applied historically to owned tangible assets and to a lessee's leased assets under leases accounted for as finance leases in accordance with existing accounting standards.

Categorisation of exposures

30.4 Under the IRB approach, banks must categorise banking-book exposures into broad classes of assets with different underlying risk characteristics, subject to the definitions set out below. The classes of assets are (a) corporate, (b) sovereign, (c) bank, (d) retail, and (e) equity. Within the corporate asset class, five sub-classes of specialised lending are separately identified. Within the retail asset class, three sub-classes are separately identified. Within the corporate and retail asset classes, a distinct treatment for purchased receivables may also apply provided certain conditions are met. For the equity asset class the IRB approach is not permitted, as outlined further below.

30.5 The classification of exposures in this way is broadly consistent with established bank practice. However, some banks may use different definitions in their internal risk management and measurement systems. While it is not the intention of the Committee to require banks to change the way in which they manage their business and risks, banks are required to apply the appropriate treatment to each exposure for the purposes of deriving their minimum capital requirement. Banks must demonstrate to supervisors that their methodology for assigning exposures to different classes is appropriate and consistent over time.

Definition of corporate exposures

30.6 In general, a corporate exposure is defined as a debt obligation of a corporation, partnership, or proprietorship. Banks are permitted to distinguish separately exposures to small or medium-sized entities (SME), as defined in CRE31.8.

30.7 In addition to general corporates, within the corporate asset class five sub-classes of specialised lending (SL) are identified. Such lending possesses all the following characteristics, in legal form or economic substance:

(1) The exposure is typically to an entity (often a special purpose entity (SPE)) that was created specifically to finance and/or operate physical assets,

(2) The borrowing entity has little or no other material assets or activities, and therefore little or no independent capacity to repay the obligation, apart from the income that it receives from the asset(s) being financed;

(3) The terms of the obligation give the lender a substantial degree of control over the asset(s) and the income that it generates; and

(4) As a result of the preceding factors, the primary source of repayment of the obligation is the income generated by the asset(s), rather than the independent capacity of a broader commercial enterprise.

30.8 The five sub-classes of SL are project finance (PF), object finance (OF), commodities finance (CF), income-producing real estate (IPRE) lending, and high-volatility commercial real estate (HVCRE) lending. Each of these sub-classes is defined below.

Project finance

30.9 PF is a method of funding in which the lender looks primarily to the revenues generated by a single project, both as the source of repayment and as security for the exposure. This type of financing is usually for large, complex and expensive installations that might include, for example, power plants, chemical processing plants, mines, transportation infrastructure, environment, and telecommunications infrastructure. Project finance may take the form of financing of the construction of a new capital installation, or refinancing of an existing installation, with or without improvements.

30.10 In such transactions, the lender is usually paid solely or almost exclusively out of the money generated by the contracts for the facility's output, such as the electricity sold by a power plant. The borrower is usually an SPE that is not permitted to perform any function other than developing, owning, and operating the installation. The consequence is that repayment depends primarily on the project's cash flow and on the collateral value of the project's assets. In contrast, if repayment of the exposure depends primarily on a well-established, diversified, credit-worthy, contractually obligated end user for repayment, it is considered a secured exposure to that end-user.

Object finance

30.11 OF refers to a method of funding the acquisition of physical assets (eg ships, aircraft, satellites, railcars, or fleets) where the repayment of the exposure is dependent on the cash flows generated by the specific assets that have been financed and pledged or assigned to the lender. A primary source of these cash flows might be rental or lease contracts with one or several third parties. In contrast, if the exposure is to a borrower whose financial condition and debt-servicing capacity enables it to repay the debt without undue reliance on the specifically pledged assets, the exposure should be treated as a collateralised corporate exposure.

Commodities finance

30.12 CF refers to structured short-term lending to finance reserves, inventories, or receivables of exchange-traded commodities (eg crude oil, metals, or crops), where the exposure will be repaid from the proceeds of the sale of the commodity and the borrower has no independent capacity to repay the exposure. This is the case when the borrower has no other activities and no other material assets on its balance sheet. The structured nature of the financing is designed to compensate for the weak credit quality of the borrower. The exposure's rating reflects its self-liquidating nature and the lender's skill in structuring the transaction rather than the credit quality of the borrower.

30.13 The Committee believes that such lending can be distinguished from exposures financing the reserves, inventories, or receivables of other more diversified corporate borrowers. Banks are able to rate the credit quality of the latter type of borrowers based on their broader ongoing operations. In such cases, the value of the commodity serves as a risk mitigant rather than as the primary source of repayment.

Income-producing real estate lending

30.14 IPRE lending refers to a method of providing funding to real estate (such as, office buildings to let, retail space, multifamily residential buildings, industrial or warehouse space, or hotels) where the prospects for repayment and recovery on the exposure depend primarily on the cash flows generated by the asset. The primary source of these cash flows would generally be lease or rental payments or the sale of the asset. The borrower may be, but is not required to be, an SPE, an operating company focused on real estate construction or holdings, or an operating company with sources of revenue other than real estate. The distinguishing characteristic of IPRE versus other corporate exposures that are collateralised by real estate is the strong positive correlation between the prospects for repayment of the exposure and the prospects for recovery in the event of default, with both depending primarily on the cash flows generated by a property.

High-volatility commercial real estate lending

30.15 HVCRE lending is the financing of commercial real estate that exhibits higher loss rate volatility (ie higher asset correlation) compared to other types of SL. HVCRE includes:

(1) Commercial real estate exposures secured by properties of types that are categorised by the national supervisor as sharing higher volatilities in portfolio default rates;

(2) Loans financing any of the land acquisition, development and construction (ADC) phases for properties of those types in such jurisdictions; and

(3) Loans financing ADC of any other properties where the source of repayment at origination of the exposure is either the future uncertain sale of the property or cash flows whose source of repayment is substantially uncertain (eg the property has not yet been leased to the occupancy rate prevailing in that geographic market for that type of commercial real estate), unless the borrower has substantial equity at risk. Commercial ADC loans exempted from treatment as HVCRE loans on the basis of certainty of repayment or borrower equity are, however, ineligible for the additional reductions for SL exposures described in CRE33.4.

30.16 Where supervisors categorise certain types of commercial real estate exposures as HVCRE in their jurisdictions, they are required to make public such determinations. Other supervisors need to ensure that such treatment is then applied equally to banks under their supervision when making such HVCRE loans in that jurisdiction.

Definition of sovereign exposures

30.17 This asset class covers all exposures to counterparties treated as sovereigns under the standardised approach. This includes sovereigns (and their central banks), certain public sector entities (PSEs) identified as sovereigns in the standardised approach, multilateral development banks (MDBs) that meet the criteria for a 0% risk weight and referred to in the first footnote of CRE20.14 of the standardised approach, and the entities referred to in CRE20.10 of the standardised approach.

Definition of bank exposures

30.18 This asset class covers exposures to banks as defined in CRE20.16 of the standardised approach for credit risk and those securities firms and other financial institutions set out in CRE20.40 of the standardised approach for credit risk that are treated as exposures to banks. Bank exposures also include covered bonds as defined in CRE20.33 as well as claims on all domestic PSEs that are not treated as exposures to sovereigns under the standardised approach, and MDBs that do not meet the criteria for a 0% risk weight under the standardised approach (ie MDBs that are not listed in the first footnote to CRE20.14 of the standardised approach). This asset class also includes exposures to the entities listed in this paragraph that are in the form of subordinated debt or regulatory capital instruments (which form their own asset class within the standardised approach), provided that such instruments: (i) do not fall within the scope of equity exposures as defined in CRE30.26; (ii) are not deducted from regulatory capital or risk-weighted at 250% according to CAP30; and (iii) are not risk weighted at 1250% according to CRE20.62.

Definition of retail exposures

30.19 An exposure is categorised as a retail exposure if it meets all of the criteria set out in CRE30.20 (which relate to the nature of the borrower and value of individual exposures) and all of the criteria set out in CRE30.22 (which relate to the size of the pool of exposures).

30.20 The criteria related to the nature of the borrower and value of the individual exposures are as follows:

(1) Exposures to individuals – such as revolving credits and lines of credit (eg credit cards, overdrafts, or retail facilities secured by financial instruments) as well as personal term loans and leases (eg instalment loans, auto loans and leases, student and educational loans, personal finance, or other exposures with similar characteristics) – are generally eligible for retail treatment regardless of exposure size, although supervisors may wish to establish exposure thresholds to distinguish between retail and corporate exposures.

(2) Where a loan is a residential mortgage[1] (including first and subsequent liens, term loans and revolving home equity lines of credit) it is eligible for retail treatment regardless of exposure size so long as the credit is:

(a) an exposure to an individual;[2] or

(b) an exposure to associations or cooperatives of individuals that are regulated under national law and exist with the only purpose of granting its members the use of a primary residence in the property securing the loan.

(3) Where loans are extended to small businesses and managed as retail exposures they are eligible for retail treatment provided the total exposure of the banking group to a small business borrower (on a consolidated basis where applicable) is less than €1 million. Small business loans extended through or guaranteed by an individual are subject to the same exposure threshold.

Footnotes

[1] *Loans that meet the conditions set out in the second footnote to CRE20.71 of the standardised approach for credit risk are also eligible to be included in the IRB retail residential mortgage sub-class.*

[2] *At national discretion, supervisors may exclude from the retail residential mortgage sub-asset class loans to individuals that have mortgaged more than a specified number of properties or housing units, and treat such loans as corporate exposures.*

30.21 It is expected that supervisors provide flexibility in the practical application of the thresholds set out in CRE30.20, such that banks are not forced to develop extensive new information systems simply for the purpose of ensuring perfect compliance. It is, however, important for supervisors to ensure that such flexibility (and the implied acceptance of exposure amounts in excess of the thresholds that are not treated as violations) is not being abused.

30.22 The criteria related to the size of the pool of exposures are as follows:

(1) The exposure must be one of a large pool of exposures, which are managed by the bank on a pooled basis.

(2) Where a loan gives rise to a small business exposure below €1 million, it may be treated as retail exposures if the bank treats such exposures in its internal risk management systems consistently over time and in the same manner as other retail exposures. This requires that such an exposure be originated in a similar manner to other retail exposures. Furthermore, it must not be managed individually in a way comparable to corporate exposures, but rather as part of a portfolio segment or pool of exposures with similar risk characteristics for purposes of risk assessment and quantification. However, this does not preclude retail exposures from being treated individually at some stages of the risk management process. The fact that an exposure is rated individually does not by itself deny the eligibility as a retail exposure.

30.23 Within the retail asset class category, banks are required to identify separately three sub-classes of exposures:

(1) residential mortgage loans, as defined above;

(2) qualifying revolving retail exposures, as defined in the following paragraph; and

(3) all other retail exposures.

Definition of qualifying revolving retail exposures

30.24 All of the following criteria must be satisfied for a sub-portfolio to be treated as a qualifying revolving retail exposure (QRRE). These criteria must be applied at a sub-portfolio level consistent with the bank's segmentation of its retail activities generally. Segmentation at the national or country level (or below) should be the general rule.

(1) The exposures are revolving, unsecured, and uncommitted (both contractually and in practice). In this context, revolving exposures are defined as those where customers' outstanding balances are permitted to fluctuate based on their decisions to borrow and repay, up to a limit established by the bank.

(2) The exposures are to individuals.

(3) The maximum exposure to a single individual in the sub-portfolio is €100,000 or less.

(4) Because the asset correlation assumptions for the QRRE risk-weight function are markedly below those for the other retail risk-weight function at low PD values, banks must demonstrate that the use of the QRRE risk-weight function is constrained to portfolios that have exhibited low volatility of loss rates, relative to their average level of loss rates, especially within the low PD bands.

(5) Data on loss rates for the sub-portfolio must be retained in order to allow analysis of the volatility of loss rates.

(6) The supervisor must concur that treatment as a qualifying revolving retail exposure is consistent with the underlying risk characteristics of the sub-portfolio.

30.25 The QRRE sub-class is split into exposures to transactors and revolvers. A QRRE transactor is an exposure to an obligor that meets the definition set out in CRE20.64 of the standardised approach. That is, the exposure is to an obligor in relation to a facility such as credit card or charge card where the balance has been repaid in full at each scheduled repayment date for the previous 12 months, or the exposure is in relation to an overdraft facility if there have been no drawdowns over the previous 12 months. All exposures that are not QRRE transactors are QRRE revolvers, including QRRE exposures with less than 12 months of repayment history.

Definition of equity exposures

30.26 This asset class covers exposures to equities as defined in CRE20.54 to CRE20.56 of the standardised approach for credit risk.

Definition of eligible purchased receivables

30.27 Eligible purchased receivables are divided into retail and corporate receivables as defined below.

Retail receivables

30.28 Purchased retail receivables, provided the purchasing bank complies with the IRB rules for retail exposures, are eligible for the top-down approach as permitted within the existing standards for retail exposures. The bank must also apply the minimum operational requirements as set forth in chapters CRE34 and CRE36.

Corporate receivables

30.29 In general, for purchased corporate receivables, banks are expected to assess the default risk of individual obligors as specified in CRE31.3 to CRE31.12 consistent with the treatment of other corporate exposures. However, the top-down approach may be used, provided that the purchasing bank's programme for corporate receivables complies with both the criteria for eligible receivables and the minimum operational requirements of this approach. The use of the top-down purchased receivables treatment is limited to situations where it would be an undue burden on a bank to be subjected to the minimum requirements for the IRB approach to corporate exposures that would otherwise apply. Primarily, it is intended for receivables that are purchased for inclusion in asset-backed securitisation structures, but banks may also use this approach, with the approval of national supervisors, for appropriate on-balance sheet exposures that share the same features.

30.30 Supervisors may deny the use of the top-down approach for purchased corporate receivables depending on the bank's compliance with minimum requirements. In particular, to be eligible for the proposed 'top-down' treatment, purchased corporate receivables must satisfy the following conditions:

(1) The receivables are purchased from unrelated, third party sellers, and as such the bank has not originated the receivables either directly or indirectly.

(2) The receivables must be generated on an arm's-length basis between the seller and the obligor. (As such, intercompany accounts receivable and receivables subject to contra-accounts between firms that buy and sell to each other are ineligible.[3])

(3) The purchasing bank has a claim on all proceeds from the pool of receivables or a pro-rata interest in the proceeds.[4]

(4) National supervisors must also establish concentration limits above which capital charges must be calculated using the minimum requirements for the bottom-up approach for corporate exposures. Such concentration limits may refer to one or a combination of the following measures: the size of one individual exposure relative to the total pool, the size of the pool of receivables as a percentage of regulatory capital, or the maximum size of an individual exposure in the pool.

Footnotes

[3] *Contra-accounts involve a customer buying from and selling to the same firm. The risk is that debts may be settled through payments in kind rather than cash. Invoices between the companies may be offset against each other instead of being paid. This practice can defeat a security interest when challenged in court.*

[4] *Claims on tranches of the proceeds (first loss position, second loss position, etc) would fall under the securitisation treatment.*

30.31 The existence of full or partial recourse to the seller does not automatically disqualify a bank from adopting this top-down approach, as long as the cash flows from the purchased corporate receivables are the primary protection against default risk as determined by the rules in CRE34.4 to CRE34.7 for purchased receivables and the bank meets the eligibility criteria and operational requirements.

Foundation and advanced approaches

30.32 For each of the asset classes covered under the IRB framework, there are three key elements:

(1) Risk components: estimates of risk parameters provided by banks, some of which are supervisory estimates.

(2) Risk-weight functions: the means by which risk components are transformed into risk-weighted assets and therefore capital requirements.

(3) Minimum requirements: the minimum standards that must be met in order for a bank to use the IRB approach for a given asset class.

30.33 For certain asset classes, the Committee has made available two broad approaches: a foundation and an advanced approach. Under the foundation approach (F-IRB approach), as a general rule, banks provide their own estimates of PD and rely on supervisory estimates for other risk components. Under the advanced approach (A-IRB approach), banks provide their own estimates of PD, LGD and EAD, and their own calculation of M, subject to meeting minimum standards. For both the foundation and advanced approaches, banks must always use the risk-weight functions provided in this Framework for the purpose of deriving capital requirements. The full suite of approaches is described below.

30.34 For exposures to equities, as defined in CRE30.26 above, the IRB approaches are not permitted (see CRE30.43). In addition, the A-IRB approach cannot be used for the following:

(1) Exposures to general corporates (ie exposures to corporates that are not classified as specialised lending) belonging to a group with total consolidated annual revenues greater than €500m.

(2) Exposures in the bank asset class CRE30.18, and other securities firms and financial institutions (including insurance companies and any other financial institutions in the corporate asset class).

30.35 In making the assessment for the revenue threshold in CRE30.34 above, the amounts must be as reported in the audited financial statements of the corporates or, for corporates that are part of consolidated groups, their consolidated groups (according to the accounting standard applicable to the ultimate parent of the consolidated group). The figures must be based on the average amounts calculated over the prior three years, or on the latest amounts updated every three years by the bank.

Corporate, sovereign and bank exposures

30.36 Under the foundation approach, banks must provide their own estimates of PD associated with each of their borrower grades, but must use supervisory estimates for the other relevant risk components. The other risk components are LGD, EAD and M.[5]

Footnotes

[5] *As noted in CRE32.44, some supervisors may require banks using the foundation approach to calculate M using the definition provided in CRE32.46 to CRE32.55.*

30.37 Under the advanced approach, banks must calculate the effective maturity (M)[6] and provide their own estimates of PD, LGD and EAD.

Footnotes

[6] *At the discretion of the national supervisor, certain domestic exposures may be exempt from the calculation of M (see CRE32.44).*

30.38 There is an exception to this general rule for the five sub-classes of assets identified as SL.

The SL categories: PF, OF, CF, IPRE and HVCRE

30.39 Banks that do not meet the requirements for the estimation of PD under the corporate foundation approach for their SL exposures are required to map their internal risk grades to five supervisory categories, each of which is associated with a specific risk weight. This version is termed the 'supervisory slotting criteria approach'.

30.40 Banks that meet the requirements for the estimation of PD are able to use the foundation approach to corporate exposures to derive risk weights for all classes of SL exposures except HVCRE. At national discretion, banks meeting these requirements for HVCRE exposures are able to use a foundation approach that is similar in all respects to the corporate approach, with the exception of a separate risk-weight function as described in CRE31.11.

30.41 Banks that meet the requirements for the estimation of PD, LGD and EAD are able to use the advanced approach to corporate exposures to derive risk weights for all classes of SL exposures except HVCRE. At national discretion, banks meeting these requirements for HVCRE exposure are able to use an advanced approach that is similar in all respects to the corporate approach, with the exception of a separate risk-weight function as described in CRE31.11.

Retail exposures

30.42 For retail exposures, banks must provide their own estimates of PD, LGD and EAD. There is no foundation approach for this asset class.

Equity exposures

30.43 All equity exposures are subject to the approach set out in CRE20.57 of the standardised approach for credit risk, with the exception of equity investments in funds that are subject to the requirements set out in CRE60.

Eligible purchased receivables

30.44 The treatment potentially straddles two asset classes. For eligible corporate receivables, both a foundation and advanced approach are available subject to certain operational requirements being met. As noted in CRE30.29, for corporate purchased receivables banks are in general expected to assess the default risk of individual obligors. The bank may use the A-IRB treatment for purchased corporate receivables CRE34.6 to CRE34.7 only for exposures to individual corporate obligors that are eligible for the A-IRB approach according to CRE30.34 and CRE30.35. Otherwise, the F-IRB treatment for purchased corporate receivables should be used. For eligible retail receivables, as with the retail asset class, only the A-IRB approach is available.

Adoption of the IRB approach for asset classes

30.45 Once a bank adopts an IRB approach for part of its holdings within an asset class, it is expected to extend it across all holdings within that asset class. In this context, the relevant assets classes are as follows:

(1) Sovereigns

(2) Banks

(3) Corporates (excluding specialised lending and purchased receivables)

(4) Specialised lending

(5) Corporate purchased receivables

(6) QRRE

(7) Retail residential mortgages

(8) Other retail (excluding purchased receivables)

(9) Retail purchased receivables

30.46 The Committee recognises that, for many banks, it may not be practicable for various reasons to implement the IRB approach for an entire asset class across all business units at the same time. Furthermore, once on IRB, data limitations may mean that banks can meet the standards for the use of own estimates of LGD and EAD for some but not all of their exposures within an asset class at the same time (for example, exposures that are in the same asset class, but are in different business units).

30.47 As such, supervisors may allow banks to adopt a phased rollout of the IRB approach across an asset class. The phased rollout includes: (i) adoption of IRB across the asset class within the same business unit; (ii) adoption of IRB for the asset class across business units in the same banking group; and (iii) move from the foundation approach to the advanced approach for certain risk components where use of the advanced approach is permitted. However, when a bank adopts an IRB approach for an asset class within a particular business unit, it must apply the IRB approach to all exposures within that asset class in that unit.

30.48 If a bank intends to adopt an IRB approach to an asset class, it must produce an implementation plan, specifying to what extent and when it intends to roll out the IRB approaches within the asset class and business units. The plan should be realistic, and must be agreed with the supervisor. It should be driven by the practicality and feasibility of moving to the more advanced approaches, and not motivated by a desire to adopt an approach that minimises its capital charge. During the roll-out period, supervisors will ensure that no capital relief is granted for intra-group transactions which are designed to reduce a banking group's aggregate capital charge by transferring credit risk among entities on the standardised approach, foundation and advanced IRB approaches. This includes, but is not limited to, asset sales or cross guarantees.

30.49 Some exposures that are immaterial in terms of size and perceived risk profile within their asset class may be exempt from the requirements in the previous two paragraphs, subject to supervisory approval. Capital requirements for such operations will be determined according to the standardised approach, with the national supervisor determining whether a bank should hold more capital under the supervisory review process standard (SRP) for such positions.

30.50 Banks adopting an IRB approach for an asset class are expected to continue to employ an IRB approach for that asset class. A voluntary return to the standardised or foundation approach is permitted only in extraordinary circumstances, such as divestiture of a large fraction of the bank's credit-related business in that asset class, and must be approved by the supervisor.

30.51 Given the data limitations associated with SL exposures, a bank may remain on the supervisory slotting criteria approach for one or more of the PF, OF, CF, IPRE or HVCRE sub-classes, and move to the foundation or advanced approach for the other sub-classes. However, a bank should not move to the advanced approach for the HVCRE sub-class without also doing so for material IPRE exposures at the same time.

30.52 Irrespective of the materiality, exposures to central counterparties arising from over-the-counter derivatives, exchange traded derivatives transactions and securities financing transactions must be treated according to the dedicated treatment laid down in CRE54.

CRE31

IRB approach: risk weight functions

This chapter sets out the calculation of risk-weighted assets for corporate, sovereign, bank and retail exposures.

Version effective as of 01 Jan 2023

Changes due to December 2017 Basel III publication and the revised implementation date announced on 27 March 2020.

Introduction

31.1 This chapter presents the calculation of risk weighted assets under the internal ratings-based (IRB) approach for: (i) corporate, sovereign and bank exposures; and (ii) retail exposures. Risk weighted assets are designed to address unexpected losses from exposures. The method of calculating expected losses, and for determining the difference between that measure and provisions, is described CRE35.

Explanation of the risk-weight functions

31.2 Regarding the risk-weight functions for deriving risk weighted assets set out in this chapter:

(1) Probability of default (PD) and loss-given-default (LGD) are measured as decimals

(2) Exposure at default (EAD) is measured as currency (eg euros), except where explicitly noted otherwise

(3) ln denotes the natural logarithm

(4) N(x) denotes the cumulative distribution function for a standard normal random variable (ie the probability that a normal random variable with mean zero and variance of one is less than or equal to x). The normal cumulative distribution function is, for example, available in Excel as the function NORMSDIST.

(5) G(z) denotes the inverse cumulative distribution function for a standard normal random variable (ie the value of x such that N(x) = z). The inverse of the normal cumulative distribution function is, for example, available in Excel as the function NORMSINV.

Risk-weighted assets for exposures that are in default

31.3 The capital requirement (K) for a defaulted exposure is equal to the greater of zero and the difference between its LGD (described in CRE36.83) and the bank's best estimate of expected loss (described in CRE36.86). The risk-weighted asset amount for the defaulted exposure is the product of K, 12.5, and the EAD.

Risk-weighted assets for corporate, sovereign and bank exposures that are not in default

Risk-weight functions for corporate, sovereign and bank exposures

31.4 The derivation of risk-weighted assets is dependent on estimates of the PD, LGD, EAD and, in some cases, effective maturity (M), for a given exposure.

31.5 For exposures not in default, the formula for calculating risk-weighted assets is as follows (illustrative risk weights are shown in CRE99):

$$Correlation = R = \ 0.12 \cdot \frac{\left(1 - e^{-50 \cdot PD}\right)}{\left(1 - e^{-50}\right)} + 0.24 \cdot \left(1 - \frac{\left(1 - e^{-50 \cdot PD}\right)}{\left(1 - e^{-50}\right)}\right)$$

$$Maturity\ adjustment = b = \left[0.11852 - 0.05478 \cdot \ln\left(PD\right)\right]^2$$

$$Capital\ requirement = K = \left[LGD \cdot N\left[\frac{G\left(PD\right)}{\sqrt{\left(1-R\right)}} + \sqrt{\frac{R}{1-R}} \cdot G\left(0.999\right)\right] - PD \cdot LGD\right] \cdot \frac{\left(1 + \left(M - 2.5\right) \cdot b\right)}{\left(1 - 1.5 \cdot b\right)}$$

$$RWA = K \cdot 12.5 \cdot EAD$$

31.6 Regarding the formula set out in CRE31.5 above, M is the effective maturity, calculated according to CRE32.43 to CRE32.54, and the following term is used to refer to a specific part of the capital requirements formula:

$$Full\ maturity\ adjustment = \frac{\left(1 + \left(M - 2.5\right) \cdot b\right)}{\left(1 - 1.5 \cdot b\right)}$$

31.7 A multiplier of 1.25 is applied to the correlation parameter of all exposures to financial institutions meeting the following criteria:

(1) Regulated financial institutions whose total assets are greater than or equal to USD100 billion. The most recent audited financial statement of the parent company and consolidated subsidiaries must be used in order to determine asset size. For the purpose of this paragraph, a regulated financial institution is defined as a parent and its subsidiaries where any substantial legal entity in the consolidated group is supervised by a regulator that imposes prudential requirements consistent with international norms. These include, but are not limited to, prudentially regulated Insurance Companies, Broker /Dealers, Banks, Thrifts and Futures Commission Merchants.

(2) Unregulated financial institutions, regardless of size. Unregulated financial institutions are, for the purposes of this paragraph, legal entities whose main business includes: the management of financial assets, lending, factoring, leasing, provision of credit enhancements, securitisation, investments, financial custody, central counterparty services, proprietary trading and other financial services activities identified by supervisors.

$$Correlation = R\_FI = 1.25 \cdot \left[0.12 \cdot \frac{\left(1 - e^{-50 \cdot PD}\right)}{\left(1 - e^{-50}\right)} + 0.24 \cdot \left[1 - \frac{\left(1 - e^{-50 \cdot PD}\right)}{\left(1 - e^{-50}\right)} \right] \right]$$

FAQ

FAQ1 *Can the Basel Committee clarify the definition of unregulated financial institutions CRE31.7? Does this could include "real" money funds such as mutual and pension funds which are, in some cases, regulated but not "supervised by a regulator that imposes prudential requirements consistent with international norms"?*

For the sole purpose of CRE31.7, "unregulated financial institution" can include a financial institution or leveraged fund that is not subject to prudential solvency regulation.

Firm-size adjustment for small or medium-sized entities (SMEs)

31.8 Under the IRB approach for corporate credits, banks will be permitted to separately distinguish exposures to SME borrowers (defined as corporate exposures where the reported sales for the consolidated group of which the firm is a part is less than €50 million) from those to large firms. A firm-size adjustment (ie 0.04 x (1 – (S – 5) / 45)) is made to the corporate risk weight formula for exposures to SME borrowers. S is expressed as total annual sales in millions of euros with values of S falling in the range of equal to or less than €50 million or greater than or equal to €5 million. Reported sales of less than €5 million will be treated as if they were equivalent to €5 million for the purposes of the firm-size adjustment for SME borrowers.

$$Correlation = R = 0.12 \cdot \frac{\left(1 - e^{-50 \cdot PD}\right)}{\left(1 - e^{-50}\right)} + 0.24 \cdot \left[1 - \frac{\left(1 - e^{-50 \cdot PD}\right)}{\left(1 - e^{-50}\right)} \right] - 0.04 \cdot \left[1 - \frac{\left(S - 5\right)}{45} \right]$$

31.9

Subject to national discretion, supervisors may allow banks, as a failsafe, to substitute total assets of the consolidated group for total sales in calculating the SME threshold and the firm-size adjustment. However, total assets should be used only when total sales are not a meaningful indicator of firm size.

Risk weights for specialised lending

31.10 Regarding project finance, object finance, commodities finance and income-producing real estate sub-asset classes of specialised lending (SL):

(1) Banks that meet the requirements for the estimation of PD will be able to use the foundation IRB (F-IRB) approach for the corporate asset class to derive risk weights for SL sub-classes. As specified in CRE33.2, banks that do not meet the requirements for the estimation of PD will be required to use the supervisory slotting approach.

(2) Banks that meet the requirements for the estimation of PD, LGD and EAD (where relevant) will be able to use the advanced IRB (A-IRB) approach for the corporate asset class to derive risk weights for SL sub-classes.

31.11 Regarding the high volatility commercial real estate (HVCRE) sub-asset class of specialised lending, banks that meet the requirements for the estimation of PD and whose supervisor has chosen to implement a foundation or advanced approach to HVCRE exposures will use the same formula for the derivation of risk weights that is used for other SL exposures, except that they will apply the following asset correlation formula:

$$Correlation = R = 0.12 \cdot \frac{\left(1 - e^{-50 \cdot PD}\right)}{\left(1 - e^{-50}\right)} + 0.30 \cdot \left(1 - \frac{\left(1 - e^{-50 \cdot PD}\right)}{\left(1 - e^{-50}\right)}\right)$$

31.12 Banks that do not meet the requirements for estimation of LGD or EAD for HVCRE exposures must use the supervisory parameters for LGD and EAD for corporate exposures, or use the supervisory slotting approach.

Risk-weighted assets for retail exposures that are not in default

31.13 There are three separate risk-weight functions for retail exposures, as defined in CRE31.14 to CRE31.16. Risk weights for retail exposures are based on separate assessments of PD and LGD as inputs to the risk-weight functions. None of the three retail risk-weight functions contain the full maturity adjustment component that is present in the risk-weight function for exposures to banks, sovereigns and corporates. Illustrative risk weights are shown in CRE99.

Retail residential mortgage exposures

31.14 For exposures defined in CRE30.19 that are not in default and are secured or partly secured[1] by residential mortgages, risk weights will be assigned based on the following formula:

$$Correlation = R = 0.15$$

$$Capital\ requirement = K = \left[LGD \cdot N\left[\frac{G(PD)}{\sqrt{(1-R)}} + \sqrt{\frac{R}{1-R}} \cdot G(0.999) \right] - PD \cdot LGD \right]$$

$$RWA = K \cdot 12.5 \cdot EAD$$

Footnotes

[1] *This means that risk weights for residential mortgages also apply to the unsecured portion of such residential mortgages.*

Qualifying revolving retail exposures

31.15 For qualifying revolving retail exposures as defined in CRE30.23 and CRE30.24 that are not in default, risk weights are defined based on the following formula:

$$Correlation = R = 0.04$$

$$Capital\ requirement = K = \left[LGD \cdot N\left[\frac{G(PD)}{\sqrt{(1-R)}} + \sqrt{\frac{R}{1-R}} \cdot G(0.999) \right] - PD \cdot LGD \right]$$

$$RWA = K \cdot 12.5 \cdot EAD$$

Other retail exposures

31.16 For all other retail exposures that are not in default, risk weights are assigned based on the following function, which allows correlation to vary with PD:

$$Correlation = R = 0.03 \cdot \frac{\left(1 - e^{-35 \cdot PD}\right)}{\left(1 - e^{-35}\right)} + 0.16 \cdot \left(1 - \frac{\left(1 - e^{-35 \cdot PD}\right)}{\left(1 - e^{-35}\right)}\right)$$

$$Capital\ requirement = K = \left[LGD \cdot N\left[\frac{G\left(PD\right)}{\sqrt{\left(1-R\right)}} + \sqrt{\frac{R}{1-R}} \cdot G\left(0.999\right)\right] - PD \cdot LGD\right]$$

$$RWA = K \cdot 12.5 \cdot EAD$$

CRE32

IRB approach: risk components

This chapter sets out the calculation of the risk components used in risk-weight functions (PD, LGD, EAD, M) for each asset class.

Version effective as of 01 Jan 2023

Changes due to the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020.

Introduction

32.1 This chapter presents the calculation of the risk components (PD, LGD, EAD, M) that are used in the formulas set out in CRE31. In calculating these components, the legal certainty standards for recognising credit risk mitigation under the standardised approach to credit risk (CRE22) apply for both the foundation and advanced internal ratings-based (IRB) approaches.

Risk components for corporate, sovereign and bank exposures

32.2 This section, CRE32.2 to CRE32.56, sets out the calculation of the risk components for corporate, sovereign and bank exposures. In the case of an exposure that is guaranteed by a sovereign, the floors that apply to the risk components do not apply to that part of the exposure covered by the sovereign guarantee (ie any part of the exposure that is not covered by the guarantee is subject to the relevant floors).

Probability of default (PD)

32.3 For corporate, sovereign and bank exposures, the PD is the one-year PD associated with the internal borrower grade to which that exposure is assigned. The PD of borrowers assigned to a default grade(s), consistent with the reference definition of default, is 100%. The minimum requirements for the derivation of the PD estimates associated with each internal borrower grade are outlined in CRE36.77 to CRE36.79.

32.4 With the exception of exposures in the sovereign asset class, the PD for each exposure that is used as input into the risk weight formula and the calculation of expected loss must not be less than 0.05%.

Loss given default (LGD)

32.5 A bank must provide an estimate of the LGD for each corporate, sovereign and bank exposure. There are two approaches for deriving this estimate: a foundation approach and an advanced approach. As noted in CRE30.34, the advanced approach is not permitted for exposures to certain entities.

LGD under the foundation internal ratings-based (F-IRB) approach: treatment of unsecured claims and non-recognised collateral

32.6

Under the foundation approach, senior claims on sovereigns, banks, securities firms and other financial institutions (including insurance companies and any financial institutions in the corporate asset class) that are not secured by recognised collateral will be assigned a 45% LGD. Senior claims on other corporates that are not secured by recognised collateral will be assigned a 40% LGD.

32.7 All subordinated claims on corporates, sovereigns and banks will be assigned a 75% LGD. A subordinated loan is a facility that is expressly subordinated to another facility. At national discretion, supervisors may choose to employ a wider definition of subordination. This might include economic subordination, such as cases where the facility is unsecured and the bulk of the borrower's assets are used to secure other exposures.

LGD under the F-IRB approach: collateral recognition

32.8 In addition to the eligible financial collateral recognised in the standardised approach, under the F-IRB approach some other forms of collateral, known as eligible IRB collateral, are also recognised. These include receivables, specified commercial and residential real estate, and other physical collateral, where they meet the minimum requirements set out in CRE36.131 to CRE36.147. For eligible financial collateral, the requirements are identical to the operational standards as set out in the credit risk mitigation section of the standardised approach (see CRE22).

32.9 The simple approach to collateral presented in the standardised approach is not available to banks applying the IRB approach.

32.10 The LGD applicable to a collateralised transaction (LGD*) must be calculated as the exposure weighted average of the LGD applicable to the unsecured part of an exposure (LGD_U) and the LGD applicable to the collateralised part of an exposure (LGD_S). Specifically, the formula that follows must be used, where:

(1) E is the current value of the exposure (ie cash lent or securities lent or posted). In the case of securities lent or posted the exposure value has to be increased by applying the appropriate haircuts (H_E) according to the comprehensive approach for financial collateral.

(2) E_S is the current value of the collateral received after the application of the haircut applicable for the type of collateral (H_c) and for any currency mismatches between the exposure and the collateral, as specified in CRE32.11 to CRE32.12. E_S is capped at the value of $E \cdot (1+H_E)$.

(3) $E_U = E \cdot (1+H_E) - E_s$. The terms E_U and E_S are only used to calculate LGD*. Banks must continue to calculate EAD without taking into account the presence of any collateral, unless otherwise specified.

(4) LGD_U is the LGD applicable for an unsecured exposure, as set out in CRE32.6 and CRE32.7.

(5) LGD_S is the LGD applicable to exposures secured by the type of collateral used in the transaction, as specified in CRE32.11.

$$LGD^* = LGD_U \cdot \frac{E_U}{E \cdot \left(1+H_E\right)} + LGD_S \cdot \frac{E_S}{E \cdot \left(1+H_E\right)}$$

32.11 The following table specifies the LGD_S and haircuts applicable in the formula set out in CRE32.10:

Type of collateral	LGD_S	Haircut
Eligible financial collateral	0%	As determined by the haircuts that apply in the comprehensive formula of the standardised approach for credit risk (CRE22.49 for jurisdictions that allow the use of ratings for regulatory purposes and CRE22.50 for jurisdictions that do not). The haircuts have to be adjusted for different holding periods and non-daily remargining or revaluation according to CRE22.56 to CRE22.59 of the standardised approach.
Eligible receivables	20%	40%
Eligible residential real estate / commercial real estate	20%	40%
Other eligible physical collateral	25%	40%
Ineligible collateral	Not applicable	100%

32.12 When eligible collateral is denominated in a different currency to that of the exposure, the haircut for currency risk is the same haircut that applies in the comprehensive approach (CRE22.52 of the standardised approach).

32.13 Banks that lend securities or post collateral must calculate capital requirements for both of the following: (i) the credit risk or market risk of the securities, if this remains with the bank; and (ii) the counterparty credit risk arising from the risk that the borrower of the securities may default. CRE32.37 to CRE32.43 set out the calculation the EAD arising from transactions that give rise to counterparty credit risk. For such transactions the LGD of the counterparty must be determined using the LGD specified for unsecured exposures, as set out in CRE32.6 and CRE32.7.

LGD under the F-IRB approach: methodology for the treatment of pools of collateral

32.14 In the case where a bank has obtained multiple types of collateral it may apply the formula set out in CRE32.10 sequentially for each individual type of collateral. In doing so, after each step of recognising one individual type of collateral, the remaining value of the unsecured exposure (E_U) will be reduced by the adjusted value of the collateral (E_S) recognised in that step. In line with CRE32.10, the total of E_S across all collateral types is capped at the value of $E \cdot (1+H_E)$. This results in the formula that follows, where for each collateral type i:

(1) LGD_{Si} is the LGD applicable to that form of collateral (as specified in CRE32.11).

(2) E_{Si} is the current value of the collateral received after the application of the haircut applicable for the type of collateral (H_c) (as specified in CRE32.11).

$$LGD^* = LGD_U \cdot \frac{E_U}{E \cdot (1 + H_E)} + \sum_i LGD_{Si} \cdot \frac{E_{Si}}{E \cdot (1 + H_E)}$$

LGD under the advanced approach

32.15 Subject to certain additional minimum requirements specified below (and the conditions set out in CRE30.34), supervisors may permit banks to use their own internal estimates of LGD for corporate and sovereign exposures. LGD must be measured as the loss given default as a percentage of the EAD. Banks eligible for the IRB approach that are unable to meet these additional minimum requirements must utilise the foundation LGD treatment described above.

32.16 The LGD for each corporate exposure that is used as input into the risk weight formula and the calculation of expected loss must not be less than the parameter floors indicated in the table below (the floors do not apply to the LGD for exposures in the sovereign asset class):

LGD parameter floors for corporate exposures

Unsecured	Secured
25%	Varying by collateral type: • 0% financial • 10% receivables • 10% commercial or residential real estate • 15% other physical

32.17 The LGD floors for secured exposures in the table above apply when the exposure is fully secured (ie the value of collateral after the application of haircuts exceeds the value of the exposure). The LGD floor for a partially secured exposure is calculated as a weighted average of the unsecured LGD floor for the unsecured portion and the secured LGD floor for the secured portion. That is, the following formula should be used to determine the LGD floor, where:

(1) $LGD_{U\ floor}$ and $LGD_{S\ floor}$ are the floor values for fully unsecured and fully secured exposures respectively, as specified in the table in CRE32.16.

(2) The other terms are defined as set out in CRE32.10 and CRE32.11.

$$Floor = LGD_{U\ floor} \cdot \frac{E_U}{E \cdot \left(1 + H_E\right)} + LGD_{S\ floor} \cdot \frac{E_S}{E \cdot \left(1 + H_E\right)}$$

32.18 In cases where a bank has met the conditions to use their own internal estimates of LGD for a pool of unsecured exposures, and takes collateral against one of these exposures, it may not be able to model the effects of the collateral (ie it may not have enough data to model the effect of the collateral on recoveries). In such cases, the bank is permitted to apply the formula set out in CRE32.10 or CRE32.14, with the exception that the LGD_U term would be the bank's own internal estimate of the unsecured LGD. To adopt this treatment the collateral must be eligible under the F-IRB and the bank's estimate of LGD_U must not take account of any effects of collateral recoveries.

32.19 The minimum requirements for the derivation of LGD estimates are outlined in CRE36.83 to CRE36.88.

Treatment of certain repo-style transactions

32.20

Banks that want to recognise the effects of master netting agreements on repo-style transactions for capital purposes must apply the methodology outlined in CRE32.38 for determining E* for use as the EAD in the calculation of counterparty credit risk. For banks using the advanced approach, own LGD estimates would be permitted for the unsecured equivalent amount (E*) used to calculate counterparty credit risk. In both cases banks, in addition to counterparty credit risk, must also calculate the capital requirements relating to any credit or market risk to which they remain exposed arising from the underlying securities in the master netting agreement.

Treatment of guarantees and credit derivatives

32.21 There are two approaches for recognition of credit risk mitigation (CRM) in the form of guarantees and credit derivatives in the IRB approach: a foundation approach for banks using supervisory values of LGD, and an advanced approach for those banks using their own internal estimates of LGD.

32.22 Under either approach, CRM in the form of guarantees and credit derivatives must not reflect the effect of double default (see CRE36.102). As such, to the extent that the CRM is recognised by the bank, the adjusted risk weight will not be less than that of a comparable direct exposure to the protection provider. Consistent with the standardised approach, banks may choose not to recognise credit protection if doing so would result in a higher capital requirement.

Treatment of guarantees and credit derivatives: recognition under the foundation approach

32.23 For banks using the foundation approach for LGD, the approach to guarantees and credit derivatives closely follows the treatment under the standardised approach as specified in CRE22.70 to CRE22.84. The range of eligible guarantors is the same as under the standardised approach except that companies that are internally rated may also be recognised under the foundation approach. To receive recognition, the requirements outlined in CRE22.70 to CRE22.75 of the standardised approach must be met.

32.24 Eligible guarantees from eligible guarantors will be recognised as follows:

(1) For the covered portion of the exposure, a risk weight is derived by taking:

(a) the risk-weight function appropriate to the type of guarantor, and

(b) the PD appropriate to the guarantor's borrower grade.

(2) The bank may replace the LGD of the underlying transaction with the LGD applicable to the guarantee taking into account seniority and any collateralisation of a guaranteed commitment. For example, when a bank has a subordinated claim on the borrower but the guarantee represents a senior claim on the guarantor this may be reflected by using an LGD applicable for senior exposures (see CRE32.6) instead of an LGD applicable for subordinated exposures.

(3) In case the bank applies the standardised approach to direct exposures to the guarantor it may only recognise the guarantee by applying the standardised approach to the covered portion of the exposure.

32.25 The uncovered portion of the exposure is assigned the risk weight associated with the underlying obligor.

32.26 Where partial coverage exists, or where there is a currency mismatch between the underlying obligation and the credit protection, it is necessary to split the exposure into a covered and an uncovered amount. The treatment in the foundation approach follows that outlined in CRE22.80 to CRE22.81 of the standardised approach, and depends upon whether the cover is proportional or tranched.

Treatment of guarantees and credit derivatives: recognition under the advanced approach

32.27 Banks using the advanced approach for estimating LGDs may reflect the risk-mitigating effect of guarantees and credit derivatives through either adjusting PD or LGD estimates. Whether adjustments are done through PD or LGD, they must be done in a consistent manner for a given guarantee or credit derivative type. In doing so, banks must not include the effect of double default in such adjustments. Thus, the adjusted risk weight must not be less than that of a comparable direct exposure to the protection provider. In case the bank applies the standardised approach to direct exposures to the guarantor it may only recognise the guarantee by applying the standardised approach to the covered portion of the exposure. In case the bank applies the F-IRB approach to direct exposures to the guarantor it may only recognise the guarantee by determining the risk weight for the comparable direct exposure to the guarantor according to the F-IRB approach.

32.28 A bank relying on own-estimates of LGD has the option to adopt the treatment outlined in CRE32.23 to CRE32.26 above for banks under the F-IRB approach, or to make an adjustment to its LGD estimate of the exposure to reflect the presence of the guarantee or credit derivative. Under this option, there are no limits to the range of eligible guarantors although the set of minimum

requirements provided in CRE36.104 to CRE36.105 concerning the type of guarantee must be satisfied. For credit derivatives, the requirements of CRE36.110 to CRE36.111 must be satisfied.[1] For exposures for which a bank has permission to use its own estimates of LGD, the bank may recognise the risk mitigating effects of first-to-default credit derivatives, but may not recognise the risk mitigating effects of second-to-default or more generally nth-to-default credit derivatives.

Footnotes

[1] *When credit derivatives do not cover the restructuring of the underlying obligation, the partial recognition set out in CRE22.75 of the standardised approach applies.*

Exposure at default (EAD)

32.29 The following sections apply to both on and off-balance sheet positions. All exposures are measured gross of specific provisions or partial write-offs. The EAD on drawn amounts should not be less than the sum of: (i) the amount by which a bank's regulatory capital would be reduced if the exposure were written-off fully; and (ii) any specific provisions and partial write-offs. When the difference between the instrument's EAD and the sum of (i) and (ii) is positive, this amount is termed a discount. The calculation of risk-weighted assets is independent of any discounts. Under the limited circumstances described in CRE35.4, discounts may be included in the measurement of total eligible provisions for purposes of the EL-provision calculation set out in CRE35.

Exposure measurement for on-balance sheet items

32.30 On-balance sheet netting of loans and deposits will be recognised subject to the same conditions as under CRE22.68 of the standardised approach. Where currency or maturity mismatched on-balance sheet netting exists, the treatment follows the standardised approach, as set out in CRE22.10 and CRE22.12 to CRE22.15.

Exposure measurement for off-balance sheet items (with the exception of derivatives)

32.31 For off-balance sheet items there are two approaches for the estimation of EAD: a foundation approach and an advanced approach. When only the drawn balances of revolving facilities have been securitised, banks must ensure that they continue to hold required capital against the undrawn balances associated with the securitised exposures.

32.32 In the foundation approach, EAD is calculated as the committed but undrawn amount multiplied by a credit conversion factor (CCF). In the advanced approach, EAD for undrawn commitments may be calculated as the committed but undrawn amount multiplied by a CCF or derived from direct estimates of total facility EAD. In both the foundation approach and advanced approaches, the definition of commitments is the same as in the standardised approach, as set out in CRE20.94.

EAD under the foundation approach

32.33 The types of instruments and the CCFs applied to them under the F-IRB approach are the same as those in the standardised approach, as set out in CRE20.94 to CRE20.101.

32.34 The amount to which the CCF is applied is the lower of the value of the unused committed credit line, and the value that reflects any possible constraining of the availability of the facility, such as the existence of a ceiling on the potential lending amount which is related to a borrower's reported cash flow. If the facility is constrained in this way, the bank must have sufficient line monitoring and management procedures to support this contention.

32.35 Where a commitment is obtained on another off-balance sheet exposure, banks under the foundation approach are to apply the lower of the applicable CCFs.

EAD under the advanced approach

32.36 Banks which meet the minimum requirements for use of their own estimates of EAD (see CRE36.89 to CRE36.98) will be allowed for exposures for which A-IRB is permitted (see CRE30.33) to use their own internal estimates of EAD for undrawn revolving commitments[2] to extend credit, purchase assets or issue credit substitutes provided the exposure is not subject to a CCF of 100% in the foundation approach (see CRE32.33). Standardised approach CCFs must be used for all other off-balance sheet items (for example, undrawn non-revolving commitments), and must be used where the minimum requirements for own estimates of EAD are not met. The EAD for each exposure that is not in the sovereign asset class that is used as input into the risk weight formula and the calculation of expected loss is subject to a floor that is the sum of: (i) the on balance sheet amount; and (ii) 50% of the off balance sheet exposure using the applicable CCF in the standardised approach.

Footnotes

[2] *A revolving loan facility is one that lets a borrower obtain a loan where the borrower has the flexibility to decide how often to withdraw from the loan and at what time intervals. A revolving facility allows the borrower to drawdown, repay and re-draw loans advanced to it. Facilities that allow prepayments and subsequent redraws of those prepayments are considered as revolving.*

Exposures that give rise to counterparty credit risk

32.37 For exposures that give rise to counterparty credit risk according to CRE51.4 (ie OTC derivatives, exchange-traded derivatives, long settlement transactions and securities financing transactions (SFTs)), the EAD is to be calculated under the rules set forth in CRE50 to CRE54.

32.38 For SFTs, banks may recognise a reduction in the counterparty credit risk requirement arising from the effect of a master netting agreement providing that it satisfies the criteria set out in CRE22.62 and CRE22.63 of the standardised approach. The bank must calculate E*, which is the exposure to be used for the counterparty credit risk requirement taking account of the risk mitigation of collateral received, using the formula set out in CRE22.65 of the standardised approach. In calculating risk-weighted assets and expected loss (EL) amounts for the counterparty credit risk arising from the set of transactions covered by the master netting agreement, E* must be used as the EAD of the counterparty.

32.39 As an alternative to the use of standard haircuts for the calculation of the counterparty credit risk requirement for SFTs set out in CRE32.38, banks may be permitted to use a value-at-risk (VaR) models approach to reflect price volatility of the exposures and the financial collateral. This approach can take into account the correlation effects between security positions. This approach applies to single SFTs and SFTs covered by netting agreements on a counterparty-by-counterparty basis, both under the condition that the collateral is revalued on a daily basis. This holds for the underlying securities being different and unrelated to securitisations. The master netting agreement must satisfy the criteria set out in CRE22.62 and CRE22.63 of the standardised approach. The VaR models approach is available to banks that have received supervisory recognition for an internal market risk model according to MAR30.2. Banks which have not received market risk model recognition can separately apply for supervisory recognition to use their internal VaR models for the calculation of potential price volatility for SFTs, provided the model meets the requirements of MAR30.2. Although the market risk standards have changed from a 99% VaR to a 97.5% expected shortfall, the VaR models approach to SFTs retains the use of a 99% VaR to calculate the counterparty credit risk for SFTs. The VaR model needs to capture risk sufficient to pass the backtesting and profit and loss attribution tests of MAR30.4. The default risk charge of MAR33.18 to MAR33.39 is not required in the VaR model for SFTs.

32.40 The quantitative and qualitative criteria for recognition of internal market risk models for SFTs are in principle the same as in MAR30.5 to MAR30.16 and MAR33.1 to MAR33.12. The minimum liquidity horizon or the holding period for SFTs is 5 business days for margined repo-style transactions, rather than the 10 business days in MAR33.12. For other transactions eligible for the VaR models approach, the 10 business day holding period will be retained. The minimum holding period should be adjusted upwards for market instruments where such a holding period would be inappropriate given the liquidity of the instrument concerned.

32.41 The calculation of the exposure E* for banks using their internal model to calculate their counterparty credit risk requirement will be as follows, where banks will use the previous day's VaR number:

$$E^{*} = \max\left\{0, \left[\left(\sum E - \sum C\right) + \textit{VaR output from internal model}\right]\right\}$$

32.42 Subject to supervisory approval, instead of using the VaR approach, banks may also calculate an effective expected positive exposure for repo-style and other similar SFTs, in accordance with the internal models method set out in the counterparty credit risk standards.

32.43 As in the standardised approach, for transactions where the conditions in CRE22.36 are met, and in addition, the counterparty is a core market participant as

specified in CRE22.37, supervisors may choose not to apply the haircuts specified under the comprehensive approach, but instead to apply a zero H. A netting set that contains any transaction that does not meet the requirements in CRE22.36 of the standardised approach is not eligible for this treatment.

Effective maturity (M)

32.44 Effective maturity (M) will be 2.5 years for exposures to which the bank applies the foundation approach, except for repo-style transactions where the effective maturity is 6 months (ie M=0.5). National supervisors may choose to require all banks in their jurisdiction (those using the foundation and advanced approaches) to measure M for each facility using the definition provided below.

32.45 Banks using any element of the A-IRB approach are required to measure effective maturity for each facility as defined below. However, national supervisors may allow the effective maturity to be fixed at 2.5 years (the "fixed maturity treatment") for facilities to certain smaller domestic corporate borrowers if the reported sales (ie turnover) as well as total assets for the consolidated group of which the firm is a part of are less than €500 million. The consolidated group has to be a domestic company based in the country where the fixed maturity treatment is applied. If adopted, national supervisors must apply the fixed maturity treatment to all IRB banks using the advanced approach in that country, rather than on a bank-by-bank basis.

32.46 Except as noted in CRE32.51, the effective maturity (M) is subject to a floor of one year and a cap of 5 years.

32.47 For an instrument subject to a determined cash flow schedule, effective maturity M is defined as follows, where CF_t denotes the cash flows (principal, interest payments and fees) contractually payable by the borrower in period t:

$$\textit{Effective maturity} = \mathrm{M} = \sum_t t \cdot CF_t \,/\, \sum_t CF_t$$

32.48 If a bank is not in a position to calculate the effective maturity of the contracted payments as noted above, it is allowed to use a more conservative measure of M such as that it equals the maximum remaining time (in years) that the borrower is permitted to take to fully discharge its contractual obligation (principal, interest, and fees) under the terms of loan agreement. Normally, this will correspond to the nominal maturity of the instrument.

32.49

For derivatives subject to a master netting agreement, the effective maturity is defined as the weighted average maturity of the transactions within the netting agreement. Further, the notional amount of each transaction should be used for weighting the maturity.

32.50 For revolving exposures, effective maturity must be determined using the maximum contractual termination date of the facility. Banks must not use the repayment date of the current drawing.

32.51 The one-year floor, set out in CRE32.46 above, does not apply to certain short-term exposures, comprising fully or nearly-fully collateralised[3] capital market-driven transactions (ie OTC derivatives transactions and margin lending) and repo-style transactions (ie repos/reverse repos and securities lending/borrowing) with an original maturity of less than one year, where the documentation contains daily remargining clauses. For all eligible transactions the documentation must require daily revaluation, and must include provisions that must allow for the prompt liquidation or setoff of the collateral in the event of default or failure to re-margin. The maturity of such transactions must be calculated as the greater of one-day, and the effective maturity (M, consistent with the definition above), except for transactions subject to a master netting agreement, where the floor is determined by the minimum holding period for the transaction type, as required by CRE32.54.

Footnotes

[3] *The intention is to include both parties of a transaction meeting these conditions where neither of the parties is systematically under-collateralised.*

32.52 The one-year floor, set out in CRE32.46 above, also does not apply to the following exposures:

(1) Short-term self-liquidating trade transactions. Import and export letters of credit and similar transactions should be accounted for at their actual remaining maturity.

(2) Issued as well as confirmed letters of credit that are short term (ie have a maturity below one year) and self-liquidating.

32.53 In addition to the transactions considered in CRE32.51 above, other short-term exposures with an original maturity of less than one year that are not part of a bank's ongoing financing of an obligor may be eligible for exemption from the one-year floor. After a careful review of the particular circumstances in their

jurisdictions, national supervisors should define the types of short-term exposures that might be considered eligible for this treatment. The results of these reviews might, for example, include transactions such as:

(1) Some capital market-driven transactions and repo-style transactions that might not fall within the scope of CRE32.51.

(2) Some trade finance transactions that are not exempted by CRE32.52.

(3) Some exposures arising from settling securities purchases and sales. This could also include overdrafts arising from failed securities settlements provided that such overdrafts do not continue more than a short, fixed number of business days.

(4) Some exposures arising from cash settlements by wire transfer, including overdrafts arising from failed transfers provided that such overdrafts do not continue more than a short, fixed number of business days.

(5) Some exposures to banks arising from foreign exchange settlements.

(6) Some short-term loans and deposits.

32.54 For transactions falling within the scope of CRE32.51 subject to a master netting agreement, the effective maturity is defined as the weighted average maturity of the transactions. A floor equal to the minimum holding period for the transaction type set out in CRE22.57 of the standardised approach will apply to the average. Where more than one transaction type is contained in the master netting agreement a floor equal to the highest holding period will apply to the average. Further, the notional amount of each transaction should be used for weighting maturity.

32.55 Where there is no explicit definition, the effective maturity (M) assigned to all exposures is set at 2.5 years unless otherwise specified in CRE32.44.

Treatment of maturity mismatches

32.56 The treatment of maturity mismatches under IRB is identical to that in the standardised approach (see CRE22.10 to CRE22.14).

Risk components for retail exposures

32.57 This section, CRE32.57 to CRE32.67, sets out the calculation of the risk components for retail exposures. In the case of an exposure that is guaranteed by a sovereign, the floors that apply to the risk components do not apply to that part of the exposure covered by the sovereign guarantee (ie any part of the exposure that is not covered by the guarantee is subject to the relevant floors).

Probability of default (PD) and loss given default (LGD)

32.58 For each identified pool of retail exposures, banks are expected to provide an estimate of the PD and LGD associated with the pool, subject to the minimum requirements as set out in CRE36. Additionally, the PD for retail exposures is the greater of: (i) the one-year PD associated with the internal borrower grade to which the pool of retail exposures is assigned; and (ii) 0.1% for qualifying revolving retail exposure (QRRE) revolvers (see CRE30.24 for the definition of QRRE revolvers) and 0.05% for all other exposures. The LGD for each exposure that is used as input into the risk weight formula and the calculation of expected loss must not be less than the parameter floors indicated in the table below:

LGD parameter floors for retail exposures

Type of exposure	*Unsecured*	*Secured*
Mortgages	Not applicable	5%
QRRE (transactors and revolvers)	50%	Not applicable
Other retail	30%	Varying by collateral type: • 0% financial • 10% receivables • 10% commercial or residential real estate • 15% other physical

32.59 Regarding the LGD parameter floors set out in the table above, the LGD floors for partially secured exposures in the "other retail" category should be calculated according to the formula set out in CRE32.17. The LGD floor for residential mortgages is fixed at 5%, irrespective of the level of collateral provided by the property.

Recognition of guarantees and credit derivatives

32.60 Banks may reflect the risk-reducing effects of guarantees and credit derivatives, either in support of an individual obligation or a pool of exposures, through an adjustment of either the PD or LGD estimate, subject to the minimum requirements in CRE36.100 to CRE36.111. Whether adjustments are done through PD or LGD, they must be done in a consistent manner for a given guarantee or credit derivative type. In case the bank applies the standardised approach to direct exposures to the guarantor it may only recognise the guarantee by applying the standardised approach risk weight to the covered portion of the exposure.

32.61 Consistent with the requirements outlined above for corporate and bank exposures, banks must not include the effect of double default in such adjustments. The adjusted risk weight must not be less than that of a comparable direct exposure to the protection provider. Consistent with the standardised approach, banks may choose not to recognise credit protection if doing so would result in a higher capital requirement.

Exposure at default (EAD)

32.62 Both on- and off-balance sheet retail exposures are measured gross of specific provisions or partial write-offs. The EAD on drawn amounts should not be less than the sum of: (i) the amount by which a bank's regulatory capital would be reduced if the exposure were written-off fully; and (ii) any specific provisions and partial write-offs. When the difference between the instrument's EAD and the sum of (i) and (ii) is positive, this amount is termed a discount. The calculation of risk-weighted assets is independent of any discounts. Under the limited circumstances described in CRE35.4, discounts may be included in the measurement of total eligible provisions for purposes of the EL-provision calculation set out in chapter CRE35.

32.63 On-balance sheet netting of loans and deposits of a bank to or from a retail customer will be permitted subject to the same conditions outlined in CRE22.68 and CRE22.69 of the standardised approach. The definition of commitment is the same as in the standardised approach, as set out in CRE20.94. Banks must use their own estimates of EAD for undrawn revolving commitments to extend credit, purchase assets or issue credit substitutes provided the exposure is not subject to a CCF of 100% in the standardised approach (see CRE20.92) and the minimum requirements in CRE36.89 to CRE36.99 are satisfied. Foundation approach CCFs must be used for all other off-balance sheet items (for example, undrawn non-revolving commitments), and must be used where the minimum requirements for own estimates of EAD are not met.

32.64 Regarding own estimates of EAD, the EAD for each exposure that is used as input into the risk weight formula and the calculation of expected loss is subject to a floor that is the sum of: (i) the on balance sheet amount; and (ii) 50% of the off balance sheet exposure using the applicable CCF in the standardised approach.

32.65 For retail exposures with uncertain future drawdown such as credit cards, banks must take into account their history and/or expectation of additional drawings prior to default in their overall calibration of loss estimates. In particular, where a bank does not reflect conversion factors for undrawn lines in its EAD estimates, it must reflect in its LGD estimates the likelihood of additional drawings prior to default. Conversely, if the bank does not incorporate the possibility of additional drawings in its LGD estimates, it must do so in its EAD estimates.

32.66 When only the drawn balances of revolving retail facilities have been securitised, banks must ensure that they continue to hold required capital against the undrawn balances associated with the securitised exposures using the IRB approach to credit risk for commitments.

32.67 To the extent that foreign exchange and interest rate commitments exist within a bank's retail portfolio for IRB purposes, banks are not permitted to provide their internal assessments of credit equivalent amounts. Instead, the rules for the standardised approach continue to apply.

CRE33

IRB approach: supervisory slotting approach for specialised lending

This chapter sets out the calculation of risk-weighted assets and expected losses for specialised lending exposures subject to the supervisory slotting approach.

Version effective as of 15 Dec 2019

FAQs on climate related financial risks added on 8 December 2022.

Introduction

33.1 This chapter sets out the calculation of risk weighted assets and expected losses for specialised lending (SL) exposures subject to the supervisory slotting approach. The method for determining the difference between expected losses and provisions is set out in CRE35.

Risk weights for specialised lending (PF, OF, CF and IPRE)

33.2 For project finance (PF), object finance (OF), commodities finance (CF) and income producing real estate (IPRE) exposures, banks that do not meet the requirements for the estimation of probability of default (PD) under the corporate internal ratings-based (IRB) approach will be required to map their internal grades to five supervisory categories, each of which is associated with a specific risk weight. The slotting criteria on which this mapping must be based are provided in CRE33.13 for PF exposures, CRE33.15 for OF exposures, CRE33.16 for CF exposures and CRE33.14 for IPRE exposures. The risk weights for unexpected losses (UL) associated with each supervisory category are:

Supervisory categories and unexpected loss (UL) risk weights for other SL exposures

Strong	Good	Satisfactory	Weak	Default
70%	90%	115%	250%	0%

33.3 Although banks are expected to map their internal ratings to the supervisory categories for specialised lending using the slotting criteria, each supervisory category broadly corresponds to a range of external credit assessments as outlined below.

Strong	Good	Satisfactory	Weak	Default
BBB- or better	BB+ or BB	BB- or B+	B to C-	Not applicable

33.4 At national discretion, supervisors may allow banks to assign preferential risk weights of 50% to “strong” exposures, and 70% to “good” exposures, provided they have a remaining maturity of less than 2.5 years or the supervisor determines that banks’ underwriting and other risk characteristics are substantially stronger than specified in the slotting criteria for the relevant supervisory risk category.

Risk weights for specialised lending (HVCRE)

33.5 For high-volatility commercial real estate (HVCRE) exposures, banks that do not meet the requirements for estimation of PD, or whose supervisor has chosen not to implement the foundation or advanced approaches to HVCRE, must map their internal grades to five supervisory categories, each of which is associated with a specific risk weight. The slotting criteria on which this mapping must be based are the same as those for IPRE, as provided in CRE33.14. The risk weights associated with each supervisory category are:

Supervisory categories and UL risk weights for high-volatility commercial real estate

Strong	Good	Satisfactory	Weak	Default
95%	120%	140%	250%	0%

33.6 As indicated in CRE33.3, each supervisory category broadly corresponds to a range of external credit assessments.

33.7 At national discretion, supervisors may allow banks to assign preferential risk weights of 70% to "strong" exposures, and 95% to "good" exposures, provided they have a remaining maturity of less than 2.5 years or the supervisor determines that banks' underwriting and other risk characteristics are substantially stronger than specified in the slotting criteria for the relevant supervisory risk category.

Expected loss for specialised lending (SL) exposures subject to the supervisory slotting criteria

33.8 For SL exposures subject to the supervisory slotting criteria, the expected loss (EL) amount is determined by multiplying 8% by the risk-weighted assets produced from the appropriate risk weights, as specified below, multiplied by exposure at default.

33.9 The risk weights for SL, other than HVCRE, are as follows:

Strong	Good	Satisfactory	Weak	Default
5%	10%	35%	100%	625%

33.10 Where, at national discretion, supervisors allow banks to assign preferential risk weights to non-HVCRE SL exposures falling into the "strong" and "good" supervisory categories as outlined in CRE33.4, the corresponding expected loss (EL) risk weight is 0% for "strong" exposures, and 5% for "good" exposures.

33.11 The risk weights for HVCRE are as follows:

Strong	Good	Satisfactory	Weak	Default
5%	5%	35%	100%	625%

33.12 Even where, at national discretion, supervisors allow banks to assign preferential risk weights to HVCRE exposures falling into the "strong" and "good" supervisory categories as outlined in CRE33.7, the corresponding EL risk weight will remain at 5% for both "strong" and "good" exposures.

Supervisory slotting criteria for specialised lending

33.13 The following table sets out the supervisory rating grades for project finance exposures subject to the supervisory slotting approach.

	Strong	Good	Satisfactory	Weak
Financial strength				
Market conditions	Few competing suppliers or substantial and durable advantage in location, cost, or technology. Demand is strong and growing	Few competing suppliers or better than average location, cost, or technology but this situation may not last. Demand is strong and stable	Project has no advantage in location, cost, or technology. Demand is adequate and stable	Project has worse than average location, cost, or technology. Demand is weak and declining
Financial ratios (eg *debt service coverage ratio (DSCR), loan life coverage ratio, project life coverage ratio, and debt-to-equity ratio*)	Strong financial ratios considering the level of project risk; very robust economic assumptions	Strong to acceptable financial ratios considering the level of project risk; robust project economic assumptions	Standard financial ratios considering the level of project risk	Aggressive financial ratios considering the level of project risk
Stress analysis	The project can meet its financial obligations under sustained, severely stressed economic or sectoral conditions	The project can meet its financial obligations under normal stressed economic or sectoral conditions. The project is only likely to default under severe economic conditions	The project is vulnerable to stresses that are not uncommon through an economic cycle, and may default in a normal downturn	The project is likely to default unless conditions improve soon
Financial structure				
Duration of the credit compared to the duration of the project	Useful life of the project significantly exceeds tenor of the loan	Useful life of the project exceeds tenor of the loan	Useful life of the project exceeds tenor of the loan	Useful life of the project may not exceed tenor of the loan
Amortisation schedule	Amortising debt	Amortising debt	Amortising debt repayments	Bullet repayment or amortising

			with limited bullet payment	debt repayments with high bullet repayment
Political and legal environment				
Political risk, including transfer risk, considering project type and mitigants	Very low exposure; strong mitigation instruments, if needed	Low exposure; satisfactory mitigation instruments, if needed	Moderate exposure; fair mitigation instruments	High exposure; no or weak mitigation instruments
Force majeure risk (war, civil unrest, etc),	Low exposure	Acceptable exposure	Standard protection	Significant risks, not fully mitigated
Government support and project's importance for the country over the long term	Project of strategic importance for the country (preferably export-oriented). Strong support from Government	Project considered important for the country. Good level of support from Government	Project may not be strategic but brings unquestionable benefits for the country. Support from Government may not be explicit	Project not key to the country. No or weak support from Government
Stability of legal and regulatory environment (risk of change in law)	Favourable and stable regulatory environment over the long term	Favourable and stable regulatory environment over the medium term	Regulatory changes can be predicted with a fair level of certainty	Current or future regulatory issues may affect the project
Acquisition of all necessary supports and approvals for such relief from local content laws	Strong	Satisfactory	Fair	Weak
Enforceability of contracts, collateral and security	Contracts, collateral and security are enforceable	Contracts, collateral and security are enforceable	Contracts, collateral and security are considered enforceable	There are unresolved key issues in respect if actual

			even if certain non-key issues may exist	enforcement of contracts, collateral and security
Transaction characteristics				
Design and technology risk	Fully proven technology and design	Fully proven technology and design	Proven technology and design - start-up issues are mitigated by a strong completion package	Unproven technology and design; technology issues exist and/or complex design
Construction risk				
Permitting and siting	All permits have been obtained	Some permits are still outstanding but their receipt is considered very likely	Some permits are still outstanding but the permitting process is well defined and they are considered routine	Key permits still need to be obtained and are not considered routine. Significant conditions may be attached
Type of construction contract	Fixed-price date-certain turnkey construction engineering and procurement contract (EPC)	Fixed-price date-certain turnkey construction EPC	Fixed-price date-certain turnkey construction contract with one or several contractors	No or partial fixed-price turnkey contract and /or interfacing issues with multiple contractors
Completion guarantees	Substantial liquidated damages supported by financial substance and /or strong completion guarantee from sponsors with excellent	Significant liquidated damages supported by financial substance and /or completion guarantee from sponsors with good financial standing	Adequate liquidated damages supported by financial substance and /or completion guarantee from sponsors with good financial standing	Inadequate liquidated damages or not supported by financial substance or weak completion guarantees

	financial standing			
Track record and financial strength of contractor in constructing similar projects.	Strong	Good	Satisfactory	Weak
Operating risk				
Scope and nature of operations and maintenance (O & M) contracts	Strong long-term O&M contract, preferably with contractual performance incentives, and /or O&M reserve accounts	Long-term O&M contract, and/or O&M reserve accounts	Limited O&M contract or O&M reserve account	No O&M contract: risk of high operational cost overruns beyond mitigants
Operator's expertise, track record, and financial strength	Very strong, or committed technical assistance of the sponsors	Strong	Acceptable	Limited/weak, or local operator dependent on local authorities
Off-take risk				
(a) If there is a take-or-pay or fixed-price off-take contract:	Excellent creditworthiness of off-taker; strong termination clauses; tenor of contract comfortably exceeds the maturity of the debt	Good creditworthiness of off-taker; strong termination clauses; tenor of contract exceeds the maturity of the debt	Acceptable financial standing of off-taker; normal termination clauses; tenor of contract generally matches the maturity of the debt	Weak off-taker; weak termination clauses; tenor of contract does not exceed the maturity of the debt
(b) If there is no take-or-pay or fixed-price off-take contract:	Project produces essential services or a commodity sold widely on a world market; output can readily be	Project produces essential services or a commodity sold widely on a regional market that will absorb it at projected	Commodity is sold on a limited market that may absorb it only at lower than projected prices	Project output is demanded by only one or a few buyers or is not generally sold on an

	absorbed at projected prices even at lower than historic market growth rates	prices at historical growth rates		organised market
Supply risk				
Price, volume and transportation risk of feed-stocks; supplier's track record and financial strength	Long-term supply contract with supplier of excellent financial standing	Long-term supply contract with supplier of good financial standing	Long-term supply contract with supplier of good financial standing - a degree of price risk may remain	Short-term supply contract or long-term supply contract with financially weak supplier - a degree of price risk definitely remains
Reserve risks (e. g. natural resource development)	Independently audited, proven and developed reserves well in excess of requirements over lifetime of the project	Independently audited, proven and developed reserves in excess of requirements over lifetime of the project	Proven reserves can supply the project adequately through the maturity of the debt	Project relies to some extent on potential and undeveloped reserves
Strength of Sponsor				
Sponsor's track record, financial strength, and country/sector experience	Strong sponsor with excellent track record and high financial standing	Good sponsor with satisfactory track record and good financial standing	Adequate sponsor with adequate track record and good financial standing	Weak sponsor with no or questionable track record and/or financial weaknesses
Sponsor support, as evidenced by equity, ownership clause and	Strong. Project is highly strategic for the sponsor (core business - long-term strategy)	Good. Project is strategic for the sponsor (core business - long-term strategy)	Acceptable. Project is considered important for the sponsor (core business)	Limited. Project is not key to sponsor's long-term strategy or core business

incentive to inject additional cash if necessary				
Security Package				
Assignment of contracts and accounts	Fully comprehensive	Comprehensive	Acceptable	Weak
Pledge of assets, taking into account quality, value and liquidity of assets	First perfected security interest in all project assets, contracts, permits and accounts necessary to run the project	Perfected security interest in all project assets, contracts, permits and accounts necessary to run the project	Acceptable security interest in all project assets, contracts, permits and accounts necessary to run the project	Little security or collateral for lenders; weak negative pledge clause
Lender's control over cash flow (eg cash sweeps, independent escrow accounts)	Strong	Satisfactory	Fair	Weak
Strength of the covenant package (mandatory prepayments, payment deferrals, payment cascade, dividend restrictions-)	Covenant package is strong for this type of project Project may issue no additional debt	Covenant package is satisfactory for this type of project Project may issue extremely limited additional debt	Covenant package is fair for this type of project Project may issue limited additional debt	Covenant package is Insufficient for this type of project Project may issue unlimited additional debt
Reserve funds (debt service, O&M, renewal and replacement, unforeseen events, etc)	Longer than average coverage period, all reserve funds fully funded in cash or letters of credit from highly rated bank	Average coverage period, all reserve funds fully funded	Average coverage period, all reserve funds fully funded	Shorter than average coverage period, reserve funds funded from operating cash flows

FAQ

FAQ1 *How can banks reflect climate-related financial risks in the Supervisory slotting criteria for specialised lending?*

When performing the assessment of the category of the subfactor components, banks should analyse how climate-related financial risks could negatively impact the assignment into a category. This includes any potential impact on the financial strength (eg estimations of the future demand, economic assumption and stressed economic conditions used for stress analysis), the political and legal environment (eg transition risk into "stability of legal and regulatory environment (risk of change in law)", physical risk into "Force majeure risk (war, civil unrest, etc)" and the asset characteristic in the case of object finance. When performing this assessment, banks should take into consideration whether climate-related financial risks have been adequately mitigated (eg improving adaptation or taking insurance coverage against physical climate risks).

33.14 The following table sets out the supervisory rating grades for income producing real estate exposures and high-volatility commercial real estate exposures subject to the supervisory slotting approach.

	Strong	Good	Satisfactory	Weak
Financial strength				
Market conditions	The supply and demand for the project's type and location are currently in equilibrium. The number of competitive properties coming to market is equal or lower than forecasted demand	The supply and demand for the project's type and location are currently in equilibrium. The number of competitive properties coming to market is roughly equal to forecasted demand	Market conditions are roughly in equilibrium. Competitive properties are coming on the market and others are in the planning stages. The project's design and capabilities may not be state of the art compared to new projects	Market conditions are weak. It is uncertain when conditions will improve and return to equilibrium. The project is losing tenants at lease expiration. New lease terms are less favourable compared to those expiring
Financial ratios and advance rate	The property's DSCR is considered strong (DSCR is not relevant for the construction phase) and its loan-to-value ratio (LTV) is considered low given its property type. Where a secondary market exists, the transaction is underwritten to market standards	The DSCR (not relevant for development real estate) and LTV are satisfactory. Where a secondary market exists, the transaction is underwritten to market standards	The property's DSCR has deteriorated and its value has fallen, increasing its LTV	The property's DSCR has deteriorated significantly and its LTV is well above underwriting standards for new loans
Stress analysis	The property's resources, contingencies and liability structure allow it to meet its financial obligations	The property can meet its financial obligations under a sustained period of financial stress (eg interest rates, economic	During an economic downturn, the property would suffer a decline in revenue that would limit its ability to fund	The property's financial condition is strained and is likely to default unless conditions improve in the near term

	during a period of severe financial stress (eg interest rates, economic growth)	growth). The property is likely to default only under severe economic conditions	capital expenditures and significantly increase the risk of default	
Cash-flow predictability				
(a) For complete and stabilised property	The property's net stabilised property term with creditworthy tenants and their maturity dates are scattered. The property has a track record of tenant retention upon lease expiration. Its vacancy rate is low. Expenses (maintenance, insurance, security, and property taxes) are predictable	Most of the property's leases are long-term, with tenants that range in creditworthiness. The property experiences a normal level of tenant turnover upon lease expiration. Its vacancy rate is low. Expenses are predictable	Most of the property's leases are medium rather than long-term with tenants that range in creditworthiness. The property experiences a moderate level of tenant turnover upon lease expiration. Its vacancy rate is moderate. Expenses are relatively predictable but vary in relation to revenue	The property's leases are of various terms with tenants that range in creditworthiness. The property experiences a very high level of tenant turnover upon lease expiration. Its vacancy rate is high. Significant expenses are incurred preparing space for new tenants
(b) For complete but not stabilised property	Leasing activity meets or exceeds projections. The project should achieve stabilisation in the near future	Leasing activity meets or exceeds projections. The project should achieve stabilisation in the near future	Most leasing activity is within projections; however, stabilisation will not occur for some time	Market rents do not meet expectations. Despite achieving target occupancy rate, cash flow coverage is tight due to disappointing revenue
(c) For construction phase	The property is entirely pre-leased through the tenor of the loan or pre-sold to an	The property is entirely pre-leased or pre-sold to a creditworthy tenant or buyer,	Leasing activity is within projections but the building may not be pre-leased and there	The property is deteriorating due to cost overruns, market deterioration, tenant

	investment grade tenant or buyer, or the bank has a binding commitment for take-out financing from an investment grade lender	or the bank has a binding commitment for permanent financing from a creditworthy lender	may not exist a take-out financing. The bank may be the permanent lender	cancellations or other factors. There may be a dispute with the party providing the permanent financing
Asset characteristics				
Location	Property is located in highly desirable location that is convenient to services that tenants desire	Property is located in desirable location that is convenient to services that tenants desire	The property location lacks a competitive advantage	The property's location, configuration, design and maintenance have contributed to the property's difficulties
Design and condition	Property is favoured due to its design, configuration, and maintenance, and is highly competitive with new properties	Property is appropriate in terms of its design, configuration and maintenance. The property's design and capabilities are competitive with new properties	Property is adequate in terms of its configuration, design and maintenance	Weaknesses exist in the property's configuration, design or maintenance
Property is under construction	Construction budget is conservative and technical hazards are limited. Contractors are highly qualified	Construction budget is conservative and technical hazards are limited. Contractors are highly qualified	Construction budget is adequate and contractors are ordinarily qualified	Project is over budget or unrealistic given its technical hazards. Contractors may be under qualified
Strength of Sponsor /Developer				
Financial capacity and	The sponsor /developer	The sponsor /developer made	The sponsor /developer's	The sponsor /developer lacks

willingness to support the property.	made a substantial cash contribution to the construction or purchase of the property. The sponsor /developer has substantial resources and limited direct and contingent liabilities. The sponsor /developer's properties are diversified geographically and by property type	a material cash contribution to the construction or purchase of the property. The sponsor /developer's financial condition allows it to support the property in the event of a cash flow shortfall. The sponsor /developer's properties are located in several geographic regions	contribution may be immaterial or non-cash. The sponsor /developer is average to below average in financial resources	capacity or willingness to support the property
Reputation and track record with similar properties.	Experienced management and high sponsors' quality. Strong reputation and lengthy and successful record with similar properties	Appropriate management and sponsors' quality. The sponsor or management has a successful record with similar properties	Moderate management and sponsors' quality. Management or sponsor track record does not raise serious concerns	Ineffective management and substandard sponsors' quality. Management and sponsor difficulties have contributed to difficulties in managing properties in the past
Relationships with relevant real estate actors	Strong relationships with leading actors such as leasing agents	Proven relationships with leading actors such as leasing agents	Adequate relationships with leasing agents and other parties providing important real estate services	Poor relationships with leasing agents and/or other parties providing important real estate services
Security Package				
Nature of lien	Perfected first lien	Perfected first lien. Lenders in	Perfected first lien. Lenders in	

		some markets extensively use loan structures that include junior liens. Junior liens may be indicative of this level of risk if the total LTV inclusive of all senior positions does not exceed a typical first loan LTV.	some markets extensively use loan structures that include junior liens. Junior liens may be indicative of this level of risk if the total LTV inclusive of all senior positions does not exceed a typical first loan LTV.	Ability of lender to foreclose is constrained
Assignment of rents (for projects leased to long-term tenants)	The lender has obtained an assignment. They maintain current tenant information that would facilitate providing notice to remit rents directly to the lender, such as a current rent roll and copies of the project's leases	The lender has obtained an assignment. They maintain current tenant information that would facilitate providing notice to the tenants to remit rents directly to the lender, such as current rent roll and copies of the project's leases	The lender has obtained an assignment. They maintain current tenant information that would facilitate providing notice to the tenants to remit rents directly to the lender, such as current rent roll and copies of the project's leases	The lender has not obtained an assignment of the leases or has not maintained the information necessary to readily provide notice to the building's tenants
Quality of the insurance coverage	Appropriate	Appropriate	Appropriate	Substandard

33.15 The following table sets out the supervisory rating grades for object finance exposures subject to the supervisory slotting approach.

	Strong	Good	Satisfactory	Weak
Financial strength				
Market conditions	Demand is strong and growing, strong entry barriers, low sensitivity to changes in technology and economic outlook	Demand is strong and stable. Some entry barriers, some sensitivity to changes in technology and economic outlook	Demand is adequate and stable, limited entry barriers, significant sensitivity to changes in technology and economic outlook	Demand is weak and declining, vulnerable to changes in technology and economic outlook, highly uncertain environment
Financial ratios (DSCR and LTV)	Strong financial ratios considering the type of asset. Very robust economic assumptions	Strong / acceptable financial ratios considering the type of asset. Robust project economic assumptions	Standard financial ratios for the asset type	Aggressive financial ratios considering the type of asset
Stress analysis	Stable long-term revenues, capable of withstanding severely stressed conditions through an economic cycle	Satisfactory short-term revenues. Loan can withstand some financial adversity. Default is only likely under severe economic conditions	Uncertain short-term revenues. Cash flows are vulnerable to stresses that are not uncommon through an economic cycle. The loan may default in a normal downturn	Revenues subject to strong uncertainties; even in normal economic conditions the asset may default, unless conditions improve
Market liquidity	Market is structured on a worldwide basis; assets are highly liquid	Market is worldwide or regional; assets are relatively liquid	Market is regional with limited prospects in the short term, implying lower liquidity	Local market and/or poor visibility. Low or no liquidity, particularly on niche markets
Political and legal environment				
	Very low; strong mitigation	Low; satisfactory mitigation		High; no or weak

Political risk, including transfer risk	instruments, if needed	instruments, if needed	Moderate; fair mitigation instruments	mitigation instruments
Legal and regulatory risks	Jurisdiction is favourable to repossession and enforcement of contracts	Jurisdiction is favourable to repossession and enforcement of contracts	Jurisdiction is generally favourable to repossession and enforcement of contracts, even if repossession might be long and/or difficult	Poor or unstable legal and regulatory environment. Jurisdiction may make repossession and enforcement of contracts lengthy or impossible
Transaction characteristics				
Financing term compared to the economic life of the asset	Full payout profile /minimum balloon. No grace period	Balloon more significant, but still at satisfactory levels	Important balloon with potentially grace periods	Repayment in fine or high balloon
Operating risk				
Permits / licensing	All permits have been obtained; asset meets current and foreseeable safety regulations	All permits obtained or in the process of being obtained; asset meets current and foreseeable safety regulations	Most permits obtained or in process of being obtained, outstanding ones considered routine, asset meets current safety regulations	Problems in obtaining all required permits, part of the planned configuration and/or planned operations might need to be revised
Scope and nature of O & M contracts	Strong long-term O&M contract, preferably with contractual performance incentives, and /or O&M reserve accounts (if needed)	Long-term O&M contract, and/or O&M reserve accounts (if needed)	Limited O&M contract or O&M reserve account (if needed)	No O&M contract: risk of high operational cost overruns beyond mitigants

Operator's financial strength, track record in managing the asset type and capability to re-market asset when it comes off-lease	Excellent track record and strong re-marketing capability	Satisfactory track record and re-marketing capability	Weak or short track record and uncertain re-marketing capability	No or unknown track record and inability to remarket the asset
Asset characteristics				
Configuration, size, design and maintenance (ie age, size for a plane) compared to other assets on the same market	Strong advantage in design and maintenance. Configuration is standard such that the object meets a liquid market	Above average design and maintenance. Standard configuration, maybe with very limited exceptions — such that the object meets a liquid market	Average design and maintenance. Configuration is somewhat specific, and thus might cause a narrower market for the object	Below average design and maintenance. Asset is near the end of its economic life. Configuration is very specific; the market for the object is very narrow
Resale value	Current resale value is well above debt value	Resale value is moderately above debt value	Resale value is slightly above debt value	Resale value is below debt value
Sensitivity of the asset value and liquidity to economic cycles	Asset value and liquidity are relatively insensitive to economic cycles	Asset value and liquidity are sensitive to economic cycles	Asset value and liquidity are quite sensitive to economic cycles	Asset value and liquidity are highly sensitive to economic cycles
Strength of sponsor				
Operator's financial strength, track record in managing the asset type and capability to re-	Excellent track record and strong re-marketing capability	Satisfactory track record and re-marketing capability	Weak or short track record and uncertain re-marketing capability	No or unknown track record and inability to re-market the asset

market asset when it comes off-lease				
Sponsors' track record and financial strength	Sponsors with excellent track record and high financial standing	Sponsors with good track record and good financial standing	Sponsors with adequate track record and good financial standing	Sponsors with no or questionable track record and/or financial weaknesses
Security Package				
Asset control	Legal documentation provides the lender effective control (e.g. a first perfected security interest, or a leasing structure including such security) on the asset, or on the company owning it	Legal documentation provides the lender effective control (e.g. a perfected security interest, or a leasing structure including such security) on the asset, or on the company owning it	Legal documentation provides the lender effective control (e.g. a perfected security interest, or a leasing structure including such security) on the asset, or on the company owning it	The contract provides little security to the lender and leaves room to some risk of losing control on the asset
Rights and means at the lender's disposal to monitor the location and condition of the asset	The lender is able to monitor the location and condition of the asset, at any time and place (regular reports, possibility to lead inspections)	The lender is able to monitor the location and condition of the asset, almost at any time and place	The lender is able to monitor the location and condition of the asset, almost at any time and place	The lender is able to monitor the location and condition of the asset are limited
Insurance against damages	Strong insurance coverage including collateral damages with top quality insurance companies	Satisfactory insurance coverage (not including collateral damages) with good quality insurance companies	Fair insurance coverage (not including collateral damages) with acceptable quality insurance companies	Weak insurance coverage (not including collateral damages) or with weak quality insurance companies

33.16 The following table sets out the supervisory rating grades for commodities finance exposures subject to the supervisory slotting approach.

	Strong	Good	Satisfactory	Weak
Financial strength				
Degree of over-collateralisation of trade	Strong	Good	Satisfactory	Weak
Political and legal environment				
Country risk	No country risk	Limited exposure to country risk (in particular, offshore location of reserves in an emerging country)	Exposure to country risk (in particular, offshore location of reserves in an emerging country)	Strong exposure to country risk (in particular, inland reserves in an emerging country)
Mitigation of country risks	Very strong mitigation: Strong offshore mechanisms Strategic commodity 1st class buyer	Strong mitigation: Offshore mechanisms Strategic commodity Strong buyer	Acceptable mitigation: Offshore mechanisms Less strategic commodity Acceptable buyer	Only partial mitigation: No offshore mechanisms Non-strategic commodity Weak buyer
Asset characteristics				
Liquidity and susceptibility to damage	Commodity is quoted and can be hedged through futures or over-the-counter (OTC) instruments. Commodity is not susceptible to damage	Commodity is quoted and can be hedged through OTC instruments. Commodity is not susceptible to damage	Commodity is not quoted but is liquid. There is uncertainty about the possibility of hedging. Commodity is not susceptible to damage	Commodity is not quoted. Liquidity is limited given the size and depth of the market. No appropriate hedging instruments. Commodity is susceptible to damage
Strength of sponsor				

Financial strength of trader	Very strong, relative to trading philosophy and risks	Strong	Adequate	Weak
Track record, including ability to manage the logistic process	Extensive experience with the type of transaction in question. Strong record of operating success and cost efficiency	Sufficient experience with the type of transaction in question. Above average record of operating success and cost efficiency	Limited experience with the type of transaction in question. Average record of operating success and cost efficiency	Limited or uncertain track record in general. Volatile costs and profits
Trading controls and hedging policies	Strong standards for counterparty selection, hedging, and monitoring	Adequate standards for counterparty selection, hedging, and monitoring	Past deals have experienced no or minor problems	Trader has experienced significant losses on past deals
Quality of financial disclosure	Excellent	Good	Satisfactory	Financial disclosure contains some uncertainties or is insufficient
Security package				
Asset control	First perfected security interest provides the lender legal control of the assets at any time if needed	First perfected security interest provides the lender legal control of the assets at any time if needed	At some point in the process, there is a rupture in the control of the assets by the lender. The rupture is mitigated by knowledge of the trade process or a third party undertaking as the case may be	Contract leaves room for some risk of losing control over the assets. Recovery could be jeopardised
Insurance against damages	Strong insurance	Satisfactory insurance	Fair insurance coverage (not	Weak insurance coverage (not

	coverage including collateral damages with top quality insurance companies	coverage (not including collateral damages) with good quality insurance companies	including collateral damages) with acceptable quality insurance companies	including collateral damages) or with weak quality insurance companies

CRE34

IRB approach: RWA for purchased receivables

This chapter sets out the calculation of risk-weighted under the internal ratings-based approach for purchased receivables.

Version effective as of 01 Jan 2023

Changes due to the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020. Also, cross references to the securitisation chapters updated to include a reference to the chapter on NPL securitisations (CRE45) published on 26 November 2020.

Introduction

34.1 This chapter presents the method of calculating the unexpected loss capital requirements for purchased receivables. For such assets, there are internal ratings-based (IRB) capital charges for both default risk and dilution risk.

Risk-weighted assets for default risk

34.2 For receivables belonging unambiguously to one asset class, the IRB risk weight for default risk is based on the risk-weight function applicable to that particular exposure type, as long as the bank can meet the qualification standards for this particular risk-weight function. For example, if banks cannot comply with the standards for qualifying revolving retail exposures (defined in CRE30.24), they should use the risk-weight function for other retail exposures. For hybrid pools containing mixtures of exposure types, if the purchasing bank cannot separate the exposures by type, the risk-weight function producing the highest capital requirements for the exposure types in the receivable pool applies.

34.3 For purchased retail receivables, a bank must meet the risk quantification standards for retail exposures but can utilise external and internal reference data to estimate the probabilities of default (PDs) and losses-given-default (LGDs). The estimates for PD and LGD (or expected loss, EL) must be calculated for the receivables on a stand-alone basis; that is, without regard to any assumption of recourse or guarantees from the seller or other parties.

34.4 For purchased corporate receivables the purchasing bank is expected to apply the existing IRB risk quantification standards for the bottom-up approach. However, for eligible purchased corporate receivables, and subject to supervisory permission, a bank may employ the following top-down procedure for calculating IRB risk weights for default risk:

(1) The purchasing bank will estimate the pool's one-year EL for default risk, expressed in percentage of the exposure amount (ie the total exposure-at-default, or EAD, amount to the bank by all obligors in the receivables pool). The estimated EL must be calculated for the receivables on a stand-alone basis; that is, without regard to any assumption of recourse or guarantees from the seller or other parties. The treatment of recourse or guarantees covering default risk (and/or dilution risk) is discussed separately below.

(2) Given the EL estimate for the pool's default losses, the risk weight for default risk is determined by the risk-weight function for corporate exposures.[1] As described below, the precise calculation of risk weights for default risk depends on the bank's ability to decompose EL into its PD and LGD components in a reliable manner. Banks can utilise external and internal data to estimate PDs and LGDs. However, the advanced approach will not be available for banks that use the foundation approach for corporate exposures.

Footnotes

[1] *The firm-size adjustment for small or medium-sized entities, as defined in CRE31.8, will be the weighted average by individual exposure of the pool of purchased corporate receivables. If the bank does not have the information to calculate the average size of the pool, the firm-size adjustment will not apply.*

Foundation IRB treatment

34.5 The risk weight under the foundation IRB treatment is determined as follows:

(1) If the purchasing bank is unable to decompose EL into its PD and LGD components in a reliable manner, the risk weight is determined from the corporate risk-weight function using the following specifications:

(a) If the bank can demonstrate that the exposures are exclusively senior claims to corporate borrowers:

(i) An LGD of 40% can be used.

(ii) PD will be calculated by dividing the EL using this LGD.

(iii) EAD will be calculated as the outstanding amount minus the capital charge for dilution prior to credit risk mitigation ($K_{Dilution}$).

(iv) EAD for a revolving purchase facility is the sum of the current amount of receivables purchased plus 40% of any undrawn purchase commitments minus $K_{Dilution}$.

(b) If the bank cannot demonstrate that the exposures are exclusively senior claims to corporate borrowers:

(i) PD is the bank's estimate of EL.

(ii) LGD will be 100%.

(iii) EAD is the amount outstanding minus $K_{Dilution}$.

(iv) EAD for a revolving purchase facility is the sum of the current amount of receivables purchased plus 40% of any undrawn purchase commitments minus $K_{Dilution}$.

(2) If the purchasing bank is able to estimate PD in a reliable manner, the risk weight is determined from the corporate risk-weight functions according to the specifications for LGD, effective maturity (M) and the treatment of guarantees under the foundation approach as given in CRE32.6 to CRE32.14, CRE32.20 to CRE32.26 and CRE32.44.

Advanced IRB treatment

34.6 Under the advanced IRB approach, if the purchasing bank can estimate either the pool's default-weighted average loss rates given default (as defined in CRE36.83) or average PD in a reliable manner, the bank may estimate the other parameter based on an estimate of the expected long-run loss rate. The bank may: (i) use an appropriate PD estimate to infer the long-run default-weighted average loss rate given default; or (ii) use a long-run default-weighted average loss rate given default to infer the appropriate PD. In either case, the LGD used for the IRB capital calculation for purchased receivables cannot be less than the long-run default-weighted average loss rate given default and must be consistent with the concepts defined in CRE36.83. The risk weight for the purchased receivables will be determined using the bank's estimated PD and LGD as inputs to the corporate risk-weight function. Similar to the foundation IRB treatment, EAD will be the amount outstanding minus $K_{Dilution}$. EAD for a revolving purchase facility will be the sum of the current amount of receivables purchased plus 40% of any undrawn purchase commitments minus $K_{Dilution}$ (thus, banks using the advanced IRB approach will not be permitted to use their internal EAD estimates for undrawn purchase commitments).

34.7 For drawn amounts, M will equal the pool's exposure-weighted average effective maturity (as defined in CRE32.44 to CRE32.55). This same value of M will also be used for undrawn amounts under a committed purchase facility provided the facility contains effective covenants, early amortisation triggers, or other features that protect the purchasing bank against a significant deterioration in the quality of the future receivables it is required to purchase over the facility's term. Absent such effective protections, the M for undrawn amounts will be calculated as the sum of: (a) the longest-dated potential receivable under the purchase agreement; and (b) the remaining maturity of the purchase facility.

Risk-weighted assets for dilution risk

34.8 Dilution refers to the possibility that the receivable amount is reduced through cash or non-cash credits to the receivable's obligor.[2] For both corporate and retail receivables, unless the bank can demonstrate to its supervisor that the dilution risk for the purchasing bank is immaterial, the treatment of dilution risk must be the following:

(1) At the level of either the pool as a whole (top-down approach) or the individual receivables making up the pool (bottom-up approach), the purchasing bank will estimate the one-year EL for dilution risk, also expressed in percentage of the receivables amount. Banks can utilise external and internal data to estimate EL. As with the treatments of default risk, this estimate must be computed on a stand-alone basis; that is, under the assumption of no recourse or other support from the seller or third-party guarantors.

(2) For the purpose of calculating risk weights for dilution risk, the corporate risk-weight function must be used with the following settings:

(a) The PD must be set equal to the estimated EL.

(b) The LGD must be set at 100%.

(c) An appropriate maturity treatment applies when determining the capital requirement for dilution risk. If a bank can demonstrate that the dilution risk is appropriately monitored and managed to be resolved within one year, the supervisor may allow the bank to apply a one-year maturity.

Footnotes

[2] *Examples include offsets or allowances arising from returns of goods sold, disputes regarding product quality, possible debts of the borrower to a receivables obligor, and any payment or promotional discounts offered by the borrower (eg a credit for cash payments within 30 days).*

34.9 This treatment will be applied regardless of whether the underlying receivables are corporate or retail exposures, and regardless of whether the risk weights for default risk are computed using the standard IRB treatments or, for corporate receivables, the top-down treatment described above.

Treatment of purchase price discounts for receivables

34.10 In many cases, the purchase price of receivables will reflect a discount (not to be confused with the discount concept defined in CRE32.29 and CRE32.62) that provides first loss protection for default losses, dilution losses or both. To the extent that a portion of such a purchase price discount may be refunded to the seller based on the performance of the receivables, the purchaser may recognise this refundable amount as first-loss protection and hence treat this exposure under the securitisation chapters of the credit risk standard CRE40 to CRE45, while the seller providing such a refundable purchase price discount must treat the refundable amount as a first-loss position under the securitisation chapters. Non-refundable purchase price discounts for receivables do not affect either the EL-provision calculation in CRE35 or the calculation of risk-weighted assets.

34.11 When collateral or partial guarantees obtained on receivables provide first loss protection (collectively referred to as mitigants in this paragraph), and these mitigants cover default losses, dilution losses, or both, they may also be treated as first loss protection under the securitisation chapters of the credit risk standard (see CRE44.10). When the same mitigant covers both default and dilution risk, banks using the Securitisation Internal Ratings-Based Approach (SEC-IRBA) that are able to calculate an exposure-weighted LGD must do so as defined in CRE44.21.

Recognition of credit risk mitigants

34.12 Credit risk mitigants will be recognised generally using the same type of framework as set forth in CRE32.21 to CRE32.28.[3] In particular, a guarantee provided by the seller or a third party will be treated using the existing IRB rules for guarantees, regardless of whether the guarantee covers default risk, dilution risk, or both.

(1) If the guarantee covers both the pool's default risk and dilution risk, the bank will substitute the risk weight for an exposure to the guarantor in place of the pool's total risk weight for default and dilution risk.

(2) If the guarantee covers only default risk or dilution risk, but not both, the bank will substitute the risk weight for an exposure to the guarantor in place of the pool's risk weight for the corresponding risk component (default or dilution). The capital requirement for the other component will then be added.

(3) If a guarantee covers only a portion of the default and/or dilution risk, the uncovered portion of the default and/or dilution risk will be treated as per the existing credit risk mitigation rules for proportional or tranched coverage

(ie the risk weights of the uncovered risk components will be added to the risk weights of the covered risk components).

Footnotes

[3] *At national supervisory discretion, banks may recognise guarantors that are internally rated and associated with a PD equivalent to less than A- under the foundation IRB approach for purposes of determining capital requirements for dilution risk.*

CRE35

IRB approach: treatment of expected losses and provisions

This chapter sets out the treatment of expected losses and provisions within the internal ratings-based approach.

Version effective as of 01 Jan 2023

Changes due to the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020.

Introduction

35.1 This chapter discusses the calculation of expected losses (EL) under the internal ratings-based (IRB) approach, and the method by which the difference between provisions (eg specific provisions, partial write-offs, portfolio-specific general provisions such as country risk provisions or general provisions) and EL may be included in or must be deducted from regulatory capital, as outlined in the definition of capital standard (CAP10.19 and CAP30.13). The treatment of EL and provisions related to securitisation exposures is outlined in CRE40.36.

Calculation of expected losses

35.2 A bank must sum the EL amount (defined as EL multiplied by exposure at default) associated with its exposures to which the IRB approach is applied (excluding the EL amount associated with securitisation exposures) to obtain a total EL amount.

35.3 Banks must calculate EL as probability of default (PD) x loss-given-default (LGD) for corporate, sovereign, bank, and retail exposures not in default. For corporate, sovereign, bank, and retail exposures that are in default, banks must use their best estimate of expected loss as defined in CRE36.86 for exposures subject to the advanced approach and for exposures subject to the foundation approach banks must use the supervisory LGD. For exposures subject to the supervisory slotting criteria EL is calculated as described in the chapter on the supervisory slotting approach (paragraphs CRE33.8 to CRE33.12). Securitisation exposures do not contribute to the EL amount, as set out in CRE40.36.

Calculation of provisions

Exposures subject to the IRB approach for credit risk

35.4 Total eligible provisions are defined as the sum of all provisions (eg specific provisions, partial write-offs, portfolio-specific general provisions such as country risk provisions or general provisions) that are attributed to exposures treated under the IRB approach. In addition, total eligible provisions may include any discounts on defaulted assets. General and specific provisions set aside against securitisation exposures must not be included in total eligible provisions.

Portion of exposures subject to the standardised approach for credit risk

35.5 Banks using the standardised approach for a portion of their credit risk exposures (see CRE30.45 to CRE30.50), must determine the portion of general provisions attributed to the standardised or IRB treatment of provisions according to the methods outlined in paragraphs CRE35.6 and CRE35.7 below.

35.6 Banks should generally attribute total general provisions on a pro rata basis according to the proportion of credit risk-weighted assets subject to the standardised and IRB approaches. However, when one approach to determining credit risk-weighted assets (ie standardised or IRB approach) is used exclusively within an entity, general provisions booked within the entity using the standardised approach may be attributed to the standardised treatment. Similarly, general provisions booked within entities using the IRB approach may be attributed to the total eligible provisions as defined in paragraph CRE35.4.

35.7 At national supervisory discretion, banks using both the standardised and IRB approaches may rely on their internal methods for allocating general provisions for recognition in capital under either the standardised or IRB approach, subject to the following conditions. Where the internal allocation method is made available, the national supervisor will establish the standards surrounding their use. Banks will need to obtain prior approval from their supervisors to use an internal allocation method for this purpose.

Treatment of EL and provisions

35.8 As specified in CAP10.19 and CAP30.13, banks using the IRB approach must compare the total amount of total eligible provisions (as defined in paragraph CRE35.4) with the total EL amount as calculated within the IRB approach (as defined in paragraph CRE35.2). In addition, CAP10.18 outlines the treatment for that portion of a bank that is subject to the standardised approach for credit risk when the bank uses both the standardised and IRB approaches.

35.9 Where the calculated EL amount is lower than the total eligible provisions of the bank, its supervisors must consider whether the EL fully reflects the conditions in the market in which it operates before allowing the difference to be included in Tier 2 capital. If specific provisions exceed the EL amount on defaulted assets this assessment also needs to be made before using the difference to offset the EL amount on non-defaulted assets.

CRE36

IRB approach: minimum requirements to use IRB approach

This chapter sets out the minimum requirements for banks to use the internal ratings-based approach, including requirements for initial adoption and for ongoing use.

Version effective as of 01 Jan 2023

Changes due to the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020. FAQs on climate related financial risks added on 8 December 2022.

Introduction

36.1 This chapter presents the minimum requirements for entry and on-going use of the internal ratings-based (IRB) approach. The minimum requirements are set out in the following 11 sections:

(1) Composition of minimum requirements

(2) Compliance with minimum requirements

(3) Rating system design

(4) Risk rating system operations

(5) Corporate governance and oversight

(6) Use of internal ratings

(7) Risk quantification

(8) Validation of internal estimates

(9) Supervisory loss-given-default (LGD) and exposure at default (EAD) estimates

(10) Requirements for recognition of leasing

(11) Disclosure requirements

36.2 The minimum requirements in the sections that follow cut across asset classes. Therefore, more than one asset class may be discussed within the context of a given minimum requirement.

Section 1: composition of minimum requirements

36.3 To be eligible for the IRB approach a bank must demonstrate to its supervisor that it meets certain minimum requirements at the outset and on an ongoing basis. Many of these requirements are in the form of objectives that a qualifying bank's risk rating systems must fulfil. The focus is on banks' abilities to rank order and quantify risk in a consistent, reliable and valid fashion.

36.4 The overarching principle behind these requirements is that rating and risk estimation systems and processes provide for a meaningful assessment of borrower and transaction characteristics; a meaningful differentiation of risk; and reasonably accurate and consistent quantitative estimates of risk. Furthermore, the systems and processes must be consistent with internal use of these estimates. The Committee recognises that differences in markets, rating methodologies, banking products, and practices require banks and supervisors to customise their operational procedures. It is not the Committee's intention to dictate the form or operational detail of banks' risk management policies and practices. Each supervisor will develop detailed review procedures to ensure that banks' systems and controls are adequate to serve as the basis for the IRB approach.

36.5 The minimum requirements set out in this chapter apply to all asset classes unless noted otherwise. The standards related to the process of assigning exposures to borrower or facility grades (and the related oversight, validation, etc) apply equally to the process of assigning retail exposures to pools of homogenous exposures, unless noted otherwise.

36.6 The minimum requirements set out in this chapter apply to both foundation and advanced approaches unless noted otherwise. Generally, all IRB banks must produce their own estimates of probability of default (PD)[1] and must adhere to the overall requirements for rating system design, operations, controls, and corporate governance, as well as the requisite requirements for estimation and validation of PD measures. Banks wishing to use their own estimates of LGD and EAD must also meet the incremental minimum requirements for these risk factors included in CRE36.83 to CRE36.111.

Footnotes

[1] *Banks are not required to produce their own estimates of PD for exposures subject to the supervisory slotting approach.*

Section 2: compliance with minimum requirements

36.7 To be eligible for an IRB approach, a bank must demonstrate to its supervisor that it meets the IRB requirements in this document, at the outset and on an ongoing basis. Banks' overall credit risk management practices must also be consistent with the evolving sound practice guidelines issued by the Committee and national supervisors.

36.8 There may be circumstances when a bank is not in complete compliance with all the minimum requirements. Where this is the case, the bank must produce a plan

for a timely return to compliance, and seek approval from its supervisor, or the bank must demonstrate that the effect of such non-compliance is immaterial in terms of the risk posed to the institution. Failure to produce an acceptable plan or satisfactorily implement the plan or to demonstrate immateriality will lead supervisors to reconsider the bank's eligibility for the IRB approach. Furthermore, for the duration of any non-compliance, supervisors will consider the need for the bank to hold additional capital under the supervisory review process standard (SRP) or take other appropriate supervisory action.

Section 3: rating system design

36.9 The term "rating system" comprises all of the methods, processes, controls, and data collection and IT systems that support the assessment of credit risk, the assignment of internal risk ratings, and the quantification of default and loss estimates.

36.10 Within each asset class, a bank may utilise multiple rating methodologies /systems. For example, a bank may have customised rating systems for specific industries or market segments (eg middle market, and large corporate). If a bank chooses to use multiple systems, the rationale for assigning a borrower to a rating system must be documented and applied in a manner that best reflects the level of risk of the borrower. Banks must not allocate borrowers across rating systems inappropriately to minimise regulatory capital requirements (ie cherry-picking by choice of rating system). Banks must demonstrate that each system used for IRB purposes is in compliance with the minimum requirements at the outset and on an ongoing basis.

Rating dimensions : standards for corporate, sovereign and bank exposures

36.11 A qualifying IRB rating system must have two separate and distinct dimensions:

(1) the risk of borrower default; and

(2) transaction-specific factors.

36.12 The first dimension must be oriented to the risk of borrower default. Separate exposures to the same borrower must be assigned to the same borrower grade, irrespective of any differences in the nature of each specific transaction. There are two exceptions to this. Firstly, in the case of country transfer risk, where a bank may assign different borrower grades depending on whether the facility is denominated in local or foreign currency. Secondly, when the treatment of associated guarantees to a facility may be reflected in an adjusted borrower grade. In either case, separate exposures may result in multiple grades for the same borrower. A bank must articulate in its credit policy the relationship between borrower grades in terms of the level of risk each grade implies. Perceived and measured risk must increase as credit quality declines from one grade to the next. The policy must articulate the risk of each grade in terms of both a description of the probability of default risk typical for borrowers assigned the grade and the criteria used to distinguish that level of credit risk.

36.13 The second dimension must reflect transaction-specific factors, such as collateral, seniority, product type, etc. For exposures subject to the foundation IRB approach, this requirement can be fulfilled by the existence of a facility dimension, which reflects both borrower and transaction-specific factors. For example, a rating dimension that reflects expected loss (EL) by incorporating both borrower strength (PD) and loss severity (LGD) considerations would qualify. Likewise a rating system that exclusively reflects LGD would qualify. Where a rating dimension reflects EL and does not separately quantify LGD, the supervisory estimates of LGD must be used.

36.14 For banks using the advanced approach, facility ratings must reflect exclusively LGD. These ratings can reflect any and all factors that can influence LGD including, but not limited to, the type of collateral, product, industry, and purpose. Borrower characteristics may be included as LGD rating criteria only to the extent they are predictive of LGD. Banks may alter the factors that influence facility grades across segments of the portfolio as long as they can satisfy their supervisor that it improves the relevance and precision of their estimates.

36.15 Banks using the supervisory slotting criteria are exempt from this two-dimensional requirement for these exposures. Given the interdependence between borrower/transaction characteristics in exposures subject to the supervisory slotting approaches, banks may satisfy the requirements under this heading through a single rating dimension that reflects EL by incorporating both borrower strength (PD) and loss severity (LGD) considerations. This exemption does not apply to banks using the general corporate foundation or advanced approach for the specialised lending (SL) sub-class.

Rating dimensions: standards for retail exposures

36.16 Rating systems for retail exposures must be oriented to both borrower and transaction risk, and must capture all relevant borrower and transaction characteristics. Banks must assign each exposure that falls within the definition of retail for IRB purposes into a particular pool. Banks must demonstrate that this process provides for a meaningful differentiation of risk, provides for a grouping of sufficiently homogenous exposures, and allows for accurate and consistent estimation of loss characteristics at pool level.

36.17 For each pool, banks must estimate PD, LGD, and EAD. Multiple pools may share identical PD, LGD and EAD estimates. At a minimum, banks should consider the following risk drivers when assigning exposures to a pool:

(1) Borrower risk characteristics (eg borrower type, demographics such as age /occupation).

(2) Transaction risk characteristics, including product and/or collateral types (eg loan to value measures, seasoning,[2] guarantees; and seniority (first vs. second lien)). Banks must explicitly address crosscollateral provisions where present.

(3) Delinquency of exposure: Banks are expected to separately identify exposures that are delinquent and those that are not.

Footnotes

[2] *For each pool where the banks estimate PD and LGD, banks should analyse the representativeness of the age of the facilities (in terms of time since origination for PD and time since the date of default for LGD) in the data used to derive the estimates of the bank's actual facilities. In some jurisdictions default rates peak several years after origination or recovery rates show a low point several years after default, as such banks should adjust the estimates with an adequate margin of conservatism to account for the lack of representativeness as well as anticipated implications of rapid exposure growth.*

Rating structure : standards for corporate, sovereign and bank exposures

36.18 A bank must have a meaningful distribution of exposures across grades with no excessive concentrations, on both its borrower-rating and its facility-rating scales.

36.19

To meet this objective, a bank must have a minimum of seven borrower grades for non-defaulted borrowers and one for those that have defaulted. Banks with lending activities focused on a particular market segment may satisfy this requirement with the minimum number of grades.

36.20 A borrower grade is defined as an assessment of borrower risk on the basis of a specified and distinct set of rating criteria, from which estimates of PD are derived. The grade definition must include both a description of the degree of default risk typical for borrowers assigned the grade and the criteria used to distinguish that level of credit risk. Furthermore, "+" or "-" modifiers to alpha or numeric grades will only qualify as distinct grades if the bank has developed complete rating descriptions and criteria for their assignment, and separately quantifies PDs for these modified grades.

36.21 Banks with loan portfolios concentrated in a particular market segment and range of default risk must have enough grades within that range to avoid undue concentrations of borrowers in particular grades. Significant concentrations within a single grade or grades must be supported by convincing empirical evidence that the grade or grades cover reasonably narrow PD bands and that the default risk posed by all borrowers in a grade fall within that band.

36.22 There is no specific minimum number of facility grades for banks using the advanced approach for estimating LGD. A bank must have a sufficient number of facility grades to avoid grouping facilities with widely varying LGDs into a single grade. The criteria used to define facility grades must be grounded in empirical evidence.

36.23 Banks using the supervisory slotting criteria must have at least four grades for non-defaulted borrowers, and one for defaulted borrowers. The requirements for SL exposures that qualify for the corporate foundation and advanced approaches are the same as those for general corporate exposures.

Rating structure: standards for retail exposures

36.24 For each pool identified, the bank must be able to provide quantitative measures of loss characteristics (PD, LGD, and EAD) for that pool. The level of differentiation for IRB purposes must ensure that the number of exposures in a given pool is sufficient so as to allow for meaningful quantification and validation of the loss characteristics at the pool level. There must be a meaningful distribution of borrowers and exposures across pools. A single pool must not include an undue concentration of the bank's total retail exposure.

Rating criteria

36.25 A bank must have specific rating definitions, processes and criteria for assigning exposures to grades within a rating system. The rating definitions and criteria must be both plausible and intuitive and must result in a meaningful differentiation of risk.

(1) The grade descriptions and criteria must be sufficiently detailed to allow those charged with assigning ratings to consistently assign the same grade to borrowers or facilities posing similar risk. This consistency should exist across lines of business, departments and geographic locations. If rating criteria and procedures differ for different types of borrowers or facilities, the bank must monitor for possible inconsistency, and must alter rating criteria to improve consistency when appropriate.

(2) Written rating definitions must be clear and detailed enough to allow third parties to understand the assignment of ratings, such as internal audit or an equally independent function and supervisors, to replicate rating assignments and evaluate the appropriateness of the grade/pool assignments.

(3) The criteria must also be consistent with the bank's internal lending standards and its policies for handling troubled borrowers and facilities.

36.26 To ensure that banks are consistently taking into account available information, they must use all relevant and material information in assigning ratings to borrowers and facilities. Information must be current. The less information a bank has, the more conservative must be its assignments of exposures to borrower and facility grades or pools. An external rating can be the primary factor determining an internal rating assignment; however, the bank must ensure that it considers other relevant information.

FAQ

FAQ1 *To what extent should material and relevant information on climate-related financial risks be used when assigning ratings to borrowers and facilities?*

When assigning ratings to borrowers and facilities, banks should take into consideration material and relevant information on the impact of climate-related financial risks on the borrower's financial condition and facility characteristics. This includes consideration of the physical and transition risks that the borrower is exposed to, as well as measures undertaken by the borrower to mitigate such risks. Banks should establish an effective process to obtain and update relevant and material climate-related information on the borrowers' financial condition and facility characteristics, as part of the onboarding process and ongoing monitoring of borrowers' risk profile.

Where the bank is of the view that an exposure is materially exposed to climate-related financial risks but has insufficient information to estimate the extent to which the borrower's financial condition or facility characteristics would be impacted, the bank should consider if it would be appropriate to take a more conservative approach in the assignment of exposures to borrower and facility grades or pools in the application of the rating model. It is recognised that data used to analyse these risks may not be immediately available and, hence, banks may rely to some extent on a conservative application of expert judgment for the purpose of the rating assignment. Banks are reminded of the requirements in CRE36.44 in respect of rating assignments where overrides are applied based on expert judgments, as well as CRE36.32 in cases where available data are limited or where projected information is used.

Rating criteria: exposures subject to the supervisory slotting approach

36.27 Banks using the supervisory slotting criteria must assign exposures to their internal rating grades based on their own criteria, systems and processes, subject to compliance with the requisite minimum requirements. Banks must then map these internal rating grades into the five supervisory rating categories. The slotting criteria tables in the supervisory slotting approach chapter (CRE33) provide, for each sub-class of SL exposures, the general assessment factors and characteristics exhibited by the exposures that fall under each of the supervisory categories. Each lending activity has a unique table describing the assessment factors and characteristics.

36.28 The Committee recognises that the criteria that banks use to assign exposures to internal grades will not perfectly align with criteria that define the supervisory categories; however, banks must demonstrate that their mapping process has resulted in an alignment of grades which is consistent with the preponderance of the characteristics in the respective supervisory category. Banks should take special care to ensure that any overrides of their internal criteria do not render the mapping process ineffective.

Rating assignment horizon

36.29 Although the time horizon used in PD estimation is one year (as described in CRE36.63), banks are expected to use a longer time horizon in assigning ratings.

36.30 A borrower rating must represent the bank's assessment of the borrower's ability and willingness to contractually perform despite adverse economic conditions or the occurrence of unexpected events. The range of economic conditions that are considered when making assessments must be consistent with current conditions and those that are likely to occur over a business cycle within the respective industry/geographic region. Rating systems should be designed in such a way that idiosyncratic or industry-specific changes are a driver of migrations from one category to another, and business cycle effects may also be a driver.

FAQ

FAQ1 *To what extent do the requirements for rating criteria and rating assignment require consideration of climate-related financial risks?*

According to CRE36.29, banks should use a time horizon longer than one year in assigning ratings. The range of economic conditions or unexpected events that should be considered when making the assessment of a borrower's ability to perform should include climate-related financial risks, both physical and transition risks, if these materialise as credit risks. Banks should assess whether climate-related financial risks will have an impact on obligors' ability to perform and this information should be integrated in rating assignments. In particular, if some data (eg counterparty location data, which is a particular risk driver for physical risk) have been already collected, banks should assess the granularity of the data and which additional data relevant to climate-related financial risks needs to be collected.

36.31 PD estimates for borrowers that are highly leveraged or for borrowers whose assets are predominantly traded assets must reflect the performance of the underlying assets based on periods of stressed volatilities.

FAQ

FAQ1 *How are highly leveraged borrowers to be defined (eg will non-financial entities be included in the definition)?*

The reference to highly leveraged borrowers is intended to capture hedge funds or any other equivalently highly leveraged counterparties that are financial entities.

FAQ2 *How should PDs of highly leveraged non-financial counterparties be estimated if there are no underlying traded assets or other assets with observable prices?*

CRE36.31 elaborates on the sentence in CRE36.30 that states "…a bank may take into account borrower characteristics that are reflective of the borrower's vulnerability to adverse economic conditions or unexpected events…". This means that in the case of highly leveraged counterparties where there is likely a significant vulnerability to market risk, the bank must assess the potential impact on the counterparty's ability to perform that arises from "periods of stressed volatilities" when assigning a rating and corresponding PD to that counterparty under the IRB framework.

36.32 Given the difficulties in forecasting future events and the influence they will have on a particular borrower's financial condition, a bank must take a conservative view of projected information. Furthermore, where limited data are available, a bank must adopt a conservative bias to its analysis.

Use of models

36.33 The requirements in this section apply to statistical models and other mechanical methods used to assign borrower or facility ratings or in estimation of PDs, LGDs, or EADs. Credit scoring models and other mechanical rating procedures generally use only a subset of available information. Although mechanical rating procedures may sometimes avoid some of the idiosyncratic errors made by rating systems in which human judgement plays a large role, mechanical use of limited information also is a source of rating errors. Credit scoring models and other mechanical procedures are permissible as the primary or partial basis of rating assignments, and may play a role in the estimation of loss characteristics.

Sufficient human judgement and human oversight is necessary to ensure that all relevant and material information, including that which is outside the scope of the model, is also taken into consideration, and that the model is used appropriately.

(1) The burden is on the bank to satisfy its supervisor that a model or procedure has good predictive power and that regulatory capital requirements will not be distorted as a result of its use. The variables that are input to the model must form a reasonable set of predictors. The model must be accurate on average across the range of borrowers or facilities to which the bank is exposed and there must be no known material biases.

(2) The bank must have in place a process for vetting data inputs into a statistical default or loss prediction model which includes an assessment of the accuracy, completeness and appropriateness of the data specific to the assignment of an approved rating.

(3) The bank must demonstrate that the data used to build the model are representative of the population of the bank's actual borrowers or facilities.

(4) When combining model results with human judgement, the judgement must take into account all relevant and material information not considered by the model. The bank must have written guidance describing how human judgement and model results are to be combined.

(5) The bank must have procedures for human review of model-based rating assignments. Such procedures should focus on finding and limiting errors associated with known model weaknesses and must also include credible ongoing efforts to improve the model's performance.

(6) The bank must have a regular cycle of model validation that includes monitoring of model performance and stability; review of model relationships; and testing of model outputs against outcomes.

Documentation of rating system design

36.34 Banks must document in writing their rating systems' design and operational details. The documentation must evidence banks' compliance with the minimum standards, and must address topics such as portfolio differentiation, rating criteria, responsibilities of parties that rate borrowers and facilities, definition of what constitutes a rating exception, parties that have authority to approve exceptions, frequency of rating reviews, and management oversight of the rating process. A bank must document the rationale for its choice of internal rating criteria and must be able to provide analyses demonstrating that rating criteria and procedures are likely to result in ratings that meaningfully differentiate risk. Rating criteria and procedures must be periodically reviewed to determine whether they remain fully applicable to the current portfolio and to external conditions. In addition, a bank must document a history of major changes in the risk rating process, and such documentation must support identification of changes made to the risk rating process subsequent to the last supervisory review. The organisation of rating assignment, including the internal control structure, must also be documented.

36.35 Banks must document the specific definitions of default and loss used internally and demonstrate consistency with the reference definitions set out in CRE36.68 to CRE36.76.

36.36 If the bank employs statistical models in the rating process, the bank must document their methodologies. This material must:

(1) Provide a detailed outline of the theory, assumptions and/or mathematical and empirical basis of the assignment of estimates to grades, individual obligors, exposures, or pools, and the data source(s) used to estimate the model;

(2) Establish a rigorous statistical process (including out-of-time and out-of-sample performance tests) for validating the model; and

(3) Indicate any circumstances under which the model does not work effectively.

36.37 Use of a model obtained from a third-party vendor that claims proprietary technology is not a justification for exemption from documentation or any other of the requirements for internal rating systems. The burden is on the model's vendor and the bank to satisfy supervisors.

Section 4: risk rating system operations

Coverage of ratings

36.38 For corporate, sovereign and bank exposures, each borrower and all recognised guarantors must be assigned a rating and each exposure must be associated with a facility rating as part of the loan approval process. Similarly, for retail, each exposure must be assigned to a pool as part of the loan approval process.

36.39 Each separate legal entity to which the bank is exposed must be separately rated. A bank must have policies acceptable to its supervisor regarding the treatment of individual entities in a connected group including circumstances under which the same rating may or may not be assigned to some or all related entities. Those policies must include a process for the identification of specific wrong way risk for each legal entity to which the bank is exposed. Transactions with counterparties where specific wrong way risk has been identified need to be treated differently when calculating the EAD for such exposures (see CRE53.48 of the counterparty credit risk chapters of the credit risk standard).

Integrity of rating process : standards for corporate, sovereign and bank exposures

36.40 Rating assignments and periodic rating reviews must be completed or approved by a party that does not directly stand to benefit from the extension of credit. Independence of the rating assignment process can be achieved through a range of practices that will be carefully reviewed by supervisors. These operational processes must be documented in the bank's procedures and incorporated into bank policies. Credit policies and underwriting procedures must reinforce and foster the independence of the rating process.

36.41 Borrowers and facilities must have their ratings refreshed at least on an annual basis. Certain credits, especially higher risk borrowers or problem exposures, must be subject to more frequent review. In addition, banks must initiate a new rating if material information on the borrower or facility comes to light.

36.42 The bank must have an effective process to obtain and update relevant and material information on the borrower's financial condition, and on facility characteristics that affect LGDs and EADs (such as the condition of collateral). Upon receipt, the bank needs to have a procedure to update the borrower's rating in a timely fashion.

Integrity of rating process: standards for retail exposures

36.43

A bank must review the loss characteristics and delinquency status of each identified risk pool on at least an annual basis. It must also review the status of individual borrowers within each pool as a means of ensuring that exposures continue to be assigned to the correct pool. This requirement may be satisfied by review of a representative sample of exposures in the pool.

Overrides

36.44 For rating assignments based on expert judgement, banks must clearly articulate the situations in which bank officers may override the outputs of the rating process, including how and to what extent such overrides can be used and by whom. For model-based ratings, the bank must have guidelines and processes for monitoring cases where human judgement has overridden the model's rating, variables were excluded or inputs were altered. These guidelines must include identifying personnel that are responsible for approving these overrides. Banks must identify overrides and separately track their performance.

Data maintenance

36.45 A bank must collect and store data on key borrower and facility characteristics to provide effective support to its internal credit risk measurement and management process, to enable the bank to meet the other requirements in this document, and to serve as a basis for supervisory reporting. These data should be sufficiently detailed to allow retrospective re-allocation of obligors and facilities to grades, for example if increasing sophistication of the internal rating system suggests that finer segregation of portfolios can be achieved. Furthermore, banks must collect and retain data on aspects of their internal ratings as required by the disclosure requirements standard (DIS).

Data maintenance: for corporate, sovereign and bank exposures

36.46 Banks must maintain rating histories on borrowers and recognised guarantors, including the rating since the borrower/guarantor was assigned an internal grade, the dates the ratings were assigned, the methodology and key data used to derive the rating and the person/model responsible. The identity of borrowers and facilities that default, and the timing and circumstances of such defaults, must be retained. Banks must also retain data on the PDs and realised default rates associated with rating grades and ratings migration in order to track the predictive power of the borrower rating system.

36.47 Banks using the advanced IRB approach must also collect and store a complete history of data on the LGD and EAD estimates associated with each facility and the key data used to derive the estimate and the person/model responsible. Banks must also collect data on the estimated and realised LGDs and EADs associated with each defaulted facility. Banks that reflect the credit risk mitigating effects of guarantees/credit derivatives through LGD must retain data on the LGD of the facility before and after evaluation of the effects of the guarantee/credit derivative. Information about the components of loss or recovery for each defaulted exposure must be retained, such as amounts recovered, source of recovery (eg collateral, liquidation proceeds and guarantees), time period required for recovery, and administrative costs.

36.48 Banks under the foundation approach which utilise supervisory estimates are encouraged to retain the relevant data (ie data on loss and recovery experience for corporate exposures under the foundation approach, data on realised losses for banks using the supervisory slotting criteria).

Data maintenance: for retail exposures

36.49 Banks must retain data used in the process of allocating exposures to pools, including data on borrower and transaction risk characteristics used either directly or through use of a model, as well as data on delinquency. Banks must also retain data on the estimated PDs, LGDs and EADs, associated with pools of exposures. For defaulted exposures, banks must retain the data on the pools to which the exposure was assigned over the year prior to default and the realised outcomes on LGD and EAD.

Stress tests used in assessment of capital adequacy

36.50 An IRB bank must have in place sound stress testing processes for use in the assessment of capital adequacy. Stress testing must involve identifying possible events or future changes in economic conditions that could have unfavourable effects on a bank's credit exposures and assessment of the bank's ability to withstand such changes. Examples of scenarios that could be used are:

(1) economic or industry downturns;

(2) market-risk events; and

(3) liquidity conditions.

FAQ

FAQ1 *Should banks that use the IRB approach consider climate-related risk drivers as possible events or future changes when performing stress tests used in the assessment of capital adequacy?*

Climate-related financial risks have the potential to impact banks' credit exposures and banks' assessment of credit risk, asset impairment and expected credit losses. Banks should iteratively and progressively consider climate-related financial risks that affect the range of possible future economic conditions in their stress testing processes.

A bank that uses the IRB approach should consider climate-related financial risks that may significantly impact the bank's credit exposures within the assessment period.

36.51 In addition to the more general tests described above, the bank must perform a credit risk stress test to assess the effect of certain specific conditions on its IRB regulatory capital requirements. The test to be employed would be one chosen by the bank, subject to supervisory review. The test to be employed must be meaningful and reasonably conservative. Individual banks may develop different approaches to undertaking this stress test requirement, depending on their circumstances. For this purpose, the objective is not to require banks to consider worst-case scenarios. The bank's stress test in this context should, however, consider at least the effect of mild recession scenarios. In this case, one example might be to use two consecutive quarters of zero growth to assess the effect on the bank's PDs, LGDs and EADs, taking account – on a conservative basis – of the bank's international diversification.

36.52 Whatever method is used, the bank must include a consideration of the following sources of information. First, a bank's own data should allow estimation of the ratings migration of at least some of its exposures. Second, banks should consider information about the impact of smaller deterioration in the credit environment on a bank's ratings, giving some information on the likely effect of bigger, stress circumstances. Third, banks should evaluate evidence of ratings migration in external ratings. This would include the bank broadly matching its buckets to rating categories.

36.53 National supervisors may wish to issue guidance to their banks on how the tests to be used for this purpose should be designed, bearing in mind conditions in their jurisdiction. The results of the stress test may indicate no difference in the capital calculated under the IRB rules described in this section of this Framework if the bank already uses such an approach for its internal rating purposes. Where a bank operates in several markets, it does not need to test for such conditions in all of those markets, but a bank should stress portfolios containing the vast majority of its total exposures.

Section 5: corporate governance and oversight

Corporate governance

36.54 All material aspects of the rating and estimation processes must be approved by the bank's board of directors or a designated committee thereof and senior management.[3] These parties must possess a general understanding of the bank's risk rating system and detailed comprehension of its associated management reports. Senior management must provide notice to the board of directors or a designated committee thereof of material changes or exceptions from established policies that will materially impact the operations of the bank's rating system.

Footnotes

[3] *This standard refers to a management structure composed of a board of directors and senior management. The Committee is aware that there are significant differences in legislative and regulatory frameworks across countries as regards the functions of the board of directors and senior management. In some countries, the board has the main, if not exclusive, function of supervising the executive body (senior management, general management) so as to ensure that the latter fulfils its tasks. For this reason, in some cases, it is known as a supervisory board. This means that the board has no executive functions. In other countries, by contrast, the board has a broader competence in that it lays down the general framework for the management of the bank. Owing to these differences, the notions of the board of directors and senior management are used in this paper not to identify legal constructs but rather to label two decision-making functions within a bank.*

36.55 Senior management also must have a good understanding of the rating system's design and operation, and must approve material differences between established procedure and actual practice. Management must also ensure, on an ongoing basis, that the rating system is operating properly. Management and staff in the credit control function must meet regularly to discuss the performance of the rating process, areas needing improvement, and the status of efforts to improve previously identified deficiencies.

36.56 Internal ratings must be an essential part of the reporting to these parties. Reporting must include risk profile by grade, migration across grades, estimation of the relevant parameters per grade, and comparison of realised default rates (and LGDs and EADs for banks on advanced approaches) against expectations. Reporting frequencies may vary with the significance and type of information and the level of the recipient.

Credit risk control

36.57 Banks must have independent credit risk control units that are responsible for the design or selection, implementation and performance of their internal rating systems. The unit(s) must be functionally independent from the personnel and management functions responsible for originating exposures. Areas of responsibility must include:

(1) Testing and monitoring internal grades;

(2) Production and analysis of summary reports from the bank's rating system, to include historical default data sorted by rating at the time of default and one year prior to default, grade migration analyses, and monitoring of trends in key rating criteria;

(3) Implementing procedures to verify that rating definitions are consistently applied across departments and geographic areas;

(4) Reviewing and documenting any changes to the rating process, including the reasons for the changes; and

(5) Reviewing the rating criteria to evaluate if they remain predictive of risk. Changes to the rating process, criteria or individual rating parameters must be documented and retained for supervisors to review.

36.58 A credit risk control unit must actively participate in the development, selection, implementation and validation of rating models. It must assume oversight and supervision responsibilities for any models used in the rating process, and ultimate responsibility for the ongoing review and alterations to rating models.

Internal and external audit

36.59 Internal audit or an equally independent function must review at least annually the bank's rating system and its operations, including the operations of the credit function and the estimation of PDs, LGDs and EADs. Areas of review include adherence to all applicable minimum requirements. Internal audit must document its findings.

Section 6: use of internal ratings

36.60 Internal ratings and default and loss estimates must play an essential role in the credit approval, risk management, internal capital allocations, and corporate governance functions of banks using the IRB approach. Ratings systems and estimates designed and implemented exclusively for the purpose of qualifying for the IRB approach and used only to provide IRB inputs are not acceptable. It is recognised that banks will not necessarily be using exactly the same estimates for both IRB and all internal purposes. For example, pricing models are likely to use PDs and LGDs relevant to the life of the asset. Where there are such differences, a bank must document them and demonstrate their reasonableness to the supervisor.

36.61 A bank must have a credible track record in the use of internal ratings information. Thus, the bank must demonstrate that it has been using a rating system that was broadly in line with the minimum requirements articulated in this document for at least the three years prior to qualification. A bank using the advanced IRB approach must demonstrate that it has been estimating and employing LGDs and EADs in a manner that is broadly consistent with the minimum requirements for use of own estimates of LGDs and EADs for at least the three years prior to qualification. Improvements to a bank's rating system will not render a bank non-compliant with the three-year requirement.

Section 7: risk quantification

Overall requirements for estimation (structure and intent)

36.62 This section addresses the broad standards for own-estimates of PD, LGD, and EAD. Generally, all banks using the IRB approaches must estimate a PD[4] for each internal borrower grade for corporate, sovereign and bank exposures or for each pool in the case of retail exposures.

Footnotes

[4] *Banks are not required to produce their own estimates of PD for exposures subject to the supervisory slotting approach.*

36.63 PD estimates must be a long-run average of one-year default rates for borrowers in the grade, with the exception of retail exposures as set out in CRE36.81 and CRE36.82. Requirements specific to PD estimation are provided in CRE36.77 to CRE36.82. Banks on the advanced approach must estimate an appropriate LGD (as defined in CRE36.83 to CRE36.88) for each of its facilities (or retail pools). For exposures subject to the advanced approach, banks must also estimate an appropriate long-run default-weighted average EAD for each of its facilities as defined in CRE36.89 and CRE36.90. Requirements specific to EAD estimation appear in CRE36.89 to CRE36.99. For corporate, sovereign and bank exposures, banks that do not meet the requirements for own-estimates of EAD or LGD, above, must use the supervisory estimates of these parameters. Standards for use of such estimates are set out in CRE36.128 to CRE36.145.

36.64 Internal estimates of PD, LGD, and EAD must incorporate all relevant, material and available data, information and methods. A bank may utilise internal data and data from external sources (including pooled data). Where internal or external data is used, the bank must demonstrate that its estimates are representative of long run experience.

36.65 Estimates must be grounded in historical experience and empirical evidence, and not based purely on subjective or judgmental considerations. Any changes in lending practice or the process for pursuing recoveries over the observation period must be taken into account. A bank's estimates must promptly reflect the implications of technical advances and new data and other information, as it becomes available. Banks must review their estimates on a yearly basis or more frequently.

36.66 The population of exposures represented in the data used for estimation, and lending standards in use when the data were generated, and other relevant characteristics should be closely matched to or at least comparable with those of the bank's exposures and standards. The bank must also demonstrate that economic or market conditions that underlie the data are relevant to current and foreseeable conditions. For estimates of LGD and EAD, banks must take into account CRE36.83 to CRE36.99. The number of exposures in the sample and the data period used for quantification must be sufficient to provide the bank with confidence in the accuracy and robustness of its estimates. The estimation technique must perform well in out-of-sample tests.

36.67 In general, estimates of PDs, LGDs, and EADs are likely to involve unpredictable errors. In order to avoid over-optimism, a bank must add to its estimates a

margin of conservatism that is related to the likely range of errors. Where methods and data are less satisfactory and the likely range of errors is larger, the margin of conservatism must be larger. Supervisors may allow some flexibility in application of the required standards for data that are collected prior to the date of implementation of this Framework. However, in such cases banks must demonstrate to their supervisors that appropriate adjustments have been made to achieve broad equivalence to the data without such flexibility. Data collected beyond the date of implementation must conform to the minimum standards unless otherwise stated.

FAQ

FAQ1 *Should banks add a margin of conservatism to estimates of PDs, LGDs and EADs to account for the fact that historical data are less satisfactory to capture climate-related financial risks, increasing the likely range of errors?*

In the estimation of PDs, LGDs and EADs, challenges include the range of impact uncertainties, limitations in the availability and relevance of historical data describing the relationship of climate risk drivers to traditional financial risks, and questions around the time horizon. When a bank's credit portfolio is materially exposed to climate-related financial risks, it should strive primarily to consider these risks directly in its estimates. This can be achieved by making adjustments for limitations of techniques and information when estimating risk parameters (CRE36.78), as well as in assessing the implications of new data and the relevance of data not only for current but also for foreseeable market and economic conditions (CRE36.65 and CRE36.66).

A bank should add a margin of conservatism due to data deficiencies, such as poor data quality or scarce climate-related data, and to other sources of additional uncertainties.

To the extent that the information currently available on climate-related financial risks which materially impact a bank's credit portfolio is not yet sufficiently reliable, this may increase the range of errors.

Definition of default

36.68

A default is considered to have occurred with regard to a particular obligor when either or both of the two following events have taken place.

(1) The bank considers that the obligor is unlikely to pay its credit obligations to the banking group in full, without recourse by the bank to actions such as realising security (if held).

(2) The obligor is past due more than 90 days on any material credit obligation to the banking group.[5] Overdrafts will be considered as being past due once the customer has breached an advised limit or been advised of a limit smaller than current outstandings.

Footnotes

[5] *In the case of retail and public sector entity (PSE) obligations, for the 90 days figure, a supervisor may substitute a figure up to 180 days for different products, as it considers appropriate to local conditions.*

36.69 The elements to be taken as indications of unlikeliness to pay include:

(1) The bank puts the credit obligation on non-accrued status.

(2) The bank makes a charge-off or account-specific provision resulting from a significant perceived decline in credit quality subsequent to the bank taking on the exposure.[6]

(3) The bank sells the credit obligation at a material credit-related economic loss.

(4) The bank consents to a distressed restructuring of the credit obligation where this is likely to result in a diminished financial obligation caused by the material forgiveness, or postponement, of principal, interest or (where relevant) fees.

(5) The bank has filed for the obligor's bankruptcy or a similar order in respect of the obligor's credit obligation to the banking group.

(6) The obligor has sought or has been placed in bankruptcy or similar protection where this would avoid or delay repayment of the credit obligation to the banking group.

Footnotes

[6] *In some jurisdictions, specific provisions on equity exposures are set aside for price risk and do not signal default.*

36.70 National supervisors will provide appropriate guidance as to how these elements must be implemented and monitored.

36.71 For retail exposures, the definition of default can be applied at the level of a particular facility, rather than at the level of the obligor. As such, default by a borrower on one obligation does not require a bank to treat all other obligations to the banking group as defaulted.

36.72 A bank must record actual defaults on IRB exposure classes using this reference definition. A bank must also use the reference definition for its estimation of PDs, and (where relevant) LGDs and EADs. In arriving at these estimations, a bank may use external data available to it that is not itself consistent with that definition, subject to the requirements set out in CRE36.78. However, in such cases, banks must demonstrate to their supervisors that appropriate adjustments to the data have been made to achieve broad equivalence with the reference definition. This same condition would apply to any internal data used up to implementation of this Framework. Internal data (including that pooled by banks) used in such estimates beyond the date of implementation of this Framework must be consistent with the reference definition.

36.73 If the bank considers that a previously defaulted exposure's status is such that no trigger of the reference definition any longer applies, the bank must rate the borrower and estimate LGD as they would for a non-defaulted facility. Should the reference definition subsequently be triggered, a second default would be deemed to have occurred.

Re-ageing

36.74 The bank must have clearly articulated and documented policies in respect of the counting of days past due, in particular in respect of the re-ageing of the facilities and the granting of extensions, deferrals, renewals and rewrites to existing accounts. At a minimum, the re-ageing policy must include: (a) approval authorities and reporting requirements; (b) minimum age of a facility before it is eligible for re-ageing; (c) delinquency levels of facilities that are eligible for re-ageing; (d) maximum number of re-ageings per facility; and (e) a reassessment of the borrower's capacity to repay. These policies must be applied consistently over time, and must support the 'use test' (ie if a bank treats a re-aged exposure in a similar fashion to other delinquent exposures more than the past-due cut off point, this exposure must be recorded as in default for IRB purposes).

Treatment of overdrafts

36.75 Authorised overdrafts must be subject to a credit limit set by the bank and brought to the knowledge of the client. Any break of this limit must be monitored; if the account were not brought under the limit after 90 to 180 days (subject to the applicable past-due trigger), it would be considered as defaulted. Non-authorised overdrafts will be associated with a zero limit for IRB purposes. Thus, days past due commence once any credit is granted to an unauthorised customer; if such credit were not repaid within 90 to 180 days, the exposure would be considered in default. Banks must have in place rigorous internal policies for assessing the creditworthiness of customers who are offered overdraft accounts.

Definition of loss for all asset classes

36.76 The definition of loss used in estimating LGD is economic loss. When measuring economic loss, all relevant factors should be taken into account. This must include material discount effects and material direct and indirect costs associated with collecting on the exposure. Banks must not simply measure the loss recorded in accounting records, although they must be able to compare accounting and economic losses. The bank's own workout and collection expertise significantly influences their recovery rates and must be reflected in their LGD estimates, but adjustments to estimates for such expertise must be conservative until the bank has sufficient internal empirical evidence of the impact of its expertise.

Requirements specific to PD estimation : corporate, sovereign and bank exposures

36.77 Banks must use information and techniques that take appropriate account of the long-run experience when estimating the average PD for each rating grade. For example, banks may use one or more of the three specific techniques set out below: internal default experience, mapping to external data, and statistical default models.

36.78 Banks may have a primary technique and use others as a point of comparison and potential adjustment. Supervisors will not be satisfied by mechanical application of a technique without supporting analysis. Banks must recognise the importance of judgmental considerations in combining results of techniques and in making adjustments for limitations of techniques and information. For all methods listed below, banks must estimate a PD for each rating grade based on the observed historical average one-year default rate that is a simple average based on number of obligors (count weighted). Weighting approaches, such as EAD weighting, are not permitted.

(1) A bank may use data on internal default experience for the estimation of PD. A bank must demonstrate in its analysis that the estimates are reflective of underwriting standards and of any differences in the rating system that generated the data and the current rating system. Where only limited data are available, or where underwriting standards or rating systems have changed, the bank must add a greater margin of conservatism in its estimate of PD. The use of pooled data across institutions may also be recognised. A bank must demonstrate that the internal rating systems and criteria of other banks in the pool are comparable with its own.

(2) Banks may associate or map their internal grades to the scale used by an external credit assessment institution or similar institution and then attribute the default rate observed for the external institution's grades to the bank's grades. Mappings must be based on a comparison of internal rating criteria to the criteria used by the external institution and on a comparison of the internal and external ratings of any common borrowers. Biases or inconsistencies in the mapping approach or underlying data must be avoided. The external institution's criteria underlying the data used for quantification must be oriented to the risk of the borrower and not reflect transaction characteristics. The bank's analysis must include a comparison of the default definitions used, subject to the requirements in CRE36.68 to CRE36.73. The bank must document the basis for the mapping.

(3) A bank is allowed to use a simple average of default-probability estimates for individual borrowers in a given grade, where such estimates are drawn from statistical default prediction models. The bank's use of default probability models for this purpose must meet the standards specified in CRE36.33.

FAQ

FAQ1 *What climate-related financial risk considerations should banks take into account when mapping their internal PD grades to the scale used by an external credit assessment institution?*

Where banks associate or map their internal grades to a scale used by an external credit assessment institution, they should consider whether the scale used by the external institution reflects material climate-related financial risks. Where the scale used by the external institution incorporates consideration of material climate-related financial risks, banks should critically review the models and methods used by the external credit assessment institution to judge climate-related financial risks given the challenges with data sources, data granularity and historical time series that often apply to data on climate-related financial risks. Where the scale used by the external institution does not incorporate consideration of climate-related financial risks, banks should consider whether adjustments are appropriate to mitigate this limitation.

36.79 Irrespective of whether a bank is using external, internal, or pooled data sources, or a combination of the three, for its PD estimation, the length of the underlying historical observation period used must be at least five years for at least one source. If the available observation period spans a longer period for any source, and this data are relevant and material, this longer period must be used. The data should include a representative mix of good and bad years.

Requirements specific to PD estimation: retail exposures

36.80 Given the bank-specific basis of assigning exposures to pools, banks must regard internal data as the primary source of information for estimating loss characteristics. Banks are permitted to use external data or statistical models for quantification provided a strong link can be demonstrated between: (a) the bank' s process of assigning exposures to a pool and the process used by the external data source; and (b) between the bank's internal risk profile and the composition of the external data. In all cases banks must use all relevant and material data sources as points of comparison.

36.81 One method for deriving long-run average estimates of PD and default-weighted average loss rates given default (as defined in CRE36.83) for retail would be based on an estimate of the expected long-run loss rate. A bank may (i) use an appropriate PD estimate to infer the long-run default-weighted average loss rate given default, or (ii) use a long-run default-weighted average loss rate given default to infer the appropriate PD. In either case, it is important to recognise that

the LGD used for the IRB capital calculation cannot be less than the long-run default-weighted average loss rate given default and must be consistent with the concepts defined in CRE36.83.

36.82 Irrespective of whether banks are using external, internal, pooled data sources, or a combination of the three, for their estimation of loss characteristics, the length of the underlying historical observation period used must be at least five years. If the available observation spans a longer period for any source, and these data are relevant, this longer period must be used. The data should include a representative mix of good and bad years of the economic cycle relevant for the portfolio. The PD should be based on the observed historical average one-year default rate.

Requirements specific to own-LGD estimates : standards for all asset classes

36.83 A bank must estimate an LGD for each facility that aims to reflect economic downturn conditions where necessary to capture the relevant risks. This LGD cannot be less than the long-run default-weighted average loss rate given default calculated based on the average economic loss of all observed defaults within the data source for that type of facility. In addition, a bank must take into account the potential for the LGD of the facility to be higher than the default-weighted average during a period when credit losses are substantially higher than average. For certain types of exposures, loss severities may not exhibit such cyclical variability and LGD estimates may not differ materially from the long-run default-weighted average. However, for other exposures, this cyclical variability in loss severities may be important and banks will need to incorporate it into their LGD estimates. For this purpose, banks may make reference to the averages of loss severities observed during periods of high credit losses, forecasts based on appropriately conservative assumptions, or other similar methods. Appropriate estimates of LGD during periods of high credit losses might be formed using either internal and/or external data. Supervisors will continue to monitor and encourage the development of appropriate approaches to this issue.

36.84 In its analysis, the bank must consider the extent of any dependence between the risk of the borrower and that of the collateral or collateral provider. Cases where there is a significant degree of dependence must be addressed in a conservative manner. Any currency mismatch between the underlying obligation and the collateral must also be considered and treated conservatively in the bank's assessment of LGD.

36.85 LGD estimates must be grounded in historical recovery rates and, when applicable, must not solely be based on the collateral's estimated market value. This requirement recognises the potential inability of banks to gain both control of their collateral and liquidate it expeditiously. To the extent that LGD estimates take into account the existence of collateral, banks must establish internal requirements for collateral management, operational procedures, legal certainty and risk management process that are generally consistent with those required for the foundation IRB approach.

36.86 Recognising the principle that realised losses can at times systematically exceed expected levels, the LGD assigned to a defaulted asset should reflect the possibility that the bank would have to recognise additional, unexpected losses during the recovery period. For each defaulted asset, the bank must also construct its best estimate of the expected loss on that asset based on current economic circumstances and facility status. The amount, if any, by which the LGD on a defaulted asset exceeds the bank's best estimate of expected loss on the asset represents the capital requirement for that asset, and should be set by the bank on a risk-sensitive basis in accordance with CRE31.3. Instances where the best estimate of expected loss on a defaulted asset is less than the sum of specific provisions and partial charge-offs on that asset will attract supervisory scrutiny and must be justified by the bank.

FAQ

FAQ1 *To what extent should material and relevant information on climate-related financial risks be used when assigning ratings to facilities?*

When assigning ratings to facilities, banks should take into consideration material and relevant information on the impact of climate-related financial risks on the facility characteristics. Banks should establish an effective process to obtain and update relevant and material climate-related information on the facility characteristics.

Where the bank is of the view that an exposure is materially exposed to climate-related financial risks but has insufficient information to estimate the extent to which the facility characteristics would be impacted, the bank should consider if it would be appropriate to take a more conservative approach in the assignment of exposures to facility grades or pools in the application of the rating model. It is recognised that data used to analyse these risks may not be immediately available and hence, banks may rely to some extent on a conservative application of expert judgment for the purpose of the assignment of ratings to facility grades or pools. Banks are reminded of the requirements in CRE36.85 in respect of grounding LGD estimates in historical recovery rates and not solely on the collateral's estimated market value.

FAQ2 *Should banks add a margin of conservatism to estimates of LGD-in-default to account for the fact that historical data are less satisfactory to capture climate-related financial risks – increasing the likely range of errors?*

In the estimation of LGD-in-default, challenges include the range of impact uncertainties, limitations in the availability and relevance of historical data describing the relationship of climate risk drivers to traditional financial risks, and questions around the time horizon. When a bank's credit portfolio is materially exposed to climate-related financial risks, it should primarily strive for considering these risks directly in its estimates. This can be achieved by making adjustments for limitations of techniques and information when estimating risk parameters (CRE36.83), as well as in assessing the implications of new data and the relevance of data not only for current but also for foreseeable market and economic conditions (CRE36.65 and CRE36.66).

A bank should add a margin of conservatism due to data deficiencies, such as poor data quality or scarce climate-related data, and to other sources of additional uncertainties.

To the extent that the information currently available on climate-related financial risks which materially impact a bank's credit portfolio is not yet sufficiently reliable, this may increase the range of errors.

Requirements specific to own-LGD estimates: additional standards for corporate and sovereign exposures

36.87 Estimates of LGD must be based on a minimum data observation period that should ideally cover at least one complete economic cycle but must in any case be no shorter than a period of seven years for at least one source. If the available observation period spans a longer period for any source, and the data are relevant, this longer period must be used.

Requirements specific to own-LGD estimates: additional standards for retail exposures

36.88 The minimum data observation period for LGD estimates for retail exposures is five years. The less data a bank has, the more conservative it must be in its estimation.

Requirements specific to own-EAD estimates : standards for all asset classes

36.89 EAD for an on-balance sheet or off-balance sheet item is defined as the expected gross exposure of the facility upon default of the obligor. For on-balance sheet items, banks must estimate EAD at no less than the current drawn amount, subject to recognising the effects of on-balance sheet netting as specified in the foundation approach. The minimum requirements for the recognition of netting are the same as those under the foundation approach. The additional minimum requirements for internal estimation of EAD under the advanced approach, therefore, focus on the estimation of EAD for off-balance sheet items (excluding transactions that expose banks to counterparty credit risk as set out in CRE51). Banks using the advanced approach must have established procedures in place for the estimation of EAD for off-balance sheet items. These must specify the estimates of EAD to be used for each facility type. Banks' estimates of EAD should reflect the possibility of additional drawings by the borrower up to and after the time a default event is triggered. Where estimates of EAD differ by facility type, the delineation of these facilities must be clear and unambiguous.

36.90 Under the advanced approach, banks must assign an estimate of EAD for each eligible facility. It must be an estimate of the long-run default-weighted average EAD for similar facilities and borrowers over a sufficiently long period of time, but with a margin of conservatism appropriate to the likely range of errors in the estimate. If a positive correlation can reasonably be expected between the default frequency and the magnitude of EAD, the EAD estimate must incorporate a larger margin of conservatism. Moreover, for exposures for which EAD estimates are volatile over the economic cycle, the bank must use EAD estimates that are appropriate for an economic downturn, if these are more conservative than the long-run average. For banks that have been able to develop their own EAD models, this could be achieved by considering the cyclical nature, if any, of the drivers of such models. Other banks may have sufficient internal data to examine the impact of previous recession(s). However, some banks may only have the option of making conservative use of external data. Moreover, where a bank bases its estimates on alternative measures of central tendency (such as the median or a higher percentile estimate) or only on 'downturn' data, it should explicitly confirm that the basic downturn requirement of the framework is met, ie the bank's estimates do not fall below a (conservative) estimate of the long-run default-weighted average EAD for similar facilities.

36.91 The criteria by which estimates of EAD are derived must be plausible and intuitive, and represent what the bank believes to be the material drivers of EAD. The choices must be supported by credible internal analysis by the bank. The bank must be able to provide a breakdown of its EAD experience by the factors it sees as the drivers of EAD. A bank must use all relevant and material information in its derivation of EAD estimates. Across facility types, a bank must review its estimates of EAD when material new information comes to light and at least on an annual basis.

36.92 Due consideration must be paid by the bank to its specific policies and strategies adopted in respect of account monitoring and payment processing. The bank must also consider its ability and willingness to prevent further drawings in circumstances short of payment default, such as covenant violations or other technical default events. Banks must also have adequate systems and procedures in place to monitor facility amounts, current outstandings against committed lines and changes in outstandings per borrower and per grade. The bank must be able to monitor outstanding balances on a daily basis.

36.93 Banks' EAD estimates must be developed using a 12-month fixed-horizon approach; ie for each observation in the reference data set, default outcomes must be linked to relevant obligor and facility characteristics twelve months prior to default.

36.94 As set out in CRE36.66, banks' EAD estimates should be based on reference data that reflect the obligor, facility and bank management practice characteristics of the exposures to which the estimates are applied. Consistent with this principle, EAD estimates applied to particular exposures should not be based on data that comingle the effects of disparate characteristics or data from exposures that exhibit different characteristics (eg same broad product grouping but different customers that are managed differently by the bank). The estimates should be based on appropriately homogenous segments. Alternatively, the estimates should be based on an estimation approach that effectively disentangles the impact of the different characteristics exhibited within the relevant dataset. Practices that generally do not comply with this principle include use of estimates based or partly based on:

(1) SME/midmarket data being applied to large corporate obligors.

(2) Data from commitments with 'small' unused limit availability being applied to facilities with 'large' unused limit availability.

(3) Data from obligors already identified as problematic at reference date being applied to current obligors with no known issues (eg customers at reference date who were already delinquent, watchlisted by the bank, subject to recent bank-initiated limit reductions, blocked from further drawdowns or subject to other types of collections activity).

(4) Data that has been affected by changes in obligors' mix of borrowing and other credit-related products over the observation period unless that data has been effectively mitigated for such changes, eg by adjusting the data to remove the effects of the changes in the product mix. Supervisors should expect banks to demonstrate a detailed understanding of the impact of changes in customer product mix on EAD reference data sets (and associated EAD estimates) and that the impact is immaterial or has been effectively mitigated within each bank's estimation process. Banks' analyses in this regard should be actively challenged by supervisors. Effective mitigation would not include: setting floors to credit conversion factor (CCF)/EAD observations; use of obligor-level estimates that do not fully cover the relevant product transformation options or inappropriately combine products with very different characteristics (eg revolving and non-revolving products); adjusting only 'material' observations affected by product transformation; generally excluding observations affected by product profile transformation (thereby potentially distorting the representativeness of the remaining data).

36.95

A well-known feature of the commonly used undrawn limit factor (ULF) approach[7] to estimating CCFs is the region of instability associated with facilities close to being fully drawn at reference date. Banks should ensure that their EAD estimates are effectively quarantined from the potential effects of this region of instability.

(1) An acceptable approach could include using an estimation method other than the ULF approach that avoids the instability issue by not using potentially small undrawn limits that could approach zero in the denominator or, as appropriate, switching to a method other than the ULF as the region of instability is approached, eg a limit factor, balance factor or additional utilisation factor approach.[8] Note that, consistent with CRE36.94, including limit utilisation as a driver in EAD models could quarantine much of the relevant portfolio from this issue but, in the absence of other actions, leaves open how to develop appropriate EAD estimates to be applied to exposures within the region of instability.

(2) Common but ineffective approaches to mitigating this issue include capping and flooring reference data (eg observed CCFs at 100 per cent and zero respectively) or omitting observations that are judged to be affected.

Footnotes

[7] *A specific type of CCF, where predicted additional drawings in the lead-up to default are expressed as a percentage of the undrawn limit that remains available to the obligor under the terms and conditions of a facility, ie EAD=B0=Bt+ULF[Lt –Bt], where B0 = facility balance at date of default; Bt = current balance (for predicted EAD) or balance at reference date (for observed EAD); Lt = current limit (for predicted EAD) or limit at reference date (for realised/observed EAD).*

[8] *A limit factor (LF) is a specific type of CCF, where the predicted balance at default is expressed as a percentage of the total limit that is available to the obligor under the terms and conditions of a credit facility, ie EAD=B0= LF[Lt], where B0 = facility balance at date of default; Bt = current balance (for predicted EAD) or balance at reference date (for observed EAD); Lt = current limit (for predicted EAD) or limit at reference date (for realised/observed EAD). A balance factor (BF) is a specific type of CCF, where the predicted balance at default is expressed as a percentage of the current balance that has been drawn down under a credit facility, ie EAD=B0=BF[Bt]. An additional utilisation factor (AUF) is a specific type of CCF, where predicted additional drawings in the lead-up to default are expressed as a percentage of the total limit that is available to the obligor under the terms and conditions of a credit facility, ie EAD = B0 = Bt + AUF[Lt].*

36.96 EAD reference data must not be capped to the principal amount outstanding or facility limits. Accrued interest, other due payments and limit excesses should be included in EAD reference data.

36.97 For transactions that expose banks to counterparty credit risk, estimates of EAD must fulfil the requirements set forth in the counterparty credit risk standards.

Requirements specific to own-EAD estimates: additional standards for corporate and sovereign exposures

36.98 Estimates of EAD must be based on a time period that must ideally cover a complete economic cycle but must in any case be no shorter than a period of seven years. If the available observation period spans a longer period for any source, and the data are relevant, this longer period must be used. EAD estimates must be calculated using a default-weighted average and not a time-weighted average.

Requirements specific to own-EAD estimates: additional standards for retail exposures

36.99 The minimum data observation period for EAD estimates for retail exposures is five years. The less data a bank has, the more conservative it must be in its estimation.

Requirements for assessing effect of guarantees : standards for corporate and sovereign exposures where own estimates of LGD are used and standards for retail exposures

36.100 When a bank uses its own estimates of LGD, it may reflect the risk-mitigating effect of guarantees through an adjustment to PD or LGD estimates. The option to adjust LGDs is available only to those banks that have been approved to use their own internal estimates of LGD. For retail exposures, where guarantees exist, either in support of an individual obligation or a pool of exposures, a bank may reflect the risk-reducing effect either through its estimates of PD or LGD, provided this is done consistently. In adopting one or the other technique, a bank must adopt a consistent approach, both across types of guarantees and over time.

36.101 In all cases, both the borrower and all recognised guarantors must be assigned a borrower rating at the outset and on an ongoing basis. A bank must follow all minimum requirements for assigning borrower ratings set out in this document, including the regular monitoring of the guarantor's condition and ability and willingness to honour its obligations. Consistent with the requirements in CRE36.46 and CRE36.47, a bank must retain all relevant information on the borrower absent the guarantee and the guarantor. In the case of retail guarantees, these requirements also apply to the assignment of an exposure to a pool, and the estimation of PD.

36.102 In no case can the bank assign the guaranteed exposure an adjusted PD or LGD such that the adjusted risk weight would be lower than that of a comparable, direct exposure to the guarantor. Neither criteria nor rating processes are permitted to consider possible favourable effects of imperfect expected correlation between default events for the borrower and guarantor for purposes of regulatory minimum capital requirements. As such, the adjusted risk weight must not reflect the risk mitigation of "double default."

36.103 In case the bank applies the standardised approach to direct exposures to the guarantor, the guarantee may only be recognised by treating the covered portion of the exposure as a direct exposure to the guarantor under the standardised approach. Similarly, in case the bank applies the foundation IRB approach to direct exposures to the guarantor, the guarantee may only be recognised by applying the foundation IRB approach to the covered portion of the exposure. Alternatively, banks may choose to not recognise the effect of guarantees on their exposures.

36.104 There are no restrictions on the types of eligible guarantors. The bank must, however, have clearly specified criteria for the types of guarantors it will recognise for regulatory capital purposes.

36.105 The guarantee must be evidenced in writing, non-cancellable on the part of the guarantor, in force until the debt is satisfied in full (to the extent of the amount and tenor of the guarantee) and legally enforceable against the guarantor in a jurisdiction where the guarantor has assets to attach and enforce a judgement. The guarantee must also be unconditional; there should be no clause in the protection contract outside the direct control of the bank that could prevent the protection provider from being obliged to pay out in a timely manner in the event that the original counterparty fails to make the payment(s) due. However, under the advanced IRB approach, guarantees that only cover loss remaining after the bank has first pursued the original obligor for payment and has completed the workout process may be recognised.

36.106 In case of guarantees where the bank applies the standardised approach to the covered portion of the exposure, the scope of guarantors and the minimum requirements as under the standardised approach apply.

36.107 A bank must have clearly specified criteria for adjusting borrower grades or LGD estimates (or in the case of retail and eligible purchased receivables, the process of allocating exposures to pools) to reflect the impact of guarantees for regulatory capital purposes. These criteria must be as detailed as the criteria for assigning exposures to grades consistent with CRE36.25 and CRE36.26, and must follow all minimum requirements for assigning borrower or facility ratings set out in this document.

36.108 The criteria must be plausible and intuitive, and must address the guarantor's ability and willingness to perform under the guarantee. The criteria must also address the likely timing of any payments and the degree to which the guarantor's ability to perform under the guarantee is correlated with the borrower's ability to repay. The bank's criteria must also consider the extent to which residual risk to the borrower remains, for example a currency mismatch between the guarantee and the underlying exposure.

36.109 In adjusting borrower grades or LGD estimates (or in the case of retail and eligible purchased receivables, the process of allocating exposures to pools), banks must take all relevant available information into account.

Requirements for assessing effect of credit derivatives: standards for corporate and sovereign exposures where own estimates of LGD are used and standards for retail exposures

36.110 The minimum requirements for guarantees are relevant also for single-name credit derivatives. Additional considerations arise in respect of asset mismatches. The criteria used for assigning adjusted borrower grades or LGD estimates (or pools) for exposures hedged with credit derivatives must require that the asset on which the protection is based (the reference asset) cannot be different from the underlying asset, unless the conditions outlined in the foundation approach are met.

36.111 In addition, the criteria must address the payout structure of the credit derivative and conservatively assess the impact this has on the level and timing of recoveries. The bank must also consider the extent to which other forms of residual risk remain.

Requirements for assessing effect of guarantees and credit derivatives: standards for banks using foundation LGD estimates

36.112 The minimum requirements outlined in CRE36.100 to CRE36.111 apply to banks using the foundation LGD estimates with the following exceptions:

(1) The bank is not able to use an 'LGD-adjustment' option; and

(2) The range of eligible guarantees and guarantors is limited to those outlined in CRE32.23.

Requirements specific to estimating PD and LGD (or EL) for qualifying purchased receivables

36.113 The following minimum requirements for risk quantification must be satisfied for any purchased receivables (corporate or retail) making use of the top-down treatment of default risk and/or the IRB treatments of dilution risk.

36.114 The purchasing bank will be required to group the receivables into sufficiently homogeneous pools so that accurate and consistent estimates of PD and LGD (or EL) for default losses and EL estimates of dilution losses can be determined. In general, the risk bucketing process will reflect the seller's underwriting practices and the heterogeneity of its customers. In addition, methods and data for estimating PD, LGD, and EL must comply with the existing risk quantification standards for retail exposures. In particular, quantification should reflect all information available to the purchasing bank regarding the quality of the underlying receivables, including data for similar pools provided by the seller, by the purchasing bank, or by external sources. The purchasing bank must determine whether the data provided by the seller are consistent with expectations agreed upon by both parties concerning, for example, the type, volume and on-going quality of receivables purchased. Where this is not the case, the purchasing bank is expected to obtain and rely upon more relevant data.

36.115 A bank purchasing receivables has to justify confidence that current and future advances can be repaid from the liquidation of (or collections against) the receivables pool. To qualify for the top-down treatment of default risk, the receivable pool and overall lending relationship should be closely monitored and controlled. Specifically, a bank will have to demonstrate the following:

(1) Legal certainty (see CRE36.116).

(2) Effectiveness of monitoring systems (see CRE36.117)

(3) Effectiveness of work-out systems (see CRE36.118)

(4) Effectiveness of systems for controlling collateral, credit availability, and cash (see CRE36.119)

(5) Compliance with the bank's internal policies and procedures (see CRE36.120 and CRE36.121)

36.116 Legal certainty: the structure of the facility must ensure that under all foreseeable circumstances the bank has effective ownership and control of the cash remittances from the receivables, including incidences of seller or servicer distress and bankruptcy. When the obligor makes payments directly to a seller or servicer, the bank must verify regularly that payments are forwarded completely and within the contractually agreed terms. As well, ownership over the receivables and cash receipts should be protected against bankruptcy 'stays' or legal challenges that could materially delay the lender's ability to liquidate/assign the receivables or retain control over cash receipts.

36.117

Effectiveness of monitoring systems: the bank must be able to monitor both the quality of the receivables and the financial condition of the seller and servicer. In particular:

(1) The bank must:

(a) assess the correlation among the quality of the receivables and the financial condition of both the seller and servicer; and

(b) have in place internal policies and procedures that provide adequate safeguards to protect against such contingencies, including the assignment of an internal risk rating for each seller and servicer.

(2) The bank must have clear and effective policies and procedures for determining seller and servicer eligibility. The bank or its agent must conduct periodic reviews of sellers and servicers in order to verify the accuracy of reports from the seller/servicer, detect fraud or operational weaknesses, and verify the quality of the seller's credit policies and servicer's collection policies and procedures. The findings of these reviews must be well documented.

(3) The bank must have the ability to assess the characteristics of the receivables pool, including:

(a) over-advances;

(b) history of the seller's arrears, bad debts, and bad debt allowances;

(c) payment terms; and

(d) potential contra accounts.

(4) The bank must have effective policies and procedures for monitoring on an aggregate basis single-obligor concentrations both within and across receivables pools.

(5) The bank must receive timely and sufficiently detailed reports of receivables ageings and dilutions to:

(a) ensure compliance with the bank's eligibility criteria and advancing policies governing purchased receivables; and

(b) provide an effective means with which to monitor and confirm the seller' s terms of sale (eg invoice date ageing) and dilution.

36.118 Effectiveness of work-out systems: an effective programme requires systems and procedures not only for detecting deterioration in the seller's financial condition and deterioration in the quality of the receivables at an early stage, but also for addressing emerging problems pro-actively. In particular:

(1) The bank should have clear and effective policies, procedures, and information systems to monitor compliance with (a) all contractual terms of the facility (including covenants, advancing formulas, concentration limits, early amortisation triggers, etc) as well as (b) the bank's internal policies governing advance rates and receivables eligibility. The bank's systems should track covenant violations and waivers as well as exceptions to established policies and procedures.

(2) To limit inappropriate draws, the bank should have effective policies and procedures for detecting, approving, monitoring, and correcting over-advances.

(3) The bank should have effective policies and procedures for dealing with financially weakened sellers or servicers and/or deterioration in the quality of receivable pools. These include, but are not necessarily limited to, early termination triggers in revolving facilities and other covenant protections, a structured and disciplined approach to dealing with covenant violations, and clear and effective policies and procedures for initiating legal actions and dealing with problem receivables.

36.119 Effectiveness of systems for controlling collateral, credit availability, and cash: the bank must have clear and effective policies and procedures governing the control of receivables, credit, and cash. In particular:

(1) Written internal policies must specify all material elements of the receivables purchase programme, including the advancing rates, eligible collateral, necessary documentation, concentration limits, and how cash receipts are to be handled. These elements should take appropriate account of all relevant and material factors, including the seller's/servicer's financial condition, risk concentrations, and trends in the quality of the receivables and the seller's customer base.

(2) Internal systems must ensure that funds are advanced only against specified supporting collateral and documentation (such as servicer attestations, invoices, shipping documents, etc).

36.120 Compliance with the bank's internal policies and procedures: given the reliance on monitoring and control systems to limit credit risk, the bank should have an effective internal process for assessing compliance with all critical policies and procedures, including:

(1) Regular internal and/or external audits of all critical phases of the bank's receivables purchase programme.

(2) Verification of the separation of duties:

(a) between the assessment of the seller/servicer and the assessment of the obligor; and

(b) between the assessment of the seller/servicer and the field audit of the seller/servicer.

36.121 A bank's effective internal process for assessing compliance with all critical policies and procedures should also include evaluations of back office operations, with particular focus on qualifications, experience, staffing levels, and supporting systems.

Section 8: validation of internal estimates

36.122 Banks must have a robust system in place to validate the accuracy and consistency of rating systems, processes, and the estimation of all relevant risk components. A bank must demonstrate to its supervisor that the internal validation process enables it to assess the performance of internal rating and risk estimation systems consistently and meaningfully.

36.123 Banks must regularly compare realised default rates with estimated PDs for each grade and be able to demonstrate that the realised default rates are within the expected range for that grade. Banks using the advanced IRB approach must complete such analysis for their estimates of LGDs and EADs. Such comparisons must make use of historical data that are over as long a period as possible. The methods and data used in such comparisons by the bank must be clearly documented by the bank. This analysis and documentation must be updated at least annually.

36.124 Banks must also use other quantitative validation tools and comparisons with relevant external data sources. The analysis must be based on data that are appropriate to the portfolio, are updated regularly, and cover a relevant observation period. Banks' internal assessments of the performance of their own rating systems must be based on long data histories, covering a range of economic conditions, and ideally one or more complete business cycles.

36.125

Banks must demonstrate that quantitative testing methods and other validation methods do not vary systematically with the economic cycle. Changes in methods and data (both data sources and periods covered) must be clearly and thoroughly documented.

36.126 Banks must have well-articulated internal standards for situations where deviations in realised PDs, LGDs and EADs from expectations become significant enough to call the validity of the estimates into question. These standards must take account of business cycles and similar systematic variability in default experiences. Where realised values continue to be higher than expected values, banks must revise estimates upward to reflect their default and loss experience.

36.127 Where banks rely on supervisory, rather than internal, estimates of risk parameters, they are encouraged to compare realised LGDs and EADs to those set by the supervisors. The information on realised LGDs and EADs should form part of the bank's assessment of economic capital.

Section 9: supervisory LGD and EAD estimates

36.128 Banks under the foundation IRB approach, which do not meet the requirements for own-estimates of LGD and EAD, above, must meet the minimum requirements described in the standardised approach to receive recognition for eligible financial collateral (as set out in the credit risk mitigation section of the standardised approach, CRE22). They must meet the following additional minimum requirements in order to receive recognition for additional collateral types.

Definition of eligibility of commercial and residential real estate as collateral

36.129 Eligible commercial and residential real estate collateral for corporate, sovereign and bank exposures are defined as:

(1) Collateral where the risk of the borrower is not materially dependent upon the performance of the underlying property or project, but rather on the underlying capacity of the borrower to repay the debt from other sources. As such, repayment of the facility is not materially dependent on any cash flow generated by the underlying commercial or residential real estate serving as collateral;[9] and

(2) Additionally, the value of the collateral pledged must not be materially dependent on the performance of the borrower. This requirement is not intended to preclude situations where purely macro-economic factors affect both the value of the collateral and the performance of the borrower.

Footnotes

[9] *The Committee recognises that in some countries where multifamily housing makes up an important part of the housing market and where public policy is supportive of that sector, including specially established public sector companies as major providers, the risk characteristics of lending secured by mortgage on such residential real estate can be similar to those of traditional corporate exposures. The national supervisor may under such circumstances recognise mortgage on multifamily residential real estate as eligible collateral for corporate exposures.*

36.130 In light of the generic description above and the definition of corporate exposures, income producing real estate that falls under the SL asset class is specifically excluded from recognition as collateral for corporate exposures.[10]

Footnotes

[10] *In exceptional circumstances for well-developed and long-established markets, mortgages on office and/or multi-purpose commercial premises and/or multi-tenanted commercial premises may have the potential to receive recognition as collateral in the corporate portfolio. This exceptional treatment will be subject to very strict conditions. In particular, two tests must be fulfilled, namely that (i) losses stemming from commercial real estate lending up to the lower of 50% of the market value or 60% of loan-to value based on mortgage-lending-value must not exceed 0.3% of the outstanding loans in any given year; and that (ii) overall losses stemming from commercial real estate lending must not exceed 0.5% of the outstanding loans in any given year. This is, if either of these tests is not satisfied in a given year, the eligibility to use this treatment will cease and the original eligibility criteria would need to be satisfied again before it could be applied in the future. Countries applying such a treatment must publicly disclose that these are met.*

Operational requirements for eligible commercial or residential real estate

36.131 Subject to meeting the definition above, commercial and residential real estate will be eligible for recognition as collateral for corporate claims only if all of the following operational requirements are met.

(1) Legal enforceability: any claim on collateral taken must be legally enforceable in all relevant jurisdictions, and any claim on collateral must be properly filed on a timely basis. Collateral interests must reflect a perfected lien (ie all legal requirements for establishing the claim have been fulfilled). Furthermore, the collateral agreement and the legal process underpinning it must be such that they provide for the bank to realise the value of the collateral within a reasonable timeframe.

(2) Objective market value of collateral: the collateral must be valued at or less than the current fair value under which the property could be sold under private contract between a willing seller and an arm's-length buyer on the date of valuation.

(3) Frequent revaluation: the bank is expected to monitor the value of the collateral on a frequent basis and at a minimum once every year. More frequent monitoring is suggested where the market is subject to significant changes in conditions. Statistical methods of evaluation (eg reference to house price indices, sampling) may be used to update estimates or to identify collateral that may have declined in value and that may need re-appraisal. A qualified professional must evaluate the property when information indicates that the value of the collateral may have declined materially relative to general market prices or when a credit event, such as default, occurs.

(4) Junior liens: In some member countries, eligible collateral will be restricted to situations where the lender has a first charge over the property.[11] Junior liens may be taken into account where there is no doubt that the claim for collateral is legally enforceable and constitutes an efficient credit risk mitigant. Where junior liens are recognised the bank must first take the haircut value of the collateral, then reduce it by the sum of all loans with liens that rank higher than the junior lien, the remaining value is the collateral that supports the loan with the junior lien. In cases where liens are held by third parties that rank pari passu with the lien of the bank, only the proportion of the collateral (after the application of haircuts and reductions due to the value of loans with liens that rank higher than the lien of the bank) that is attributable to the bank may be recognised.

Footnotes

[11] *In some of these jurisdictions, first liens are subject to the prior right of preferential creditors, such as outstanding tax claims and employees' wages.*

36.132 Additional collateral management requirements are as follows:

(1) The types of commercial and residential real estate collateral accepted by the bank and lending policies (advance rates) when this type of collateral is taken must be clearly documented.

(2) The bank must take steps to ensure that the property taken as collateral is adequately insured against damage or deterioration.

(3) The bank must monitor on an ongoing basis the extent of any permissible prior claims (eg tax) on the property.

(4) The bank must appropriately monitor the risk of environmental liability arising in respect of the collateral, such as the presence of toxic material on a property.

Requirements for recognition of financial receivables : definition of eligible receivables

36.133 Eligible financial receivables are claims with an original maturity of less than or equal to one year where repayment will occur through the commercial or financial flows related to the underlying assets of the borrower. This includes both self-liquidating debt arising from the sale of goods or services linked to a commercial transaction and general amounts owed by buyers, suppliers, renters, national and local governmental authorities, or other non-affiliated parties not related to the sale of goods or services linked to a commercial transaction. Eligible receivables do not include those associated with securitisations, sub-participations or credit derivatives.

Requirements for recognition of financial receivables: legal certainty

36.134 The legal mechanism by which collateral is given must be robust and ensure that the lender has clear rights over the proceeds from the collateral.

36.135 Banks must take all steps necessary to fulfil local requirements in respect of the enforceability of security interest, eg by registering a security interest with a registrar. There should be a framework that allows the potential lender to have a perfected first priority claim over the collateral.

36.136 All documentation used in collateralised transactions must be binding on all parties and legally enforceable in all relevant jurisdictions. Banks must have conducted sufficient legal review to verify this and have a well-founded legal basis to reach this conclusion, and undertake such further review as necessary to ensure continuing enforceability.

36.137 The collateral arrangements must be properly documented, with a clear and robust procedure for the timely collection of collateral proceeds. Banks' procedures should ensure that any legal conditions required for declaring the default of the customer and timely collection of collateral are observed. In the event of the obligor's financial distress or default, the bank should have legal authority to sell or assign the receivables to other parties without consent of the receivables' obligors.

Requirements for recognition of financial receivables: risk management

36.138 The bank must have a sound process for determining the credit risk in the receivables. Such a process should include, among other things, analyses of the borrower's business and industry (eg effects of the business cycle) and the types of customers with whom the borrower does business. Where the bank relies on the borrower to ascertain the credit risk of the customers, the bank must review the borrower's credit policy to ascertain its soundness and credibility.

36.139 The margin between the amount of the exposure and the value of the receivables must reflect all appropriate factors, including the cost of collection, concentration within the receivables pool pledged by an individual borrower, and potential concentration risk within the bank's total exposures.

36.140 The bank must maintain a continuous monitoring process that is appropriate for the specific exposures (either immediate or contingent) attributable to the collateral to be utilised as a risk mitigant. This process may include, as appropriate and relevant, ageing reports, control of trade documents, borrowing base certificates, frequent audits of collateral, confirmation of accounts, control of the proceeds of accounts paid, analyses of dilution (credits given by the borrower to the issuers) and regular financial analysis of both the borrower and the issuers of the receivables, especially in the case when a small number of large-sized receivables are taken as collateral. Observance of the bank's overall concentration limits should be monitored. Additionally, compliance with loan covenants, environmental restrictions, and other legal requirements should be reviewed on a regular basis.

36.141 The receivables pledged by a borrower should be diversified and not be unduly correlated with the borrower. Where the correlation is high, eg where some issuers of the receivables are reliant on the borrower for their viability or the borrower and the issuers belong to a common industry, the attendant risks should be taken into account in the setting of margins for the collateral pool as a whole. Receivables from affiliates of the borrower (including subsidiaries and employees) will not be recognised as risk mitigants.

36.142 The bank should have a documented process for collecting receivable payments in distressed situations. The requisite facilities for collection should be in place, even when the bank normally looks to the borrower for collections.

Requirements for recognition of other physical collateral

36.143 Supervisors may allow for recognition of the credit risk mitigating effect of certain other physical collateral when the following conditions are met:

(1) The bank demonstrates to the satisfaction of the supervisor that there are liquid markets for disposal of collateral in an expeditious and economically efficient manner. Banks must carry out a reassessment of this condition both periodically and when information indicates material changes in the market.

(2) The bank demonstrates to the satisfaction of the supervisor that there are well established, publicly available market prices for the collateral. Banks must also demonstrate that the amount they receive when collateral is realised does not deviate significantly from these market prices.

36.144 In order for a given bank to receive recognition for additional physical collateral, it must meet all the standards in CRE36.131 and CRE36.132, subject to the following modifications:

(1) With the sole exception of permissible prior claims specified in the footnote to CRE36.131, only first liens on, or charges over, collateral are permissible. As such, the bank must have priority over all other lenders to the realised proceeds of the collateral.

(2) The loan agreement must include detailed descriptions of the collateral and the right to examine and revalue the collateral whenever this is deemed necessary by the lending bank.

(3) The types of physical collateral accepted by the bank and policies and practices in respect of the appropriate amount of each type of collateral relative to the exposure amount must be clearly documented in internal credit policies and procedures and available for examination and/or audit review.

(4) Bank credit policies with regard to the transaction structure must address appropriate collateral requirements relative to the exposure amount, the ability to liquidate the collateral readily, the ability to establish objectively a price or market value, the frequency with which the value can readily be obtained (including a professional appraisal or valuation), and the volatility of the value of the collateral. The periodic revaluation process must pay particular attention to "fashion-sensitive" collateral to ensure that valuations are appropriately adjusted downward of fashion, or model-year, obsolescence as well as physical obsolescence or deterioration.

(5) In cases of inventories (eg raw materials, work-in-process, finished goods, dealers' inventories of autos) and equipment, the periodic revaluation process must include physical inspection of the collateral.

36.145 General Security Agreements, and other forms of floating charge, can provide the lending bank with a registered claim over a company's assets. In cases where the registered claim includes both assets that are not eligible as collateral under the foundation IRB and assets that are eligible as collateral under the foundation IRB, the bank may recognise the latter. Recognition is conditional on the claims meeting the operational requirements set out in CRE36.128 to CRE36.144.

Section 10: requirements for recognition of leasing

36.146 Leases other than those that expose the bank to residual value risk (see CRE36.147) will be accorded the same treatment as exposures collateralised by the same type of collateral. The minimum requirements for the collateral type must be met (commercial or residential real estate or other collateral). In addition, the bank must also meet the following standards:

(1) Robust risk management on the part of the lessor with respect to the location of the asset, the use to which it is put, its age, and planned obsolescence;

(2) A robust legal framework establishing the lessor's legal ownership of the asset and its ability to exercise its rights as owner in a timely fashion; and

(3) The difference between the rate of depreciation of the physical asset and the rate of amortisation of the lease payments must not be so large as to overstate the credit risk mitigation attributed to the leased assets.

36.147 Leases that expose the bank to residual value risk will be treated in the following manner. Residual value risk is the bank's exposure to potential loss due to the fair value of the equipment declining below its residual estimate at lease inception.

(1) The discounted lease payment stream will receive a risk weight appropriate for the lessee's financial strength (PD) and supervisory or own-estimate of LGD, whichever is appropriate.

(2) The residual value will be risk-weighted at 100%.

Section 11: disclosure requirements

36.148 In order to be eligible for the IRB approach, banks must meet the disclosure requirements set out in the disclosure requirements standard (DIS). These are minimum requirements for use of IRB: failure to meet these will render banks ineligible to use the relevant IRB approach.

CRE40

Securitisation: general provisions

This chapter describes the scope, definitions, operational and due diligence requirements and structure of capital requirements used to calculate risk-weighted assets for securitisation exposures in the banking book.

Version effective as of 01 Jan 2023

The 1.06 scaling factor has been removed to reflect its removal in the December 2017 publication of Basel III. The simple, transparent and comparable criteria related to credit risk of underlying exposures has been adapted to reflect the credit risk asset classes as defined in the December 2017 Basel III standardised approach for credit risk. The revised implementation date is as announced on 27 March 2020. A reference to the treatment of exposures to securitisations of non-performing loans (CRE45) is introduced in CRE40.48.

Scope and definitions of transactions covered under the securitisation framework

40.1 Banks must apply the securitisation framework for determining regulatory capital requirements on exposures arising from traditional and synthetic securitisations or similar structures that contain features common to both. Since securitisations may be structured in many different ways, the capital treatment of a securitisation exposure must be determined on the basis of its economic substance rather than its legal form. Similarly, supervisors will look to the economic substance of a transaction to determine whether it should be subject to the securitisation framework for purposes of determining regulatory capital. Banks are encouraged to consult with their national supervisors when there is uncertainty about whether a given transaction should be considered a securitisation. For example, transactions involving cash flows from real estate (eg rents) may be considered specialised lending exposures, if warranted.

40.2 A traditional securitisation is a structure where the cash flow from an underlying pool of exposures is used to service at least two different stratified risk positions or tranches reflecting different degrees of credit risk. Payments to the investors depend upon the performance of the specified underlying exposures, as opposed to being derived from an obligation of the entity originating those exposures. The stratified/tranched structures that characterise securitisations differ from ordinary senior/subordinated debt instruments in that junior securitisation tranches can absorb losses without interrupting contractual payments to more senior tranches, whereas subordination in a senior/subordinated debt structure is a matter of priority of rights to the proceeds of liquidation.

40.3 A synthetic securitisation is a structure with at least two different stratified risk positions or tranches that reflect different degrees of credit risk where credit risk of an underlying pool of exposures is transferred, in whole or in part, through the use of funded (eg credit-linked notes) or unfunded (eg credit default swaps) credit derivatives or guarantees that serve to hedge the credit risk of the portfolio. Accordingly, the investors' potential risk is dependent upon the performance of the underlying pool.

40.4 Banks' exposures to a securitisation are hereafter referred to as "securitisation exposures". Securitisation exposures can include but are not restricted to the following: asset-backed securities, mortgage-backed securities, credit enhancements, liquidity facilities, interest rate or currency swaps, credit derivatives and tranched cover as described in CRE22.81. Reserve accounts, such as cash collateral accounts, recorded as an asset by the originating bank must also be treated as securitisation exposures.

40.5

A resecuritisation exposure is a securitisation exposure in which the risk associated with an underlying pool of exposures is tranched and at least one of the underlying exposures is a securitisation exposure. In addition, an exposure to one or more resecuritisation exposures is a resecuritisation exposure. An exposure resulting from retranching of a securitisation exposure is not a resecuritisation exposure if the bank is able to demonstrate that the cash flows to and from the bank could be replicated in all circumstances and conditions by an exposure to the securitisation of a pool of assets that contains no securitisation exposures.

40.6 Underlying instruments in the pool being securitised may include but are not restricted to the following: loans, commitments, asset-backed and mortgage-backed securities, corporate bonds, equity securities, and private equity investments. The underlying pool may include one or more exposures.

Definitions and general terminology

40.7 For risk-based capital purposes, a bank is considered to be an originator with regard to a certain securitisation if it meets either of the following conditions:

(1) the bank originates directly or indirectly underlying exposures included in the securitisation; or

(2) the bank serves as a sponsor of an asset-backed commercial paper (ABCP) conduit or similar programme that acquires exposures from third-party entities. In the context of such programmes, a bank would generally be considered a sponsor and, in turn, an originator if it, in fact or in substance, manages or advises the programme, places securities into the market, or provides liquidity and/or credit enhancements.

40.8 An ABCP programme predominantly issues commercial paper to third-party investors with an original maturity of one year or less and is backed by assets or other exposures held in a bankruptcy-remote, special purpose entity.

40.9 A clean-up call is an option that permits the securitisation exposures (eg asset-backed securities) to be called before all of the underlying exposures or securitisation exposures have been repaid. In the case of traditional securitisations, this is generally accomplished by repurchasing the remaining securitisation exposures once the pool balance or outstanding securities have fallen below some specified level. In the case of a synthetic transaction, the clean-up call may take the form of a clause that extinguishes the credit protection.

40.10

A credit enhancement is a contractual arrangement in which the bank or other entity retains or assumes a securitisation exposure and, in substance, provides some degree of added protection to other parties to the transaction.

40.11 A credit-enhancing interest-only strip (I/O) is an on-balance sheet asset that

(1) represents a valuation of cash flows related to future margin income, and

(2) is subordinated.

40.12 An early amortisation provision is a mechanism that, once triggered, accelerates the reduction of the investor's interest in underlying exposures of a securitisation of revolving credit facilities and allows investors to be paid out prior to the originally stated maturity of the securities issued. A securitisation of revolving credit facilities is a securitisation in which one or more underlying exposures represent, directly or indirectly, current or future draws on a revolving credit facility. Examples of revolving credit facilities include but are not limited to credit card exposures, home equity lines of credit, commercial lines of credit, and other lines of credit.

40.13 Excess spread (or future margin income) is defined as gross finance charge collections and other income received by the trust or special purpose entity (SPE, as defined below) minus certificate interest, servicing fees, charge-offs, and other senior trust or SPE expenses.

40.14 Implicit support arises when a bank provides support to a securitisation in excess of its predetermined contractual obligation.

40.15 For risk-based capital purposes, an internal ratings-based (IRB) pool means a securitisation pool for which a bank is able to use an IRB approach to calculate capital requirements for all underlying exposures given that it has approval to apply IRB for the type of underlying exposures and it has sufficient information to calculate IRB capital requirements for these exposures. Supervisors should expect that a bank with supervisory approval to calculate capital requirements for the type of underlying exposures be able to obtain sufficient information to estimate capital requirements for the underlying pool of exposures using an IRB approach. A bank which has a supervisory-approved IRB approach for the entire pool of exposures underlying a given securitisation exposure that cannot estimate capital requirements for all underlying exposures using an IRB approach would be expected to demonstrate to its supervisor why it is unable to do so. However, a supervisor may prohibit a bank from treating an IRB pool as such in the case of particular structures or transactions, including transactions with highly complex loss allocations, tranches whose credit enhancement could be eroded for reasons other than portfolio losses, and tranches of portfolios with high internal correlations (such as portfolios with high exposure to single sectors or with high geographical concentration).

40.16 For risk-based capital purposes, a mixed pool means a securitisation pool for which a bank is able to calculate IRB parameters for some, but not all, underlying exposures in a securitisation.

40.17 For risk-based capital purposes, a standardised approach (SA) pool means a securitisation pool for which a bank does not have approval to calculate IRB parameters for any underlying exposures; or for which, while the bank has approval to calculate IRB parameters for some or all of the types of underlying exposures, it is unable to calculate IRB parameters for any underlying exposures because of lack of relevant data, or is prohibited by its supervisor from treating the pool as an IRB pool pursuant to CRE40.15.

40.18 A securitisation exposure (tranche) is considered to be a senior exposure (tranche) if it is effectively backed or secured by a first claim on the entire amount of the assets in the underlying securitised pool.[1] While this generally includes only the most senior position within a securitisation transaction, in some instances there may be other claims that, in a technical sense, may be more senior in the waterfall (eg a swap claim) but may be disregarded for the purpose of determining which positions are treated as senior. Different maturities of several senior tranches that share pro rata loss allocation shall have no effect on the seniority of these tranches, since they benefit from the same level of credit enhancement. The material effects of differing tranche maturities are captured by maturity adjustments on the risk weights to be assigned to the securitisation exposures. For example:

(1) In a typical synthetic securitisation, an unrated tranche would be treated as a senior tranche, provided that all of the conditions for inferring a rating from a lower tranche that meets the definition of a senior tranche are fulfilled.

(2) In a traditional securitisation where all tranches above the first-loss piece are rated, the most highly rated position would be treated as a senior tranche. When there are several tranches that share the same rating, only the most senior tranche in the cash flow waterfall would be treated as senior (unless the only difference among them is the effective maturity). Also, when the different ratings of several senior tranches only result from a difference in maturity, all of these tranches should be treated as a senior tranche.

(3) Usually, a liquidity facility supporting an ABCP programme would not be the most senior position within the programme; the commercial paper, which benefits from the liquidity support, typically would be the most senior position. However, a liquidity facility may be viewed as covering all losses on the underlying receivables pool that exceed the amount of overcollateralisation/reserves provided by the seller and as being most senior if it is sized to cover all of the outstanding commercial paper and other senior debt supported by the pool, so that no cash flows from the underlying pool could be transferred to the other creditors until any liquidity draws were repaid in full. In such a case, the liquidity facility can be treated as a senior exposure. Otherwise, if these conditions are not satisfied, or if for other reasons the liquidity facility constitutes a mezzanine position in economic substance rather than a senior position in the underlying pool, the liquidity facility should be treated as a non-senior exposure.

Footnotes

[1] *If a senior tranche is retranched or partially hedged (ie not on a pro rata basis), only the new senior part would be treated as senior for capital purposes.*

40.19 For risk-based capital purposes, the exposure amount of a securitisation exposure is the sum of the on-balance sheet amount of the exposure, or carrying value – which takes into account purchase discounts and writedowns/specific provisions the bank took on this securitisation exposure – and the off-balance sheet exposure amount, where applicable.

40.20 A bank must measure the exposure amount of its off-balance sheet securitisation exposures as follows:

(1) for credit risk mitigants sold or purchased by the bank, use the treatment set out in CRE40.56 to CRE40.62;

(2) for facilities that are not credit risk mitigants, use a credit conversion factor (CCF) of 100%. If contractually provided for, servicers may advance cash to ensure an uninterrupted flow of payments to investors so long as the servicer is entitled to full reimbursement and this right is senior to other claims on cash flows from the underlying pool of exposures. At national discretion, the undrawn portion of servicer cash advances or facilities that are unconditionally cancellable without prior notice may receive the CCF for unconditionally cancellable commitments under CRE20. For this purpose, a national supervisor that uses this discretion must develop an appropriately conservative method for measuring the amount of the undrawn portion; and

(3) for derivatives contracts other than credit risk derivatives contracts, such as interest rate or currency swaps sold or purchased by the bank, use the measurement approach set out in CRE51.

40.21 An SPE is a corporation, trust or other entity organised for a specific purpose, the activities of which are limited to those appropriate to accomplish the purpose of the SPE, and the structure of which is intended to isolate the SPE from the credit risk of an originator or seller of exposures. SPEs, normally a trust or similar entity, are commonly used as financing vehicles in which exposures are sold to the SPE in exchange for cash or other assets funded by debt issued by the trust.

40.22 For risk-based capital purposes, tranche maturity (M_T) is the tranche's remaining effective maturity in years and can be measured at the bank's discretion in either of the following manners. In all cases, M_T will have a floor of one year and a cap of five years.

(1) As the euro[2] weighted-average maturity of the contractual cash flows of the tranche, as expressed below, where CF_t denotes the cash flows (principal, interest payments and fees) contractually payable by the borrower in period t. The contractual payments must be unconditional and must not be dependent on the actual performance of the securitised assets. If such unconditional contractual payment dates are not available, the final legal maturity shall be used.

$$M_T = \frac{\sum_t tCF_t}{\sum_t CF_t}$$

(2) On the basis of final legal maturity of the tranche, where M_L is the final legal maturity of the tranche.

$$M_T = 1 + 80\%\left(M_L - 1\right)$$

Footnotes

[2] *The euro designation is used for illustrative purposes only.*

40.23 When determining the maturity of a securitisation exposure, banks should take into account the maximum period of time they are exposed to potential losses from the securitised assets. In cases where a bank provides a commitment, the bank should calculate the maturity of the securitisation exposure resulting from this commitment as the sum of the contractual maturity of the commitment and the longest maturity of the asset(s) to which the bank would be exposed after a draw has occurred. If those assets are revolving, the longest contractually possible remaining maturity of the asset that might be added during the revolving period would apply, rather than the (longest) maturity of the assets currently in the pool. The same treatment applies to all other instruments where the risk of the commitment/protection provider is not limited to losses realised until the maturity of that instrument (eg total return swaps). For credit protection instruments that are only exposed to losses that occur up to the maturity of that instrument, a bank would be allowed to apply the contractual maturity of the instrument and would not have to look through to the protected position.

Operational requirements for the recognition of risk transference

40.24 An originating bank may exclude underlying exposures from the calculation of risk-weighted assets only if all of the following conditions have been met. Banks meeting these conditions must still hold regulatory capital against any securitisation exposures they retain.

(1) Significant credit risk associated with the underlying exposures has been transferred to third parties.

(2) The transferor does not maintain effective or indirect control over the transferred exposures. The exposures are legally isolated from the transferor in such a way (eg through the sale of assets or through subparticipation) that the exposures are put beyond the reach of the transferor and its creditors, even in bankruptcy or receivership. Banks should obtain legal opinion[3] that confirms true sale. The transferor's retention of servicing rights to the

exposures will not necessarily constitute indirect control of the exposures. The transferor is deemed to have maintained effective control over the transferred credit risk exposures if it:

(a) is able to repurchase from the transferee the previously transferred exposures in order to realise their benefits; or

(b) is obligated to retain the risk of the transferred exposures.

(3) The securities issued are not obligations of the transferor. Thus, investors who purchase the securities only have claim to the underlying exposures.

(4) The transferee is an SPE and the holders of the beneficial interests in that entity have the right to pledge or exchange them without restriction, unless such restriction is imposed by a risk retention requirement.

(5) Clean-up calls must satisfy the conditions set out in CRE40.28.

(6) The securitisation does not contain clauses that

(a) require the originating bank to alter the underlying exposures such that the pool's credit quality is improved unless this is achieved by selling exposures to independent and unaffiliated third parties at market prices;

(b) allow for increases in a retained first-loss position or credit enhancement provided by the originating bank after the transaction's inception; or

(c) increase the yield payable to parties other than the originating bank, such as investors and third-party providers of credit enhancements, in response to a deterioration in the credit quality of the underlying pool.

(7) There must be no termination options/triggers except eligible clean-up calls, termination for specific changes in tax and regulation or early amortisation provisions such as those set out in CRE40.27.

Footnotes

[3] *Legal opinion is not limited to legal advice from qualified legal counsel, but allows written advice from in-house lawyers.*

40.25 For synthetic securitisations, the use of credit risk mitigation (CRM) techniques (ie collateral, guarantees and credit derivatives) for hedging the underlying exposure may be recognised for risk-based capital purposes only if the conditions outlined below are satisfied:

(1) Credit risk mitigants must comply with the requirements set out in CRE22.

(2) Eligible collateral is limited to that specified in CRE22.34. Eligible collateral pledged by SPEs may be recognised.

(3) Eligible guarantors are defined in CRE22.76. Banks may not recognise SPEs as eligible guarantors in the securitisation framework.

(4) Banks must transfer significant credit risk associated with the underlying exposures to third parties.

(5) The instruments used to transfer credit risk may not contain terms or conditions that limit the amount of credit risk transferred, such as those provided below:

(a) clauses that materially limit the credit protection or credit risk transference (eg an early amortisation provision in a securitisation of revolving credit facilities that effectively subordinates the bank's interest; significant materiality thresholds below which credit protection is deemed not to be triggered even if a credit event occurs; or clauses that allow for the termination of the protection due to deterioration in the credit quality of the underlying exposures);

(b) clauses that require the originating bank to alter the underlying exposures to improve the pool's average credit quality;

(c) clauses that increase the banks' cost of credit protection in response to deterioration in the pool's quality;

(d) clauses that increase the yield payable to parties other than the originating bank, such as investors and third-party providers of credit enhancements, in response to a deterioration in the credit quality of the reference pool; and

(e) clauses that provide for increases in a retained first-loss position or credit enhancement provided by the originating bank after the transaction's inception.

(6) A bank should obtain legal opinion that confirms the enforceability of the contract.

(7) Clean-up calls must satisfy the conditions set out in CRE40.28.

40.26 A securitisation transaction is deemed to fail the operational requirements set out in CRE40.24 or CRE40.25 if the bank

(1) originates/sponsors a securitisation transaction that includes one or more revolving credit facilities, and

(2) the securitisation transaction incorporates an early amortisation or similar provision that, if triggered, would

(a) subordinate the bank's senior or pari passu interest in the underlying revolving credit facilities to the interest of other investors;

(b) subordinate the bank's subordinated interest to an even greater degree relative to the interests of other parties; or

(c) in other ways increases the bank's exposure to losses associated with the underlying revolving credit facilities.

40.27 If a securitisation transaction contains one of the following examples of an early amortisation provision and meets the operational requirements set forth in CRE40.24 or CRE40.25, an originating bank may exclude the underlying exposures associated with such a transaction from the calculation of risk-weighted assets, but must still hold regulatory capital against any securitisation exposures they retain in connection with the transaction:

(1) replenishment structures where the underlying exposures do not revolve and the early amortisation ends the ability of the bank to add new exposures;

(2) transactions of revolving credit facilities containing early amortisation features that mimic term structures (ie where the risk on the underlying revolving credit facilities does not return to the originating bank) and where the early amortisation provision in a securitisation of revolving credit facilities does not effectively result in subordination of the originator's interest;

(3) structures where a bank securitises one or more revolving credit facilities and where investors remain fully exposed to future drawdowns by borrowers even after an early amortisation event has occurred; or

(4) the early amortisation provision is solely triggered by events not related to the performance of the underlying assets or the selling bank, such as material changes in tax laws or regulations.

40.28 For securitisation transactions that include a clean-up call, no capital will be required due to the presence of a clean-up call if the following conditions are met:

(1) the exercise of the clean-up call must not be mandatory, in form or in substance, but rather must be at the discretion of the originating bank;

(2) the clean-up call must not be structured to avoid allocating losses to credit enhancements or positions held by investors or otherwise structured to provide credit enhancement; and

(3) the clean-up call must only be exercisable when 10% or less of the original underlying portfolio or securities issued remains, or, for synthetic securitisations, when 10% or less of the original reference portfolio value remains.

40.29 Securitisation transactions that include a clean-up call that does not meet all of the criteria stated in CRE40.28 result in a capital requirement for the originating bank. For a traditional securitisation, the underlying exposures must be treated as if they were not securitised. Additionally, banks must not recognise in regulatory capital any gain on sale, in accordance with CAP30.14. For synthetic securitisations, the bank purchasing protection must hold capital against the entire amount of the securitised exposures as if they did not benefit from any credit protection. If a synthetic securitisation incorporates a call (other than a clean-up call) that effectively terminates the transaction and the purchased credit protection on a specific date, the bank must treat the transaction in accordance with CRE40.65.

40.30 If a clean-up call, when exercised, is found to serve as a credit enhancement, the exercise of the clean-up call must be considered a form of implicit support provided by the bank and must be treated in accordance with the supervisory guidance pertaining to securitisation transactions.

Due diligence requirements

40.31 For a bank to use the risk weight approaches of the securitisation framework, it must have the information specified in CRE40.32 to CRE40.34. Otherwise, the bank must assign a 1250% risk weight to any securitisation exposure for which it cannot perform the required level of due diligence.

40.32 As a general rule, a bank must, on an ongoing basis, have a comprehensive understanding of the risk characteristics of its individual securitisation exposures, whether on- or off-balance sheet, as well as the risk characteristics of the pools underlying its securitisation exposures.

40.33 Banks must be able to access performance information on the underlying pools on an ongoing basis in a timely manner. Such information may include, as appropriate: exposure type; percentage of loans 30, 60 and 90 days past due; default rates; prepayment rates; loans in foreclosure; property type; occupancy;

average credit score or other measures of creditworthiness; average loan-to-value ratio; and industry and geographical diversification. For resecuritisations, banks should have information not only on the underlying securitisation tranches, such as the issuer name and credit quality, but also on the characteristics and performance of the pools underlying the securitisation tranches.

40.34 A bank must have a thorough understanding of all structural features of a securitisation transaction that would materially impact the performance of the bank's exposures to the transaction, such as the contractual waterfall and waterfall-related triggers, credit enhancements, liquidity enhancements, market value triggers, and deal-specific definitions of default.

Calculation of capital requirements and risk-weighted assets

40.35 Regulatory capital is required for banks' securitisation exposures, including those arising from the provision of credit risk mitigants to a securitisation transaction, investments in asset-backed securities, retention of a subordinated tranche, and extension of a liquidity facility or credit enhancement, as set forth in the following sections. Repurchased securitisation exposures must be treated as retained securitisation exposures.

40.36 For the purposes of the expected loss (EL) provision calculation set out in CRE35, securitisation exposures do not contribute to the EL amount. Similarly, neither general nor specific provisions against securitisation exposures or underlying assets still held on the balance sheet of the originator are to be included in the measurement of eligible provisions. However, originator banks can offset 1250% risk-weighted securitisation exposures by reducing the securitisation exposure amount by the amount of their specific provisions on underlying assets of that transaction and non-refundable purchase price discounts on such underlying assets. Specific provisions on securitisation exposures will be taken into account in the calculation of the exposure amount, as defined in CRE40.19 and CRE40.20. General provisions on underlying securitised exposures are not to be taken into account in any calculation.

40.37 The risk-weighted asset amount of a securitisation exposure is computed by multiplying the exposure amount by the appropriate risk weight determined in accordance with the hierarchy of approaches in CRE40.41 to CRE40.48. Risk weight caps for senior exposures in accordance with CRE40.50 and CRE40.51 or overall caps in accordance with CRE40.52 to CRE40.55 may apply. Overlapping exposures will be risk-weighted as defined in CRE40.38 and CRE40.40.

40.38 For the purposes of calculating capital requirements, a bank's exposure A overlaps another exposure B if in all circumstances the bank will preclude any loss for the bank on exposure B by fulfilling its obligations with respect to exposure A. For example, if a bank provides full credit support to some notes and holds a portion of these notes, its full credit support obligation precludes any loss from its exposure to the notes. If a bank can verify that fulfilling its obligations with respect to exposure A will preclude a loss from its exposure to B under any circumstance, the bank does not need to calculate risk-weighted assets for its exposure B.

40.39 To arrive at an overlap, a bank may, for the purposes of calculating capital requirements, split or expand[4] its exposures. For example, a liquidity facility may not be contractually required to cover defaulted assets or may not fund an ABCP programme in certain circumstances. For capital purposes, such a situation would not be regarded as an overlap to the notes issued by that ABCP conduit. However, the bank may calculate risk-weighted assets for the liquidity facility as if it were expanded (either in order to cover defaulted assets or in terms of trigger events) to preclude all losses on the notes. In such a case, the bank would only need to calculate capital requirements on the liquidity facility

Footnotes

[4] *That is, splitting exposures into portions that overlap with another exposure held by the bank and other portions that do not overlap; and expanding exposures by assuming for capital purposes that obligations with respect to one of the overlapping exposures are larger than those established contractually. The latter could be done, for instance, by expanding either the trigger events to exercise the facility and/or the extent of the obligation.*

40.40 Overlap could also be recognised between relevant capital charges for exposures in the trading book and capital charges for exposures in the banking book, provided that the bank is able to calculate and compare the capital charges for the relevant exposures.

40.41 Securitisation exposures will be treated differently depending on the type of underlying exposures and/or on the type of information available to the bank.

Securitisation exposures to which none of the approaches laid out in CRE40.42 to CRE40.48 can be applied must be assigned a 1250% risk weight.

40.42 A bank must use the Securitisation Internal Ratings-Based Approach (SEC-IRBA) as described in CRE44 for a securitisation exposure of an IRB pool as defined in CRE40.15, unless otherwise determined by the supervisor.

40.43 If a bank cannot use the SEC-IRBA, it must use the Securitisation External Ratings-Based Approach (SEC-ERBA) as described in CRE42.1 to CRE42.7 for a securitisation exposure to an SA pool as defined in CRE40.17 provided that

(1) the bank is located in a jurisdiction that permits use of the SEC-ERBA and

(2) the exposure has an external credit assessment that meets the operational requirements for an external credit assessment in CRE42.8, or there is an inferred rating that meets the operational requirements for inferred ratings in CRE42.9 and CRE42.10.

40.44 A bank that is located in a jurisdiction that permits use of the SEC-ERBA may use an Internal Assessment Approach (SEC-IAA) as described in CRE43.1 to CRE43.4 for an unrated securitisation exposure (eg liquidity facilities and credit enhancements) to an SA pool within an ABCP programme. In order to use an SEC-IAA, a bank must have supervisory approval to use the IRB approach for non-securitisation exposures. A bank should consult with its national supervisor on whether and when it can apply the IAA to its securitisation exposures, especially where the bank can apply the IRB for some, but not all, underlying exposures. To ensure appropriate capital levels, there may be instances where the supervisor requires a treatment other than this general rule.

40.45 A bank that cannot use the SEC-ERBA or an SEC-IAA for its exposure to an SA pool may use the Standardised Approach (SEC-SA) as described in CRE41.1 to CRE41.15.

40.46 Securitisation exposures of mixed pools: where a bank can calculate K_{IRB} on at least 95% of the underlying exposure amounts of a securitisation, the bank must apply the SEC-IRBA calculating the capital charge for the underlying pool as follows, where d is the percentage of the exposure amount of underlying exposures for which the bank can calculate K_{IRB} over the exposure amount of all underlying exposures; and K_{IRB} and K_{SA} are as defined in CRE44.2 to CRE44.5 and CRE41.2 to CRE41.4, respectively:

$$capital\ charge\ for\ mixed\ pool = d \times K_{IRB} + \left(1 - d\right) \times K_{SA}$$

40.47 Where the bank cannot calculate K_{IRB} on at least 95% of the underlying exposures, the bank must use the hierarchy for securitisation exposures of SA pools as set out in CRE40.43 to CRE40.45.

40.48 For resecuritisation exposures, banks must apply the SEC-SA, with the adjustments in CRE41.16. For exposures to securitisations of non-performing loans as defined in CRE45.1, banks must apply the framework with the adjustments laid out in CRE45.

40.49 When a bank provides implicit support to a securitisation, it must, at a minimum, hold capital against all of the underlying exposures associated with the securitisation transaction as if they had not been securitised. Additionally, banks would not be permitted to recognise in regulatory capital any gain on sale, in accordance with CAP30.14.

Caps for securitisation exposures

40.50 Banks may apply a "look-through" approach to senior securitisation exposures, whereby the senior securitisation exposure could receive a maximum risk weight equal to the exposure weighted-average risk weight applicable to the underlying exposures, provided that the bank has knowledge of the composition of the underlying exposures at all times. The applicable risk weight under the IRB framework would be calculated taking into account the expected loss portion. In particular:

(1) In the case of pools where the bank uses exclusively the SA or the IRB approach, the risk weight cap for senior exposures would equal the exposure weighted-average risk weight that would apply to the underlying exposures under the SA or IRB framework, respectively.

(2) In the case of mixed pools, when applying the SEC-IRBA, the SA part of the underlying pool would receive the corresponding SA risk weight, while the IRB portion would receive IRB risk weights. When applying the SEC-SA or the SEC-ERBA, the risk weight cap for senior exposures would be based on the SA exposure weighted-average risk weight of the underlying assets, whether or not they are originally IRB.

40.51 Where the risk weight cap results in a lower risk weight than the floor risk weight of 15%, the risk weight resulting from the cap should be used.

40.52 A bank (originator, sponsor or investors) using the SEC-IRBA for a securitisation exposure may apply a maximum capital requirement for the securitisation exposures it holds equal to the IRB capital requirement (including the expected loss portion) that would have been assessed against the underlying exposures had they not been securitised and treated under the appropriate sections of CRE30 to CRE36. In the case of mixed pools, the overall cap should be calculated by adding up the capital before securitisation; that is, by adding up the capital required under the general credit risk framework for the IRB and for the SA part of the underlying pool.

40.53 An originating or sponsor bank using the SEC-ERBA or SEC-SA for a securitisation exposure may apply a maximum capital requirement for the securitisation exposures it holds equal to the capital requirement that would have been assessed against the underlying exposures had they not been securitised. In the case of mixed pools, the overall cap should be calculated by adding up the capital before securitisation; that is, by adding up the capital required under the general credit risk framework for the IRB and for the SA part of the underlying pool, respectively. The IRB part of the capital requirement includes the expected loss portion.

40.54 The maximum aggregated capital requirement for a bank's securitisation exposures in the same transaction will be equal to $K_P * P$. In order to apply a maximum capital charge to a bank's securitisation exposure, a bank will need the following inputs:

(1) The largest proportion of interest that the bank holds for each tranche of a given pool (P). In particular:

(a) For a bank that has one or more securitisation exposure(s) that reside in a single tranche of a given pool, P equals the proportion (expressed as a percentage) of securitisation exposure(s) that the bank holds in that given tranche (calculated as the total nominal amount of the bank's securitisation exposure(s) in the tranche) divided by the nominal amount of the tranche.

(b) For a bank that has securitisation exposures that reside in different tranches of a given securitisation, P equals the maximum proportion of interest across tranches, where the proportion of interest for each of the different tranches should be calculated as described above.

(2) Capital charge for underlying pool (K_P):

(a) For an IRB pool, K_P equals K_{IRB} as defined in CRE44.2 to CRE44.13.

(b) For an SA pool, K_P equals K_{SA} as defined in CRE41.2 to CRE41.5.

(c) For a mixed pool, K_P equals the exposure-weighted average capital charge of the underlying pool using K_{SA} for the proportion of the underlying pool for which the bank cannot calculate K_{IRB}, and K_{IRB} for the proportion of the underlying pool for which a bank can calculate K_{IRB} .

40.55 In applying the capital charge cap, the entire amount of any gain on sale and credit-enhancing interest-only strips arising from the securitisation transaction must be deducted in accordance with CAP30.14.

Treatment of credit risk mitigation for securitisation exposures

40.56 A bank may recognise credit protection purchased on a securitisation exposure when calculating capital requirements subject to the following:

(1) collateral recognition is limited to that permitted under the credit risk mitigation framework – in particular, CRE22.34 when the bank applies the SEC-ERBA or SEC-SA, and CRE32.8 when the bank applies the SEC-IRBA. Collateral pledged by SPEs may be recognised;

(2) credit protection provided by the entities listed in CRE22.76 may be recognised. SPEs cannot be recognised as eligible guarantors; and

(3) where guarantees or credit derivatives fulfil the minimum operational conditions as specified in CRE22.70 to CRE22.75, banks can take account of such credit protection in calculating capital requirements for securitisation exposures.

40.57 When a bank provides full (or pro rata) credit protection to a securitisation exposure, the bank must calculate its capital requirements as if it directly holds the portion of the securitisation exposure on which it has provided credit protection (in accordance with the definition of tranche maturity given in CRE40.22 and CRE40.23).

40.58 Provided that the conditions set out in CRE40.56 are met, the bank buying full (or pro rata) credit protection may recognise the credit risk mitigation on the securitisation exposure in accordance with the CRM framework.

40.59 In the case of tranched credit protection, the original securitisation tranche will be decomposed into protected and unprotected sub-tranches:[5]

(1) The protection provider must calculate its capital requirement as if directly exposed to the particular sub-tranche of the securitisation exposure on which it is providing protection, and as determined by the hierarchy of approaches for securitisation exposures and according to CRE40.60 to CRE40.62.

(2) Provided that the conditions set out in CRE40.56 are met, the protection buyer may recognise tranched protection on the securitisation exposure. In doing so, it must calculate capital requirements for each sub-tranche separately and as follows:

(a) For the resulting unprotected exposure(s), capital requirements will be calculated as determined by the hierarchy of approaches for securitisation exposures and according to CRE40.60 to CRE40.62.

(b) For the guaranteed/protected portion, capital requirements will be calculated according to the applicable CRM framework (in accordance with the definition of tranche maturity given in CRE40.22 and CRE40.23).

Footnotes

[5] *The envisioned decomposition is theoretical and it should not be viewed as a new securitisation transaction. The resulting subtranches should not be considered resecuritisations solely due to the presence of the credit protection.*

40.60 If, according to the hierarchy of approaches determined by CRE40.41 to CRE40.48 , the bank must use the SEC-IRBA or SEC-SA, the parameters A and D should be calculated separately for each of the subtranches as if the latter would have been directly issued as separate tranches at the inception of the transaction. The value for K_{IRB} (respectively K_{SA}) will be computed on the underlying portfolio of the original transaction.

40.61 If, according to the hierarchy of approaches determined by CRE40.41 to CRE40.48 , the bank must use the SEC-ERBA for the original securitisation exposure, the relevant risk weights for the different subtranches will be calculated subject to the following:

(1) For the sub-tranche of highest priority,[6] the bank will use the risk weight of the original securitisation exposure.

(2) For a sub-tranche of lower priority:

(a) Banks must infer a rating from one of the subordinated tranches in the original transaction. The risk weight of the sub-tranche of lower priority will be then determined by applying the inferred rating to the SEC-ERBA. Thickness input T will be computed for the sub-tranche of lower priority only.

(b) Should it not be possible to infer a rating the risk weight for the sub-tranche of lower priority will be computed using the SEC-SA applying the adjustments to the determination of A and D described in CRE40.60. The risk weight for this sub-tranche will be obtained as the greater of

(i) the risk weight determined through the application of the SEC-SA with the adjusted A, D points and

(ii) the SEC-ERBA risk weight of the original securitisation exposure prior to recognition of protection.

Footnotes

[6] *'Sub-tranche of highest priority' only describes the relative priority of the decomposed tranche. The calculation of the risk weight of each sub-tranche is independent from the question if this sub-tranche is protected (ie risk is taken by the protection provider) or is unprotected (ie risk is taken by the protection buyer).*

40.62 Under all approaches, a lower-priority sub-tranche must be treated as a non-senior securitisation exposure even if the original securitisation exposure prior to protection qualifies as senior as defined in CRE40.18.

40.63 A maturity mismatch exists when the residual maturity of a hedge is less than that of the underlying exposure.

40.64 When protection is bought on a securitisation exposure(s), for the purpose of setting regulatory capital against a maturity mismatch, the capital requirement will be determined in accordance with CRE22.10 to CRE22.14. When the exposures being hedged have different maturities, the longest maturity must be used.

40.65 When protection is bought on the securitised assets, maturity mismatches may arise in the context of synthetic securitisations (when, for example, a bank uses credit derivatives to transfer part or all of the credit risk of a specific pool of assets to third parties). When the credit derivatives unwind, the transaction will

terminate. This implies that the effective maturity of all the tranches of the synthetic securitisation may differ from that of the underlying exposures. Banks that synthetically securitise exposures held on their balance sheet by purchasing tranched credit protection must treat such maturity mismatches in the following manner: For securitisation exposures that are assigned a risk weight of 1250%, maturity mismatches are not taken into account. For all other securitisation exposures, the bank must apply the maturity mismatch treatment set forth in CRE22.10 to CRE22.14. When the exposures being hedged have different maturities, the longest maturity must be used.

Simple, transparent and comparable securitisations: scope of and conditions for alternative treatment

40.66 Only traditional securitisations including exposures to ABCP conduits and exposures to transactions financed by ABCP conduits fall within the scope of the simple, transparent and comparable (STC) framework. Exposures to securitisations that are STC-compliant can be subject to alternative capital treatment as determined by CRE41.20 to CRE41.22, CRE42.11 to CRE42.14 and CRE44.27 to CRE44.29.

40.67 For regulatory capital purposes, the following will be considered STC-compliant:

(1) Exposures to non-ABCP, traditional securitisations that meet the criteria in CRE40.72 to CRE40.95; and

(2) Exposures to ABCP conduits and/or transactions financed by ABCP conduits, where the conduit and/or transactions financed by it meet the criteria in CRE40.96 to CRE40.165.

40.68 The originator/sponsor must disclose to investors all necessary information at the transaction level to allow investors to determine whether the securitisation is STC-compliant. Based on the information provided by the originator/sponsor, the investor must make its own assessment of the securitisation's STC compliance status as defined in CRE40.67 before applying the alternative capital treatment.

40.69 For retained positions where the originator has achieved significant risk transfer in accordance with CRE40.24, the determination shall be made only by the originator retaining the position.

40.70

STC criteria need to be met at all times. Checking the compliance with some of the criteria might only be necessary at origination (or at the time of initiating the exposure, in case of guarantees or liquidity facilities) to an STC securitisation. Notwithstanding, investors and holders of the securitisation positions are expected to take into account developments that may invalidate the previous compliance assessment, for example deficiencies in the frequency and content of the investor reports, in the alignment of interest, or changes in the transaction documentation at variance with relevant STC criteria.

40.71 In cases where the criteria refer to underlying assets – including, but not limited to CRE40.94 and CRE40.95 - and the pool is dynamic, the compliance with the criteria will be subject to dynamic checks every time that assets are added to the pool.

Simple, transparent and comparable term securitisations: criteria for regulatory capital purposes

40.72 All criteria must be satisfied in order for a securitisation to receive alternative regulatory capital treatment.

Criterion A1: Nature of assets

40.73 In simple, transparent and comparable securitisations, the assets underlying the securitisation should be credit claims or receivables that are homogeneous. In assessing homogeneity, consideration should be given to asset type, jurisdiction, legal system and currency. As more exotic asset classes require more complex and deeper analysis, credit claims or receivables should have contractually identified periodic payment streams relating to rental,[7] principal, interest, or principal and interest payments. Any referenced interest payments or discount rates should be based on commonly encountered market interest rates,[8] but should not reference complex or complicated formulae or exotic derivatives.[9]

(1) For capital purposes, the "homogeneity" criterion should be assessed taking into account the following principles:

(a) The nature of assets should be such that investors would not need to analyse and assess materially different legal and/or credit risk factors and risk profiles when carrying out risk analysis and due diligence checks.

(b) Homogeneity should be assessed on the basis of common risk drivers, including similar risk factors and risk profiles.

(c) Credit claims or receivables included in the securitisation should have standard obligations, in terms of rights to payments and/or income from assets and that result in a periodic and well-defined stream of payments to investors. Credit card facilities should be deemed to result in a periodic and well-defined stream of payments to investors for the purposes of this criterion.

(d) Repayment of noteholders should mainly rely on the principal and interest proceeds from the securitised assets. Partial reliance on refinancing or re-sale of the asset securing the exposure may occur provided that re-financing is sufficiently distributed within the pool and the residual values on which the transaction relies are sufficiently low and that the reliance on refinancing is thus not substantial.

(2) Examples of "commonly encountered market interest rates" would include:

(a) interbank rates and rates set by monetary policy authorities, such as the London Interbank Offered Rate (Libor), the Euro Interbank Offered Rate (Euribor) and the fed funds rate; and

(b) sectoral rates reflective of a lender's cost of funds, such as internal interest rates that directly reflect the market costs of a bank's funding or that of a subset of institutions.

(3) Interest rate caps and/or floors would not automatically be considered exotic derivatives.

Footnotes

[7] *Payments on operating and financing leases are typically considered to be rental payments rather than payments of principal and interest.*

[8] *Commonly encountered market interest rates may include rates reflective of a lender's cost of funds, to the extent that sufficient data are provided to investors to allow them to assess their relation to other market rates.*

[9] *The Global Association of Risk Professionals defines an exotic instrument as a financial asset or instrument with features making it more complex than simpler, plain vanilla, products.*

Criterion A2: Asset performance history

40.74 In order to provide investors with sufficient information on an asset class to conduct appropriate due diligence and access to a sufficiently rich data set to enable a more accurate calculation of expected loss in different stress scenarios, verifiable loss performance data, such as delinquency and default data, should be available for credit claims and receivables with substantially similar risk characteristics to those being securitised, for a time period long enough to permit meaningful evaluation by investors. Sources of and access to data and the basis for claiming similarity to credit claims or receivables being securitised should be clearly disclosed to all market participants.

(1) In addition to the history of the asset class within a jurisdiction, investors should consider whether the originator, sponsor, servicer and other parties with a fiduciary responsibility to the securitisation have an established performance history for substantially similar credit claims or receivables to those being securitised and for an appropriately long period of time. It is not the intention of the criteria to form an impediment to the entry of new participants to the market, but rather that investors should take into account the performance history of the asset class and the transaction parties when deciding whether to invest in a securitisation.[10]

(2) The originator/sponsor of the securitisation, as well as the original lender who underwrites the assets, must have sufficient experience in originating exposures similar to those securitised. For capital purposes, investors must determine whether the performance history of the originator and the original lender for substantially similar claims or receivables to those being securitised has been established for an "appropriately long period of time".

This performance history must be no shorter than a period of seven years for non-retail exposures. For retail exposures, the minimum performance history is five years.

Footnotes

[10] *This "additional consideration" may form part of investors' due diligence process, but does not form part of the criteria when determining whether a securitisation can be considered "simple, transparent and comparable".*

Criterion A3: Payment status

40.75 Non-performing credit claims and receivables are likely to require more complex and heightened analysis. In order to ensure that only performing credit claims and receivables are assigned to a securitisation, credit claims or receivables being transferred to the securitisation may not, at the time of inclusion in the pool, include obligations that are in default or delinquent or obligations for which the transferor[11] or parties to the securitisation[12] are aware of evidence indicating a material increase in expected losses or of enforcement actions.

(1) To prevent credit claims or receivables arising from credit-impaired borrowers from being transferred to the securitisation, the originator or sponsor should verify that the credit claims or receivables meet the following conditions:

(a) the obligor has not been the subject of an insolvency or debt restructuring process due to financial difficulties within three years prior to the date of origination;[13] and

(b) the obligor is not recorded on a public credit registry of persons with an adverse credit history; and,

(c) the obligor does not have a credit assessment by an ECAI or a credit score indicating a significant risk of default; and

(d) the credit claim or receivable is not subject to a dispute between the obligor and the original lender.

(2) The assessment of these conditions should be carried out by the originator or sponsor no earlier than 45 days prior to the closing date. Additionally, at the time of this assessment, there should to the best knowledge of the originator or sponsor be no evidence indicating likely deterioration in the performance status of the credit claim or receivable.

(3) Additionally, at the time of their inclusion in the pool, at least one payment should have been made on the underlying exposures, except in the case of revolving asset trust structures such as those for credit card receivables, trade receivables, and other exposures payable in a single instalment, at maturity.

Footnotes

[11] *Eg the originator or sponsor.*

[12] *Eg the servicer or a party with a fiduciary responsibility.*

[13] *This condition would not apply to borrowers that previously had credit incidents but were subsequently removed from credit registries as a result of the borrower cleaning their records. This is the case in jurisdictions in which borrowers have the "right to be forgotten".*

Criterion A4: Consistency of underwriting

40.76 Investor analysis should be simpler and more straightforward where the securitisation is of credit claims or receivables that satisfy materially non-deteriorating origination standards. To ensure that the quality of the securitised credit claims and receivables is not affected by changes in underwriting standards, the originator should demonstrate to investors that any credit claims or receivables being transferred to the securitisation have been originated in the ordinary course of the originator's business to materially non-deteriorating underwriting standards. Where underwriting standards change, the originator should disclose the timing and purpose of such changes. Underwriting standards should not be less stringent than those applied to credit claims and receivables retained on the balance sheet. These should be credit claims or receivables which have satisfied materially non-deteriorating underwriting criteria and for which the obligors have been assessed as having the ability and volition to make timely payments on obligations; or on granular pools of obligors originated in the ordinary course of the originator's business where expected cash flows have been modelled to meet stated obligations of the securitisation under prudently stressed loan loss scenarios.

(1) In all circumstances, all credit claims or receivables must be originated in accordance with sound and prudent underwriting criteria based on an assessment that the obligor has the "ability and volition to make timely payments" on its obligations.

(2) The originator/sponsor of the securitisation is expected, where underlying credit claims or receivables have been acquired from third parties, to review the underwriting standards (ie to check their existence and assess their quality) of these third parties and to ascertain that they have assessed the obligors' "ability and volition to make timely payments on obligations".

Criterion A5: Asset selection and transfer

40.77 Whilst recognising that credit claims or receivables transferred to a securitisation will be subject to defined criteria,[14] the performance of the securitisation should not rely upon the ongoing selection of assets through active management[15] on a discretionary basis of the securitisation's underlying portfolio. Credit claims or receivables transferred to a securitisation should satisfy clearly defined eligibility criteria. Credit claims or receivables transferred to a securitisation after the closing date may not be actively selected, actively managed or otherwise cherry-picked on a discretionary basis. Investors should be able to assess the credit risk of the asset pool prior to their investment decisions.

Footnotes

[14] *Eg the size of the obligation, the age of the borrower or the loan-to-value of the property, debt-to-income and/or debt service coverage ratios.*

[15] *Provided they are not actively selected or otherwise cherry-picked on a discretionary basis, the addition of credit claims or receivables during the revolving periods or their substitution or repurchasing due to the breach of representations and warranties do not represent active portfolio management.*

40.78 In order to meet the principle of true sale, the securitisation should effect true sale such that the underlying credit claims or receivables:

(1) are enforceable against the obligor and their enforceability is included in the representations and warranties of the securitisation;

(2) are beyond the reach of the seller, its creditors or liquidators and are not subject to material recharacterisation or clawback risks;

(3) are not effected through credit default swaps, derivatives or guarantees, but by a transfer[16] of the credit claims or the receivables to the securitisation;

(4) demonstrate effective recourse to the ultimate obligation for the underlying credit claims or receivables and are not a securitisation of other securitisations; and

(5) for regulatory capital purposes, an independent third-party legal opinion must support the claim that the true sale and the transfer of assets under the applicable laws comply with the points under CRE40.78(1) to CRE40.78(4).

Footnotes

[16] *The requirement should not affect jurisdictions whose legal frameworks provide for a true sale with the same effects as described above, but by means other than a transfer of the credit claims or receivables.*

40.79 In applicable jurisdictions, securitisations employing transfers of credit claims or receivables by other means should demonstrate the existence of material obstacles preventing true sale at issuance[17] and should clearly demonstrate the method of recourse to ultimate obligors.[18] In such jurisdictions, any conditions where the transfer of the credit claims or receivable is delayed or contingent upon specific events and any factors affecting timely perfection of claims by the securitisation should be clearly disclosed. The originator should provide representations and warranties that the credit claims or receivables being transferred to the securitisation are not subject to any condition or encumbrance that can be foreseen to adversely affect enforceability in respect of collections due.

Footnotes

[17] *Eg the immediate realisation of transfer tax or the requirement to notify all obligors of the transfer.*

[18] *Eg equitable assignment, perfected contingent transfer.*

Criterion A6: Initial and ongoing data

40.80 To assist investors in conducting appropriate due diligence prior to investing in a new offering, sufficient loan-level data in accordance with applicable laws or, in the case of granular pools, summary stratification data on the relevant risk characteristics of the underlying pool should be available to potential investors before pricing of a securitisation. To assist investors in conducting appropriate and ongoing monitoring of their investments' performance and so that investors that wish to purchase a securitisation in the secondary market have sufficient information to conduct appropriate due diligence, timely loan-level data in accordance with applicable laws or granular pool stratification data on the risk characteristics of the underlying pool and standardised investor reports should be readily available to current and potential investors at least quarterly throughout the life of the securitisation. Cut-off dates of the loan-level or granular pool stratification data should be aligned with those used for investor reporting. To provide a level of assurance that the reporting of the underlying credit claims or receivables is accurate and that the underlying credit claims or receivables meet the eligibility requirements, the initial portfolio should be reviewed[19] for conformity with the eligibility requirements by an appropriate legally accountable and independent third party, such as an independent accounting practice or the calculation agent or management company for the securitisation.

Footnotes

[19] *The review should confirm that the credit claims or receivables transferred to the securitisation meet the portfolio eligibility requirements. The review could, for example, be undertaken on a representative sample of the initial portfolio, with the application of a minimum confidence level. The verification report need not be provided but its results, including any material exceptions, should be disclosed in the initial offering documentation.*

Criterion B7: Redemption cash flows

40.81 Liabilities subject to the refinancing risk of the underlying credit claims or receivables are likely to require more complex and heightened analysis. To help ensure that the underlying credit claims or receivables do not need to be refinanced over a short period of time, there should not be a reliance on the sale or refinancing of the underlying credit claims or receivables in order to repay the liabilities, unless the underlying pool of credit claims or receivables is sufficiently granular and has sufficiently distributed repayment profiles. Rights to receive income from the assets specified to support redemption payments should be considered as eligible credit claims or receivables in this regard.[20]

Footnotes

[20] *For example, associated savings plans designed to repay principal at maturity.*

Criterion B8: Currency and interest rate asset and liability mismatches

40.82 To reduce the payment risk arising from the different interest rate and currency profiles of assets and liabilities and to improve investors' ability to model cash flows, interest rate and foreign currency risks should be appropriately mitigated[21] at all times, and if any hedging transaction is executed the transaction should be documented according to industry-standard master agreements. Only derivatives used for genuine hedging of asset and liability mismatches of interest rate and / or currency should be allowed.

(1) For capital purposes, the term “appropriately mitigated” should be understood as not necessarily requiring a completely perfect hedge. The appropriateness of the mitigation of interest rate and foreign currency through the life of the transaction must be demonstrated by making available to potential investors, in a timely and regular manner, quantitative

information including the fraction of notional amounts that are hedged, as well as sensitivity analysis that illustrates the effectiveness of the hedge under extreme but plausible scenarios.

(2) If hedges are not performed through derivatives, then those risk-mitigating measures are only permitted if they are specifically created and used for the purpose of hedging an individual and specific risk, and not multiple risks at the same time (such as credit and interest rate risks). Non-derivative risk mitigation measures must be fully funded and available at all times.

Footnotes

[21] *The term “appropriately mitigated” should be understood as not necessarily requiring a matching hedge. The appropriateness of hedging through the life of the transaction should be demonstrated and disclosed on a continuous basis to investors.*

Criterion B9: Payment priorities and observability

40.83 To prevent investors being subjected to unexpected repayment profiles during the life of a securitisation, the priorities of payments for all liabilities in all circumstances should be clearly defined at the time of securitisation and appropriate legal comfort regarding their enforceability should be provided. To ensure that junior noteholders do not have inappropriate payment preference over senior noteholders that are due and payable, throughout the life of a securitisation, or, where there are multiple securitisations backed by the same pool of credit claims or receivables, throughout the life of the securitisation programme, junior liabilities should not have payment preference over senior liabilities which are due and payable. The securitisation should not be structured as a "reverse" cash flow waterfall such that junior liabilities are paid where due and payable senior liabilities have not been paid. To help provide investors with full transparency over any changes to the cash flow waterfall, payment profile or priority of payments that might affect a securitisation, all triggers affecting the cash flow waterfall, payment profile or priority of payments of the securitisation should be clearly and fully disclosed both in offering documents and in investor reports, with information in the investor report that clearly identifies the breach status, the ability for the breach to be reversed and the consequences of the breach. Investor reports should contain information that allows investors to monitor the evolution over time of the indicators that are subject to triggers. Any triggers breached between payment dates should be disclosed to investors on a timely basis in accordance with the terms and conditions of all underlying transaction documents.

40.84 Securitisations featuring a replenishment period should include provisions for appropriate early amortisation events and/or triggers of termination of the replenishment period, including, notably:

(1) deterioration in the credit quality of the underlying exposures;

(2) a failure to acquire sufficient new underlying exposures of similar credit quality; and

(3) the occurrence of an insolvency-related event with regard to the originator or the servicer.

40.85 Following the occurrence of a performance-related trigger, an event of default or an acceleration event, the securitisation positions should be repaid in accordance with a sequential amortisation priority of payments, in order of tranche seniority, and there should not be provisions requiring immediate liquidation of the underlying assets at market value

40.86

To assist investors in their ability to appropriately model the cash flow waterfall of the securitisation, the originator or sponsor should make available to investors, both before pricing of the securitisation and on an ongoing basis, a liability cash flow model or information on the cash flow provisions allowing appropriate modelling of the securitisation cash flow waterfall.

40.87 To ensure that debt forgiveness, forbearance, payment holidays and other asset performance remedies can be clearly identified, policies and procedures, definitions, remedies and actions relating to delinquency, default or restructuring of underlying debtors should be provided in clear and consistent terms, such that investors can clearly identify debt forgiveness, forbearance, payment holidays, restructuring and other asset performance remedies on an ongoing basis.

Criterion B10: Voting and enforcement rights

40.88 To help ensure clarity for securitisation note holders of their rights and ability to control and enforce on the underlying credit claims or receivables, upon insolvency of the originator or sponsor, all voting and enforcement rights related to the credit claims or receivables should be transferred to the securitisation. Investors' rights in the securitisation should be clearly defined in all circumstances, including the rights of senior versus junior note holders.

Criterion B11: Documentation disclosure and legal review

40.89 To help investors to fully understand the terms, conditions, legal and commercial information prior to investing in a new offering[22] and to ensure that this information is set out in a clear and effective manner for all programmes and offerings, sufficient initial offering[23] and draft underlying[24] documentation should be made available to investors (and readily available to potential investors on a continuous basis) within a reasonably sufficient period of time prior to pricing, or when legally permissible, such that the investor is provided with full disclosure of the legal and commercial information and comprehensive risk factors needed to make informed investment decisions. Final offering documents should be available from the closing date and all final underlying transaction documents shortly thereafter. These should be composed such that readers can readily find, understand and use relevant information. To ensure that all the securitisation's underlying documentation has been subject to appropriate review prior to publication, the terms and documentation of the securitisation should be reviewed by an appropriately experienced third party legal practice, such as a legal counsel already instructed by one of the transaction parties, eg by the arranger or the trustee. Investors should be notified in a timely fashion of any changes in such documents that have an impact on the structural risks in the securitisation.

Footnotes

[22] *For the avoidance of doubt, any type of securitisation should be allowed to fulfil the requirements of CRE40.89 once it meets its prescribed standards of disclosure and legal review.*

[23] *Eg draft offering circular, draft offering memorandum, draft offering document or draft prospectus, such as a "red herring"*

[24] *Eg asset sale agreement, assignment, novation or transfer agreement; servicing, backup servicing, administration and cash management agreements; trust/management deed, security deed, agency agreement, account bank agreement, guaranteed investment contract, incorporated terms or master trust framework or master definitions agreement as applicable; any relevant inter-creditor agreements, swap or derivative documentation, subordinated loan agreements, start-up loan agreements and liquidity facility agreements; and any other relevant underlying documentation, including legal opinions.*

Criterion B12: Alignment of interest

40.90 In order to align the interests of those responsible for the underwriting of the credit claims or receivables with those of investors, the originator or sponsor of the credit claims or receivables should retain a material net economic exposure and demonstrate a financial incentive in the performance of these assets following their securitisation.

Criterion C13: Fiduciary and contractual responsibilities

40.91 To help ensure servicers have extensive workout expertise, thorough legal and collateral knowledge and a proven track record in loss mitigation, such parties should be able to demonstrate expertise in the servicing of the underlying credit claims or receivables, supported by a management team with extensive industry experience. The servicer should at all times act in accordance with reasonable and prudent standards. Policies, procedures and risk management controls should be well documented and adhere to good market practices and relevant regulatory regimes. There should be strong systems and reporting capabilities in place.

(1) In assessing whether "strong systems and reporting capabilities are in place" for capital purposes, well documented policies, procedures and risk management controls, as well as strong systems and reporting capabilities, may be substantiated by a third-party review for non-banking entities.

40.92 The party or parties with fiduciary responsibility should act on a timely basis in the best interests of the securitisation note holders, and both the initial offering and all underlying documentation should contain provisions facilitating the timely resolution of conflicts between different classes of note holders by the trustees, to the extent permitted by applicable law. The party or parties with fiduciary responsibility to the securitisation and to investors should be able to demonstrate sufficient skills and resources to comply with their duties of care in the administration of the securitisation vehicle. To increase the likelihood that those identified as having a fiduciary responsibility towards investors as well as the servicer execute their duties in full on a timely basis, remuneration should be such that these parties are incentivised and able to meet their responsibilities in full and on a timely basis.

Criterion C14: Transparency to investors

40.93 To help provide full transparency to investors, assist investors in the conduct of their due diligence and to prevent investors being subject to unexpected disruptions in cash flow collections and servicing, the contractual obligations, duties and responsibilities of all key parties to the securitisation, both those with a fiduciary responsibility and of the ancillary service providers, should be defined clearly both in the initial offering and all underlying documentation. Provisions should be documented for the replacement of servicers, bank account providers, derivatives counterparties and liquidity providers in the event of failure or non-performance or insolvency or other deterioration of creditworthiness of any such counterparty to the securitisation. To enhance transparency and visibility over all receipts, payments and ledger entries at all times, the performance reports to investors should distinguish and report the securitisation's income and disbursements, such as scheduled principal, redemption principal, scheduled interest, prepaid principal, past due interest and fees and charges, delinquent, defaulted and restructured amounts under debt forgiveness and payment holidays, including accurate accounting for amounts attributable to principal and interest deficiency ledgers.

(1) For capital purposes, the terms "initial offering" and "underlying transaction documentation" should be understood in the context defined by CRE40.89.

(2) The term "income and disbursements" should also be understood as including deferment, forbearance, and repurchases among the items described.

Criterion D15: Credit risk of underlying exposures

40.94 At the portfolio cut-off date the underlying exposures have to meet the conditions under the Standardised Approach for credit risk, and after taking into account any eligible credit risk mitigation, for being assigned a risk weight equal to or smaller than:

(1) 40% on a value-weighted average exposure basis for the portfolio where the exposures are "regulatory residential real estate" exposures as defined in CRE20.77;

(2) 50% on an individual exposure basis where the exposure is a "regulatory commercial real estate" exposure as defined in CRE20.78, an "other real estate" exposure as defined in CRE20.88 or a land ADC exposure as defined in CRE20.90;

(3) 75% on an individual exposure basis where the exposure is a "regulatory retail" exposure, as defined in CRE20.65; or

(4) 100% on an individual exposure basis for any other exposure.

Criterion D16: Granularity of the pool

40.95 At the portfolio cut-off date, the aggregated value of all exposures to a single obligor shall not exceed 1%[25] of the aggregated outstanding exposure value of all exposures in the portfolio.

Footnotes

[25] *In jurisdictions with structurally concentrated corporate loan markets available for securitisation subject to ex ante supervisory approval and only for corporate exposures, the applicable maximum concentration threshold could be increased to 2% if the originator or sponsor retains subordinated tranche(s) that form loss absorbing credit enhancement, as defined in CRE44.16, and which cover at least the first 10% of losses. These tranche(s) retained by the originator or sponsor shall not be eligible for the STC capital treatment.*

Simple, transparent and comparable short-term securitisations: criteria for regulatory capital purposes

40.96 The following definitions apply when the terms are used in CRE40.97 to CRE40.165 :

(1) ABCP conduit/conduit – ABCP conduit, being the special purpose vehicle which can issue commercial paper;

(2) ABCP programme – the programme of commercial paper issued by an ABCP conduit;

(3) Assets/asset pool – the credit claims and/or receivables underlying a transaction in which the ABCP conduit holds a beneficial interest;

(4) Investor – the holder of commercial paper issued under an ABCP programme, or any type of exposure to the conduit representing a financing liability of the conduit, such as loans;

(5) Obligor – borrower underlying a credit claim or a receivable that is part of an asset pool;

(6) Seller – a party that:

(a) concluded (in its capacity as original lender) the original agreement that created the obligations or potential obligations (under a credit claim or a receivable) of an obligor or purchased the obligations or potential obligations from the original lender(s); and

(b) transferred those assets through a transaction or passed on the interest [26] to the ABCP conduit.

(7) Sponsor – sponsor of an ABCP conduit. It may also be noted that other relevant parties with a fiduciary responsibility in the management and administration of the ABCP conduit could also undertake control of some of the responsibilities of the sponsor; and

(8) Transaction – An individual transaction in which the ABCP conduit holds a beneficial interest. A transaction may qualify as a securitisation, but may also be a direct asset purchase, the acquisition of undivided interest in a replenishing pool of asset, a secured loan etc.

Footnotes

[26] *For instance, transactions in which assets are sold to a special purpose entity sponsored by a bank's customer and then either a security interest in the assets is granted to the ABCP conduit to secure a loan made by the ABCP conduit to the sponsored special purpose entity, or an undivided interest is sold to the ABCP conduit.*

40.97 For exposures at the conduit level (eg exposure arising from investing in the commercial papers issued by the ABCP programme or sponsoring arrangements at the conduit/programme level), compliance with the short-term STC capital criteria is only achieved if the criteria are satisfied at both the conduit and transaction levels.

40.98 In the case of exposures at the transaction level, compliance with the short-term STC capital criteria is considered to be achieved if the transaction level criteria are satisfied for the transactions to which support is provided.

Criterion A1: Nature of assets (conduit level)

40.99 The sponsor should make representations and warranties to investors that the criterion set out in CRE40.100 are met, and explain how this is the case on an overall basis. Only if specified should this be done for each transaction. Provided that each individual underlying transaction is homogeneous in terms of asset type, a conduit may be used to finance transactions of different asset types. Programme wide credit enhancement should not prevent a conduit from qualifying for STC, regardless of whether such enhancement technically creates resecuritisation.

Criterion A1: Nature of assets (transaction level)

40.100 The assets underlying a transaction in a conduit should be credit claims or receivables that are homogeneous, in terms of asset type.[27] The assets underlying each individual transaction in a conduit should not be composed of "securitisation exposures" as defined in CRE40.4. Credit claims or receivables underlying a transaction in a conduit should have contractually identified periodic payment streams relating to rental,[28] principal, interest, or principal and interest payments. Credit claims or receivables generating a single payment stream would equally qualify as eligible. Any referenced interest payments or discount rates should be based on commonly encountered market interest rates,[29] but should not reference complex or complicated formulae or exotic derivatives.[30]

Footnotes

[27] *For the avoidance of doubt, this criterion does not automatically exclude securitisations of equipment leases and securitisations of auto loans and leases from the short-term STC framework.*

[28] *Payments on operating and financing lease are typically considered to be rental payments rather than payments of principal and interest.*

[29] *Commonly encountered market interest rates may include rates reflective of a lender's cost of funds, to the extent sufficient data is provided to the sponsors to allow them to assess their relation to other market rates.*

[30] *The Global Association of Risk Professionals defines an exotic instrument as a financial asset or instrument with features making it more complex than simpler, plain vanilla, products.*

Additional guidance for Criterion A1

40.101 The "homogeneity" criterion should be assessed taking into account the following principles:

(1) The nature of assets should be such that there would be no need to analyse and assess materially different legal and/or credit risk factors and risk profiles when carrying out risk analysis and due diligence checks for the transaction.

(2) Homogeneity should be assessed on the basis of common risk drivers, including similar risk factors and risk profiles.

(3) Credit claims or receivables included in the securitisation should have standard obligations, in terms of rights to payments and/or income from assets and that result in a periodic and well-defined stream of payments to investors. Credit card facilities should be deemed to result in a periodic and well-defined stream of payments to investors for the purposes of this criterion.

(4) Repayment of the securitisation exposure should mainly rely on the principal and interest proceeds from the securitised assets. Partial reliance on refinancing or re-sale of the asset securing the exposure may occur provided that re-financing is sufficiently distributed within the pool and the residual values on which the transaction relies are sufficiently low and that the reliance on refinancing is thus not substantial.

40.102 Examples of "commonly encountered market interest rates" would include:

(1) interbank rates and rates set by monetary policy authorities, such as Libor, Euribor and the fed funds rate; and

(2) sectoral rates reflective of a lender's cost of funds, such as internal interest rates that directly reflect the market costs of a bank's funding or that of a subset of institutions.

40.103 Interest rate caps and/or floors would not automatically be considered exotic derivatives.

40.104 The transaction level requirement is still met if the conduit does not purchase the underlying asset with a refundable purchase price discount but instead acquires a beneficial interest in the form of a note which itself might qualify as a securitisation exposure, as long as the securitisation exposure is not subject to any further tranching (ie has the same economic characteristic as the purchase of the underlying asset with a refundable purchase price discount).

Criterion A2: Asset performance history (conduit level)

40.105 In order to provide investors with sufficient information on the performance history of the asset types backing the transactions, the sponsor should make available to investors, sufficient loss performance data of claims and receivables with substantially similar risk characteristics, such as delinquency and default data of similar claims, and for a time period long enough to permit meaningful evaluation. The sponsor should disclose to investors the sources of such data and the basis for claiming similarity to credit claims or receivables financed by the conduit. Such loss performance data may be provided on a stratified basis.[31]

Footnotes

[31] *Stratified means by way of example, all materially relevant data on the conduit's composition (outstanding balances, industry sector, obligor concentrations, maturities, etc) and conduit's overview and all materially relevant data on the credit quality and performance of underlying transactions, allowing investors to identify collections, and as applicable, debt restructuring, forgiveness, forbearance, payment holidays, repurchases, delinquencies and defaults.*

Criterion A2: Asset performance history (transaction level)

40.106 In order to provide the sponsor with sufficient information on the performance history of each asset type backing the transactions and to conduct appropriate due diligence and to have access to a sufficiently rich data set to enable a more accurate calculation of expected loss in different stress scenarios, verifiable loss performance data, such as delinquency and default data, should be available for credit claims and receivables with substantially similar risk characteristics to those being financed by the conduit, for a time period long enough to permit meaningful evaluation by the sponsor.

Additional requirement for Criterion A2

40.107 The sponsor of the securitisation, as well as the original lender who underwrites the assets, must have sufficient experience in the risk analysis/underwriting of exposures or transactions with underlying exposures similar to those securitised. The sponsor should have well documented procedures and policies regarding the underwriting of transactions and the ongoing monitoring of the performance of the securitised exposures. The sponsor should ensure that the seller(s) and all other parties involved in the origination of the receivables have experience in originating same or similar assets, and are supported by a management with industry experience. For the purpose of meeting the short-term STC capital criteria, investors must request confirmation from the sponsor that the performance history of the originator and the original lender for substantially similar claims or receivables to those being securitised has been established for an "appropriately long period of time". This performance history must be no shorter than a period of five years for non-retail exposures. For retail exposures, the minimum performance history is three years.

Criterion A3: Asset performance history (conduit level)

40.108 The sponsor should, to the best of its knowledge and based on representations from sellers, make representations and warranties to investors that CRE40.109 is met with respect to each transaction.

Criterion A3: Asset performance history (transaction level)

40.109 The sponsor should obtain representations from sellers that the credit claims or receivables underlying each individual transaction are not, at the time of acquisition of the interests to be financed by the conduit, in default or delinquent or subject to a material increase in expected losses or of enforcement actions.

Additional requirement for Criterion A3

40.110 To prevent credit claims or receivables arising from credit-impaired borrowers from being transferred to the securitisation, the original seller or sponsor should verify that the credit claims or receivables meet the following conditions for each transaction:

(1) the obligor has not been the subject of an insolvency or debt restructuring process due to financial difficulties in the three years prior to the date of origination;[32]

(2) the obligor is not recorded on a public credit registry of persons with an adverse credit history;

(3) the obligor does not have a credit assessment by an external credit assessment institution or a credit score indicating a significant risk of default; and

(4) the credit claim or receivable is not subject to a dispute between the obligor and the original lender.

Footnotes

[32] *This condition would not apply to borrowers that previously had credit incidents but were subsequently removed from credit registries as a result of the borrowers cleaning their records. This is the case in jurisdictions in which borrowers have the "right to be forgotten".*

40.111 The assessment of these conditions should be carried out by the original seller or sponsor no earlier than 45 days prior to acquisition of the transaction by the conduit or, in the case of replenishing transactions, no earlier than 45 days prior to new exposures being added to the transaction. In addition, at the time of the assessment, there should to the best knowledge of the original seller or sponsor be no evidence indicating likely deterioration in the performance status of the credit claim or receivable. Further, at the time of their inclusion in the pool, at least one payment should have been made on the underlying exposures, except in the case of replenishing asset trust structures such as those for credit card receivables, trade receivables, and other exposures payable in a single instalment, at maturity.

Criterion A4: Consistency of underwriting (conduit level)

40.112 The sponsor should make representations and warranties to investors that:

(1) it has taken steps to verify that for the transactions in the conduit, any underlying credit claims and receivables have been subject to consistent underwriting standards, and explain how.

(2) when there are material changes to underwriting standards, it will receive from sellers disclosure about the timing and purpose of such changes.

40.113 The sponsor should also inform investors of the material selection criteria applied when selecting sellers (including where they are not financial institutions).

Criterion A4: Consistency of underwriting (transaction level)

40.114 The sponsor should ensure that sellers (in their capacity of original lenders) in transactions with the conduit demonstrate to it that:

(1) any credit claims or receivables being transferred to or through a transaction held by the conduit have been originated in the ordinary course of the seller' s business subject to materially non-deteriorating underwriting standards. Those underwriting standards should also not be less stringent than those applied to credit claims and receivables retained on the balance sheet of the seller and not financed by the conduit; and

(2) the obligors have been assessed as having the ability and volition to make timely payments on obligations.

40.115 The sponsor should also ensure that sellers disclose to it the timing and purpose of material changes to underwriting standards.

Additional requirement for Criterion A4

40.116 In all circumstances, all credit claims or receivables must be originated in accordance with sound and prudent underwriting criteria based on an assessment that the obligor has the "ability and volition to make timely payments" on its obligations. The sponsor of the securitisation is expected, where underlying credit claims or receivables have been acquired from third parties, to review the underwriting standards (ie to check their existence and assess their quality) of these third parties and to ascertain that they have assessed the obligors' "ability and volition to make timely payments" on their obligations.

Criterion A5: Asset selection and transfer (conduit level)

40.117 The sponsor should:

(1) provide representations and warranties to investors about the checks, in nature and frequency, it has conducted regarding enforceability of underlying assets.

(2) disclose to investors the receipt of appropriate representations and warranties from sellers that the credit claims or receivables being transferred to the transactions in the conduit are not subject to any condition or encumbrance that can be foreseen to adversely affect enforceability in respect of collections due.

Criterion A5: Asset selection and transfer (transaction level)

40.118 The sponsor should be able to assess thoroughly the credit risk of the asset pool prior to its decision to provide full support to any given transaction or to the conduit. The sponsor should ensure that credit claims or receivables transferred to or through a transaction financed by the conduit:

(1) satisfy clearly defined eligibility criteria; and

(2) are not actively selected after the closing date, actively managed[33] or otherwise cherry-picked on a discretionary basis.

Footnotes

[33] *Provided they are not actively selected or otherwise cherry picked on a discretionary basis, the addition of credit claims or receivables during the replenishment periods or their substitution or repurchasing due to the breach of representations and warranties do not represent active portfolio management.*

40.119 The sponsor should ensure that the transactions in the conduit effect true sale such that the underlying credit claims or receivables:

(1) are enforceable against the obligor;

(2) are beyond the reach of the seller, its creditors or liquidators and are not subject to material re-characterisation or clawback risks;

(3) are not effected through credit default swaps, derivatives or guarantees, but by a transfer[34] of the credit claims or the receivables to the transaction; and

(4) demonstrate effective recourse to the ultimate obligation for the underlying credit claims or receivables and are not a re-securitisation position.

Footnotes

[34] *This requirement should not affect jurisdictions whose legal frameworks provide for a true sale with the same effects as described above, but by means other than a transfer of the credit claims or receivables.*

40.120 The sponsor should ensure that in applicable jurisdictions, for conduits employing transfers of credit claims or receivables by other means, sellers can demonstrate to it the existence of material obstacles preventing true sale at issuance (eg the immediate realisation of transfer tax or the requirement to notify all obligors of the transfer) and should clearly demonstrate the method of recourse to ultimate obligors (eg equitable assignment, perfected contingent transfer). In such jurisdictions, any conditions where the transfer of the credit claims or receivables is delayed or contingent upon specific events and any factors affecting timely perfection of claims by the conduit should be clearly disclosed.

40.121 The sponsor should ensure that it receives from the individual sellers (either in their capacity as original lender or servicer) representations and warranties that the credit claims or receivables being transferred to or through the transaction are not subject to any condition or encumbrance that can be foreseen to adversely affect enforceability in respect of collections due.

Additional requirement for Criterion A5

40.122 An in-house legal opinion or an independent third-party legal opinion must support the claim that the true sale and the transfer of assets under the applicable laws comply with CRE40.118(1) and CRE40.118(2) at the transaction level.

Criterion A6: Initial and ongoing data (conduit level)

40.123 To assist investors in conducting appropriate due diligence prior to investing in a new programme offering, the sponsor should provide to potential investors sufficient aggregated data that illustrate the relevant risk characteristics of the underlying asset pools in accordance with applicable laws. To assist investors in conducting appropriate and ongoing monitoring of their investments' performance and so that investors who wish to purchase commercial paper have sufficient information to conduct appropriate due diligence, the sponsor should provide timely and sufficient aggregated data that provide the relevant risk characteristics of the underlying pools in accordance with applicable laws. The sponsor should ensure that standardised investor reports are readily available to current and potential investors at least monthly. Cut off dates of the aggregated data should be aligned with those used for investor reporting.

Criterion A6: Initial and ongoing data (transaction level)

40.124 The sponsor should ensure that the individual sellers (in their capacity of servicers) provide it with:

(1) sufficient asset level data in accordance with applicable laws or, in the case of granular pools, summary stratification data on the relevant risk characteristics of the underlying pool before transferring any credit claims or receivables to such underlying pool.

(2) timely asset level data in accordance with applicable laws or granular pool stratification data on the risk characteristics of the underlying pool on an ongoing basis. Those data should allow the sponsor to fulfil its fiduciary duty at the conduit level in terms of disclosing information to investors including the alignment of cut off dates of the asset level or granular pool stratification data with those used for investor reporting.

40.125 The seller may delegate some of these tasks and, in this case, the sponsor should ensure that there is appropriate oversight of the outsourced arrangements.

Additional requirement for Criterion A6

40.126 The standardised investor reports which are made readily available to current and potential investors at least monthly should include the following information:

(1) materially relevant data on the credit quality and performance of underlying assets, including data allowing investors to identify dilution, delinquencies and defaults, restructured receivables, forbearance, repurchases, losses, recoveries and other asset performance remedies in the pool;

(2) the form and amount of credit enhancement provided by the seller and sponsor at transaction and conduit levels, respectively;

(3) relevant information on the support provided by the sponsor; and

(4) the status and definitions of relevant triggers (such as performance, termination or counterparty replacement triggers).

Criterion B7: Full support (conduit level only)

40.127 The sponsor should provide the liquidity facility(ies) and the credit protection support[35] for any ABCP programme issued by a conduit. Such facility(ies) and support should ensure that investors are fully protected against credit risks, liquidity risks and any material dilution risks of the underlying asset pools financed by the conduit. As such, investors should be able to rely on the sponsor to ensure timely and full repayment of the commercial paper.

Footnotes

[35] *A sponsor can provide full support either at ABCP programme level or at transaction level, ie by fully supporting each transaction within an ABCP programme.*

Additional requirement for Criterion B7

40.128 While liquidity and credit protection support at both the conduit level and transaction level can be provided by more than one sponsor, the majority of the support (assessed in terms of coverage) has to be made by a single sponsor (referred to as the "main sponsor").[36] An exception can however be made for a limited period of time, where the main sponsor has to be replaced due to a material deterioration in its credit standing.

Footnotes

[36] *"Liquidity and credit protection support" refers to support provided by the sponsors. Any support provided by the seller is excluded.*

40.129 The full support provided should be able to irrevocably and unconditionally pay the ABCP liabilities in full and on time. The list of risks provided in CRE40.127 that have to be covered is not comprehensive but rather provides typical examples.

40.130 Under the terms of the liquidity facility agreement:

(1) Upon specified events affecting its creditworthiness, the sponsor shall be obliged to collateralise its commitment in cash to the benefit of the investors or otherwise replace itself with another liquidity provider.

(2) If the sponsor does not renew its funding commitment for a specific transaction or the conduit in its entirety, the sponsor shall collateralise its commitments regarding a specific transaction or, if relevant, to the conduit

in cash at the latest 30 days prior to the expiration of the liquidity facility, and no new receivables should be purchased under the affected commitment.

40.131 The sponsor should provide investors with full information about the terms of the liquidity facility (facilities) and the credit support provided to the ABCP conduit and the underlying transactions (in relation to the transactions, redacted where necessary to protect confidentiality).

Criterion B8: Redemption cash flow (transaction level only)

40.132 Unless the underlying pool of credit claims or receivables is sufficiently granular and has sufficiently distributed repayment profiles, the sponsor should ensure that the repayment of the credit claims or receivables underlying any of the individual transactions relies primarily on the general ability and willingness of the obligor to pay rather than the possibility that the obligor refinances or sells the collateral and that such repayment does not primarily rely on the drawing of an external liquidity facility provided to this transaction.

Additional requirement for Criterion B8

40.133 Sponsors cannot use support provided by their own liquidity and credit facilities towards meeting this criterion. For the avoidance of doubt, the requirement that the repayment shall not primarily rely on the drawing of an external liquidity facility does not apply to exposures in the form of the notes issued by the ABCP conduit.

Criterion B9: Currency and interest rate asset and liability mismatches (conduit level)

40.134 The sponsor should ensure that any payment risk arising from different interest rate and currency profiles not mitigated at transaction-level or arising at conduit level is appropriately mitigated. The sponsor should also ensure that derivatives are used for genuine hedging purposes only and that hedging transactions are documented according to industry-standard master agreements. The sponsor should provide sufficient information to investors to allow them to assess how the payment risk arising from the different interest rate and currency profiles of assets and liabilities are appropriately mitigated, whether at the conduit or at transaction level.

Criterion B9: Currency and interest rate asset and liability mismatches (transaction level)

40.135 To reduce the payment risk arising from the different interest rate and currency profiles of assets and liabilities, if any, and to improve the sponsor's ability to analyse cash flows of transactions, the sponsor should ensure that interest rate and foreign currency risks are appropriately mitigated. The sponsor should also ensure that derivatives are used for genuine hedging purposes only and that hedging transactions are documented according to industry-standard master agreements.

Additional requirement for Criterion B9

40.136 The term "appropriately mitigated" should be understood as not necessarily requiring a completely perfect hedge. The appropriateness of the mitigation of interest rate and foreign currency risks through the life of the transaction must be demonstrated by making available, in a timely and regular manner, quantitative information including the fraction of notional amounts that are hedged, as well as sensitivity analysis that illustrates the effectiveness of the hedge under extreme but plausible scenarios. The use of risk-mitigating measures other than derivatives is permitted only if the measures are specifically created and used for the purpose of hedging an individual and specific risk. Non-derivative risk mitigation measures must be fully funded and available at all times.

Criterion B10: Payment priorities and observability (conduit level)

40.137 The commercial paper issued by the ABCP programme should not include extension options or other features which may extend the final maturity of the asset-backed commercial paper, where the right of trigger does not belong exclusively to investors. The sponsor should:

(1) make representations and warranties to investors that the criterion set out in CRE40.138 to CRE40.143 is met and in particular, that it has the ability to appropriately analyse the cash flow waterfall for each transaction which qualifies as a securitisation; and

(2) make available to investors a summary (illustrating the functioning) of these waterfalls and of the credit enhancement available at programme level and transaction level.

Criterion B10: Payment priorities and observability (transaction level)

40.138 To prevent the conduit from being subjected to unexpected repayment profiles from the transactions, the sponsor should ensure that priorities of payments are clearly defined at the time of acquisition of the interests in these transactions by the conduit; and appropriate legal comfort regarding the enforceability is provided.

40.139 For all transactions which qualify as a securitisation, the sponsor should ensure that all triggers affecting the cash flow waterfall, payment profile or priority of payments are clearly and fully disclosed to the sponsor both in the transactions' documentation and reports, with information in the reports that clearly identifies any breach status, the ability for the breach to be reversed and the consequences of the breach. Reports should contain information that allows sponsors to easily ascertain the likelihood of a trigger being breached or reversed. Any triggers breached between payment dates should be disclosed to sponsors on a timely basis in accordance with the terms and conditions of the transaction documents.

40.140 For any of the transactions where the beneficial interest held by the conduit qualifies as a securitisation position, the sponsor should ensure that any subordinated positions do not have inappropriate payment preference over payments to the conduit (which should always rank senior to any other position) and which are due and payable.

40.141 Transactions featuring a replenishment period should include provisions for appropriate early amortisation events and/or triggers of termination of the replenishment period, including, notably, deterioration in the credit quality of the underlying exposures; a failure to replenish sufficient new underlying exposures of similar credit quality; and the occurrence of an insolvency related event with regard to the individual sellers.

40.142 To ensure that debt forgiveness, forbearance, payment holidays, restructuring, dilution and other asset performance remedies can be clearly identified, policies and procedures, definitions, remedies and actions relating to delinquency, default, dilution or restructuring of underlying debtors should be provided in clear and consistent terms, such that the sponsor can clearly identify debt forgiveness, forbearance, payment holidays, restructuring, dilution and other asset performance remedies on an ongoing basis.

40.143 For each transaction which qualifies as a securitisation, the sponsor should ensure it receives both before the conduit acquires a beneficial interest in the transaction and on an ongoing basis, the liability cash flow analysis or information on the cash flow provisions allowing appropriate analysis of the cash flow waterfall of these transactions.

Criterion B11: Voting and enforcement rights (conduit level)

40.144 To provide clarity to investors, the sponsor should make sufficient information available in order for investors to understand their enforcement rights on the underlying credit claims or receivables in the event of insolvency of the sponsor.

Criterion B11: Voting and enforcement rights (transaction level)

40.145 For each transaction, the sponsor should ensure that, in particular upon insolvency of the seller or where the obligor is in default on its obligation, all voting and enforcement rights related to the credit claims or receivables are, if applicable:

(1) transferred to the conduit; and

(2) clearly defined under all circumstances, including with respect to the rights of the conduit versus other parties with an interest (eg sellers), where relevant.

Criterion B12: Documentation, disclosure and legal review (conduit level only)

40.146 To help investors understand fully the terms, conditions, and legal information prior to investing in a new programme offering and to ensure that this information is set out in a clear and effective manner for all programme offerings, the sponsor should ensure that sufficient initial offering documentation for the ABCP programme is provided to investors (and readily available to potential investors on a continuous basis) within a reasonably sufficient period of time prior to issuance, such that the investor is provided with full disclosure of the legal information and comprehensive risk factors needed to make informed investment decisions. These should be composed such that readers can readily find, understand and use relevant information.

40.147 The sponsor should ensure that the terms and documentation of a conduit and the ABCP programme it issues are reviewed and verified by an appropriately experienced and independent legal practice prior to publication and in the case of material changes. The sponsor should notify investors in a timely fashion of any changes in such documents that have an impact on the structural risks in the ABCP programme.

Additional requirement for Criterion B12

40.148 To understand fully the terms, conditions and legal information prior to including a new transaction in the ABCP conduit and ensure that this information is set out in a clear and effective manner, the sponsor should ensure that it receives sufficient initial offering documentation for each transaction and that it is provided within a reasonably sufficient period of time prior to the inclusion in the conduit, with full disclosure of the legal information and comprehensive risk factors needed to supply liquidity and/or credit support facilities. The initial offering document for each transaction should be composed such that readers can readily find, understand and use relevant information. The sponsor should also ensure that the terms and documentation of a transaction are reviewed and verified by an appropriately experienced and independent legal practice prior to the acquisition of the transaction and in the case of material changes.

Criterion B13: Alignment of interest (conduit level only)

40.149 In order to align the interests of those responsible for the underwriting of the credit claims and receivables with those of investors, a material net economic exposure should be retained by the sellers or the sponsor at transaction level, or by the sponsor at the conduit level. Ultimately, the sponsor should disclose to investors how and where a material net economic exposure is retained by the seller at transaction level or by the sponsor at transaction or conduit level, and demonstrate the existence of a financial incentive in the performance of the assets.

Criterion B14: Cap on maturity transformation (conduit level only)

40.150 Maturity transformation undertaken through ABCP conduits should be limited. The sponsor should verify and disclose to investors that the weighted average maturity of all the transactions financed under the ABCP conduit is three years or less. This number should be calculated as the higher of:

(1) the exposure-weighted average residual maturity of the conduit's beneficial interests held or the assets purchased by the conduit in order to finance the transactions of the conduit[37]; and

(2) the exposure-weighted average maturity of the underlying assets financed by the conduit calculated by:

(a) taking an exposure-weighted average of residual maturities of the underlying assets in each pool; and

(b) taking an exposure-weighted average across the conduit of the pool-level averages as calculated in Step 2a.[38]

Footnotes

[37] *Including purchased securitisation notes, loans, asset-backed deposits and purchased credit claims and/or receivables held directly on the conduit's balance sheet.*

[38] *Where it is impractical for the sponsor to calculate the pool-level weighted average maturity in Step 2a (because the pool is very granular or dynamic), sponsors may instead use the maximum maturity of the assets in the pool as defined in the legal agreements governing the pool (eg investment guidelines).*

Criterion C15: Financial institution (conduit level only)

40.151 The sponsor should be a financial institution that is licensed to take deposits from the public, and is subject to appropriate prudential standards and levels of supervision. National supervisors should decide what prudential standards and level of supervision is appropriate for their domestic banks. For internationally active banks, prudential standards and the level of supervision should be in accordance with the Basel framework. Subject to the determination of the national supervisor, in addition to risk-based regulatory capital this may include liquidity, leverage capital requirements and other requirements, such as related to the governance of banks.

Criterion C16: Fiduciary and contractual responsibilities (conduit level)

40.152 The sponsor should, based on the representations received from seller(s) and all other parties responsible for originating and servicing the asset pools, make representations and warranties to investors that:

(1) the various criteria defined at the level of each underlying transaction are met, and explain how;

(2) seller(s)'s policies, procedures and risk management controls are well-documented, adhere to good market practices and comply with the relevant regulatory regimes; and that strong systems and reporting capabilities are in place to ensure appropriate origination and servicing of the underlying assets.

40.153 The sponsor should be able to demonstrate expertise in providing liquidity and credit support in the context of ABCP conduits, and is supported by a management team with extensive industry experience. The sponsor should at all times act in accordance with reasonable and prudent standards. Policies, procedures and risk management controls of the sponsor should be well documented and the sponsor should adhere to good market practices and relevant regulatory regime. There should be strong systems and reporting capabilities in place at the sponsor. The party or parties with fiduciary responsibility should act on a timely basis in the best interests of the investors.

Criterion C16: Fiduciary and contractual responsibilities (transaction level)

40.154 The sponsor should ensure that it receives representations from the sellers(s) and all other parties responsible for originating and servicing the asset pools that they:

(1) have well-documented procedures and policies in place to ensure appropriate servicing of the underlying assets;

(2) have expertise in the origination of same or similar assets to those in the asset pools;

(3) have extensive servicing and workout expertise, thorough legal and collateral knowledge and a proven track record in loss mitigation for the same or similar assets;

(4) have expertise in the servicing of the underlying credit claims or receivables; and

(5) are supported by a management team with extensive industry experience.

Additional requirement for Criterion C16

40.155 In assessing whether "strong systems and reporting capabilities are in place", well documented policies, procedures and risk management controls, as well as strong systems and reporting capabilities, may be substantiated by a third-party review for sellers that are non-banking entities.

Criterion C17: Transparency to investors (conduit level)

40.156 The sponsor should ensure that the contractual obligations, duties and responsibilities of all key parties to the conduit, both those with a fiduciary responsibility and the ancillary service providers, are defined clearly both in the initial offering and any relevant underlying documentation of the conduit and the ABCP programme it issues. The "underlying documentation" does not refer to the documentation of the underlying transactions.

40.157 The sponsor should also make representations and warranties to investors that the duties and responsibilities of all key parties are clearly defined at transaction level.

40.158 The sponsor should ensure that the initial offering documentation disclosed to investors contains adequate provisions regarding the replacement of key counterparties of the conduit (eg bank account providers and derivatives counterparties) in the event of failure or non-performance or insolvency or deterioration of creditworthiness of any such counterparty.

40.159 The sponsor should also make representations and warranties to investors that provisions regarding the replacement of key counterparties at transaction level are well-documented.

40.160 The sponsor should provide sufficient information to investors about the liquidity facility(ies) and credit support provided to the ABCP programme for them to understand its functioning and key risks.

Criterion C17: Transparency to investors (transaction level)

40.161 The sponsor should conduct due diligence with respect to the transactions on behalf of the investors. To assist the sponsor in meeting its fiduciary and contractual obligations, the duties and responsibilities of all key parties to all transactions (both those with a fiduciary responsibility and of the ancillary service providers) should be defined clearly in all underlying documentation of these transactions and made available to the sponsor.

40.162 The sponsor should ensure that provisions regarding the replacement of key counterparties (in particular the servicer or liquidity provider) in the event of failure or non-performance or insolvency or other deterioration of any such counterparty for the transactions are well-documented (in the documentation of these individual transactions).

40.163 The sponsor should ensure that for all transactions the performance reports include all of the following: the transactions' income and disbursements, such as scheduled principal, redemption principal, scheduled interest, prepaid principal, past due interest and fees and charges, delinquent, defaulted, restructured and diluted amounts, as well as accurate accounting for amounts attributable to principal and interest deficiency ledgers.

Criterion D18: Credit risk of underlying exposures (transaction level only)

40.164 At the date of acquisition of the assets, the underlying exposures have to meet the conditions under the Standardised Approach for credit risk and, after account is taken of any eligible credit risk mitigation, be assigned a risk weight equal to or smaller than:

(1) 40% on a value-weighted average exposure basis for the portfolio where the exposures are "regulatory residential real estate" exposures as defined in CRE20.77;

(2) 50% on an individual exposure basis where the exposure is a "regulatory commercial real estate" exposure as defined in CRE20.78, an "other real estate" exposure as defined in CRE20.88 or a land ADC exposure as defined in CRE20.90;

(3) 75% on an individual exposure basis where the exposure is a "regulatory retail" exposure as defined in CRE20.65; or

(4) 100% on an individual exposure basis for any other exposure.

Criterion D19: Granularity of the pool (conduit level only)

40.165 At the date of acquisition of any assets securitised by one of the conduits' transactions, the aggregated value of all exposures to a single obligor at that date shall not exceed 2%[39] of the aggregated outstanding exposure value of all exposures in the programme.

Footnotes

[39] *In jurisdictions with structurally concentrated corporate loan markets, subject to ex ante supervisory approval and only for corporate exposures, the applicable maximum concentration threshold could be increased to 3% if the sellers or sponsor retain subordinated tranche(s) that form loss-absorbing credit enhancement, as defined in CRE44.16, and which cover at least the first 10% of losses. These tranche(s) retained by the sellers or sponsor shall not be eligible for the STC capital treatment.*

CRE41

Securitisation: standardised approach

This chapter describes how to calculate capital requirements for securitisation exposures using a standardised approach (SEC-SA).

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Standardised approach (SEC-SA)

41.1 To calculate capital requirements for a securitisation exposure to a standardised approach (SA) pool using the securitisation standardised approach (SEC-SA), a bank would use a supervisory formula and the following bank-supplied inputs: the SA capital charge had the underlying exposures not been securitised (K_{SA}); the ratio of delinquent underlying exposures to total underlying exposures in the securitisation pool (W); the tranche attachment point (A); and the tranche detachment point (D). The inputs A and D are defined in CRE44.14 and CRE44.15 respectively. Where the only difference between exposures to a transaction is related to maturity, A and D will be the same. K_{SA} and W are defined in CRE41.2 to CRE41.4 and CRE41.6.

41.2 K_{SA} is defined as the weighted-average capital charge of the entire portfolio of underlying exposures, calculated using the risk-weighted asset amounts in CRE20 in relation to the sum of the exposure amounts of underlying exposures, multiplied by 8%. This calculation should reflect the effects of any credit risk mitigant that is applied to the underlying exposures (either individually or to the entire pool), and hence benefits all of the securitisation exposures. K_{SA} is expressed as a decimal between zero and one (that is, a weighted-average risk weight of 100% means that K_{SA} would equal 0.08).

41.3 For structures involving a special purpose entity (SPE), all of the SPE's exposures related to the securitisation are to be treated as exposures in the pool. Exposures related to the securitisation that should be treated as exposures in the pool include assets in which the SPE may have invested, comprising reserve accounts, cash collateral accounts and claims against counterparties resulting from interest swaps or currency swaps.[1] Notwithstanding, the bank can exclude the SPE's exposures from the pool for capital calculation purposes if the bank can demonstrate to its national supervisor that the risk does not affect its particular securitisation exposure or that the risk is immaterial – for example, because it has been mitigated.[2]

Footnotes

[1] *In particular, in the case of swaps other than credit derivatives, the numerator of K_{SA} must include the positive current market value times the risk weight of the swap provider times 8%. In contrast, the denominator should not take into account such a swap, as such a swap would not provide a credit enhancement to any tranche.*

[2] *Certain best market practices can eliminate or at least significantly reduce the potential risk from a default of a swap provider. Examples of such features could be cash collateralisation of the market value in combination with an agreement of prompt additional payments in case of an increase of the market value of the swap and minimum credit quality of the swap provider with the obligation to post collateral or present an alternative swap provider without any costs for the SPE in the event of a credit deterioration on the part of the original swap provider. If national supervisors are satisfied with these risk mitigants and accept that the contribution of these exposures to the risk of the holder of a securitisation exposure is insignificant, supervisors may allow the bank to exclude these exposures from the K_{SA} calculation.*

41.4 In the case of funded synthetic securitisations, any proceeds of the issuances of credit-linked notes or other funded obligations of the SPE that serve as collateral for the repayment of the securitisation exposure in question, and for which the bank cannot demonstrate to its national supervisor that they are immaterial, have to be included in the calculation of K_{SA} if the default risk of the collateral is subject to the tranched loss allocation.[3]

Footnotes

[3] *As in the case of swaps other than credit derivatives, the numerator of K_{SA} (ie weighted-average capital charge of the entire portfolio of underlying exposures) must include the exposure amount of the collateral times its risk weight times 8%, but the denominator should be calculated without recognition of the collateral.*

41.5 In cases where a bank has set aside a specific provision or has a non-refundable purchase price discount on an exposure in the pool, K_{SA} must be calculated using the gross amount of the exposure without the specific provision and/or non-refundable purchase price discount.

41.6

The variable W equals the ratio of the sum of the nominal amount of delinquent underlying exposures (as defined in CRE41.7) to the nominal amount of underlying exposures.

41.7 Delinquent underlying exposures are underlying exposures that are 90 days or more past due, subject to bankruptcy or insolvency proceedings, in the process of foreclosure, held as real estate owned, or in default, where default is defined within the securitisation deal documents.

41.8 The inputs K_{SA} and W are used as inputs to calculate K_A, as follows:

$$K_A = \left(1 - W\right) \times K_{SA} + 0.5W$$

41.9 In case a bank does not know the delinquency status, as defined above, for no more than 5% of underlying exposures in the pool, the bank may still use the SEC-SA by adjusting its calculation of K_A as follows:

$$K_A = \left(\frac{EAD_{subpool\ 1\ where\ W\ known}}{EADTotal} \times K_A^{subpool\ 1\ where\ W\ known} \right) + \frac{EAD_{subpool\ 2\ where\ W\ unknown}}{EADTotal}$$

41.10 If the bank does not know the delinquency status for more than 5%, the securitisation exposure must be risk weighted at 1250%.

41.11 Capital requirements are calculated under the SEC-SA as follows, where $K_{SSFA(KA)}$ is the capital requirement per unit of the securitisation exposure and the variables a, u, and l are defined as:

(1) $a = -(1 / (p * K_A))$

(2) $u = D - K_A$

(3) $l = \max (A - K_A; 0)$

$$K_{SSFA(K_A)} = \frac{e^{au} - e^{al}}{a(u - l)}$$

41.12 The supervisory parameter p in the context of the SEC-SA is set equal to 1 for a securitisation exposure that is not a resecuritisation exposure.

41.13 The risk weight assigned to a securitisation exposure when applying the SEC-SA would be calculated as follows:

(1) When D for a securitisation exposure is less than or equal to K_A, the exposure must be assigned a risk weight of 1250%.

(2) When A for a securitisation exposure is greater than or equal to K_A, the risk weight of the exposure, expressed as a percentage, would equal $K_{SSFA(K_A)}$ times 12.5.

(3) When A is less than K_A and D is greater than K_A, the applicable risk weight is a weighted average of 1250% and 12.5 times $K_{SSFA(K_A)}$ according to the following formula:

$$RW = \left(12.5 \times \frac{K_A - A}{D - A}\right) + \left(12.5 \times K_{SSFA(K_A)} \times \frac{D - K_A}{D - A}\right)$$

41.14 The risk weight for market risk hedges such as currency or interest rate swaps will be inferred from a securitisation exposure that is pari passu to the swaps or, if such an exposure does not exist, from the next subordinated tranche.

41.15 The resulting risk weight is subject to a floor risk weight of 15%. Moreover, when a bank applies the SEC-SA to an unrated junior exposure in a transaction where the more senior tranches (exposures) are rated and therefore no rating can be inferred for the junior exposure, the resulting risk weight under SEC-SA for the junior unrated exposure shall not be lower than the risk weight for the next more senior rated exposure.

Resecuritisation exposures

41.16 For resecuritisation exposures, banks must apply the SEC-SA specified in CRE41.1 to CRE41.15, with the following adjustments:

(1) the capital requirement of the underlying securitisation exposures is calculated using the securitisation framework;

(2) delinquencies (W) are set to zero for any exposure to a securitisation tranche in the underlying pool; and

(3) the supervisory parameter p is set equal to 1.5, rather than 1 as for securitisation exposures.

41.17 If the underlying portfolio of a resecuritisation consists in a pool of exposures to securitisation tranches and to other assets, one should separate the exposures to securitisation tranches from exposures to assets that are not securitisations. The K_A parameter should be calculated for each subset individually, applying separate W parameters; these calculated in accordance with CRE41.6 and CRE41.7 in the subsets where the exposures are to assets that are not securitisation tranches, and set to zero where the exposures are to securitisation tranches. The K_A for the resecuritisation exposure is then obtained as the nominal exposure weighted-average of the K_A's for each subset considered.

41.18 The resulting risk weight is subject to a floor risk weight of 100%.

41.19 The caps described in CRE40.50 to CRE40.55 cannot be applied to resecuritisation exposures.

Alternative capital treatment for term STC securitisations and short-term STC securitisations meeting the STC criteria for capital purposes

41.20 Securitisation transactions that are assessed as simple, transparent and comparable (STC)-compliant for capital purposes as defined in CRE40.67 can be subject to capital requirements under the securitisation framework, taking into account that, when the SEC-SA is used, CRE41.21 and CRE41.22 are applicable instead of CRE41.12 and CRE41.15 respectively.

41.21 The supervisory parameter p in the context of the SEC-SA is set equal to 0.5 for an exposure to an STC securitisation.

41.22 The resulting risk weight is subject to a floor risk weight of 10% for senior tranches, and 15% for non-senior tranches.

CRE42

Securitisation: External-ratings-based approach (SEC-ERBA)

This chapter describes how to calculate capital requirements for securitisation exposures that are externally rated or for which an inferred rating is available (SEC-ERBA).

Version effective as of 01 Jan 2023

Cross references updated due to the December 2017 Basel III standard coming into effect.

External-ratings-based approach (SEC-ERBA)

42.1 For securitisation exposures that are externally rated, or for which an inferred rating is available, risk-weighted assets under the securitisation external ratings-based approach (SEC-ERBA) will be determined by multiplying securitisation exposure amounts (as defined in CRE40.19) by the appropriate risk weights as determined by CRE42.2 to CRE42.7, provided that the operational criteria in CRE42.8 to CRE42.10 are met.[1]

Footnotes

[1] *The rating designations used in Tables 1 and 2 are for illustrative purposes only and do not indicate any preference for, or endorsement of, any particular external assessment system.*

42.2 For exposures with short-term ratings, or when an inferred rating based on a short-term rating is available, the following risk weights will apply:

ERBA risk weights for short-term ratings — Table 1

External credit assessment	A-1/P-1	A-2/P-2	A-3/P-3	All other ratings
Risk weight	15%	50%	100%	1250%

42.3 For exposures with long-term ratings, or when an inferred rating based on a long-term rating is available, the risk weights depend on

(1) the external rating grade or an available inferred rating;

(2) the seniority of the position;

(3) the tranche maturity; and

(4) in the case of non-senior tranches, the tranche thickness.

42.4 Specifically, for exposures with long-term ratings, risk weights will be determined according to Table 2 and will be adjusted for tranche maturity (calculated according to CRE40.22 and CRE40.23), and tranche thickness for non-senior tranches according to CRE42.5.

ERBA risk weights for long-term ratings — Table 2

Rating	Senior tranche		Non-senior (thin) tranche	
	Tranche maturity (M_T)		Tranche maturity (M_T)	
	1 year	5 years	1 year	5 years
AAA	15%	20%	15%	70%
AA+	15%	30%	15%	90%
AA	25%	40%	30%	120%
AA-	30%	45%	40%	140%
A+	40%	50%	60%	160%
A	50%	65%	80%	180%
A-	60%	70%	120%	210%
BBB+	75%	90%	170%	260%
BBB	90%	105%	220%	310%
BBB-	120%	140%	330%	420%
BB+	140%	160%	470%	580%
BB	160%	180%	620%	760%
BB-	200%	225%	750%	860%
B+	250%	280%	900%	950%
B	310%	340%	1050%	1050%
B-	380%	420%	1130%	1130%
CCC+/CCC/CCC-	460%	505%	1250%	1250%
Below CCC-	1250%	1250%	1250%	1250%

42.5 The risk weight assigned to a securitisation exposure when applying the SEC-ERBA is calculated as follows:

(1) To account for tranche maturity, banks shall use linear interpolation between the risk weights for one and five years.

(2) To account for tranche thickness, banks shall calculate the risk weight for non-senior tranches as follows, where T equals tranche thickness, and is measured a minus A, as defined, respectively, in CRE44.15 and CRE44.14:

$$Risk\ weight = (risk\ weight\ from\ table\ after\ adjusting\ for\ maturity) \times (1 - \min(T, 50\%))$$

42.6 In the case of market risk hedges such as currency or interest rate swaps, the risk weight will be inferred from a securitisation exposure that is pari passu to the swaps or, if such an exposure does not exist, from the next subordinated tranche.

42.7 The resulting risk weight is subject to a floor risk weight of 15%. In addition, the resulting risk weight should never be lower than the risk weight corresponding to a senior tranche of the same securitisation with the same rating and maturity.

Operational requirements for use of external credit assessments

42.8 The following operational criteria concerning the use of external credit assessments apply in the securitisation framework:

(1) To be eligible for risk-weighting purposes, the external credit assessment must take into account and reflect the entire amount of credit risk exposure the bank has with regard to all payments owed to it. For example, if a bank is owed both principal and interest, the assessment must fully take into account and reflect the credit risk associated with timely repayment of both principal and interest.

(2) The external credit assessments must be from an eligible external credit assessment institution (ECAI) as recognised by the bank's national supervisor in accordance with CRE21 with the following exception. In contrast with CRE21.2(3), an eligible credit assessment, procedures, methodologies, assumptions and the key elements underlying the assessments must be publicly available, on a non-selective basis and free of charge.[2] In other words, a rating must be published in an accessible form and included in the ECAI's transition matrix. Also, loss and cash flow analysis as well as sensitivity of ratings to changes in the underlying rating assumptions should be publicly available. Consequently, ratings that are made available only to the parties to a transaction do not satisfy this requirement.

(3) Eligible ECAIs must have a demonstrated expertise in assessing securitisations, which may be evidenced by strong market acceptance.

(4) Where two or more eligible ECAIs can be used and these assess the credit risk of the same securitisation exposure differently, CRE21.9 to CRE21.11 will apply.

(5) Where credit risk mitigation (CRM) is provided to specific underlying exposures or the entire pool by an eligible guarantor as defined in CRE22 and is reflected in the external credit assessment assigned to a securitisation exposure(s), the risk weight associated with that external credit assessment should be used. In order to avoid any double-counting, no additional capital recognition is permitted. If the CRM provider is not recognised as an eligible guarantor under CRE22, the covered securitisation exposures should be treated as unrated.

(6) In the situation where a credit risk mitigant solely protects a specific securitisation exposure within a given structure (eg asset-backed security tranche) and this protection is reflected in the external credit assessment, the bank must treat the exposure as if it is unrated and then apply the CRM treatment outlined in CRE22 or in the foundation internal ratings-based (IRB) approach of CRE30 to CRE36, to recognise the hedge.

(7) A bank is not permitted to use any external credit assessment for risk-weighting purposes where the assessment is at least partly based on unfunded support provided by the bank. For example, if a bank buys asset-backed commercial paper (ABCP) where it provides an unfunded securitisation exposure extended to the ABCP programme (eg liquidity facility or credit enhancement), and that exposure plays a role in determining the credit assessment on the ABCP, the bank must treat the ABCP as if it were not rated. The bank must continue to hold capital against the other securitisation exposures it provides (eg against the liquidity facility and/or credit enhancement).

Footnotes

[2] *Where the eligible credit assessment is not publicly available free of charge, the ECAI should provide an adequate justification, within its own publicly available code of conduct, in accordance with the "comply or explain" nature of the International Organization of Securities Commissions' Code of Conduct Fundamentals for Credit Rating Agencies.*

Operational requirements for inferred ratings

42.9 In accordance with the hierarchy of approaches determined in CRE40.41 to CRE40.47, a bank must infer a rating for an unrated position and use the SEC-ERBA provided that the requirements set out in CRE42.10 are met. These requirements are intended to ensure that the unrated position is pari passu or senior in all respects to an externally-rated securitisation exposure termed the "reference securitisation exposure".

42.10 The following operational requirements must be satisfied to recognise inferred ratings:

(1) The reference securitisation exposure (eg asset-backed security) must rank pari passu or be subordinate in all respects to the unrated securitisation exposure. Credit enhancements, if any, must be taken into account when assessing the relative subordination of the unrated exposure and the reference securitisation exposure. For example, if the reference securitisation exposure benefits from any third-party guarantees or other credit enhancements that are not available to the unrated exposure, then the latter may not be assigned an inferred rating based on the reference securitisation exposure.

(2) The maturity of the reference securitisation exposure must be equal to or longer than that of the unrated exposure.

(3) On an ongoing basis, any inferred rating must be updated continuously to reflect any subordination of the unrated position or changes in the external rating of the reference securitisation exposure.

(4) The external rating of the reference securitisation exposure must satisfy the general requirements for recognition of external ratings as delineated in CRE42.8.

Alternative capital treatment for term STC securitisations and short-term STC securitisations meeting the STC criteria for capital purposes

42.11 Securitisation transactions that are assessed as simple, transparent and comparable (STC)-compliant for capital purposes as defined in CRE40.67 can be subject to capital requirements under the securitisation framework, taking into account that, when the SEC-ERBA is used, CRE42.12, CRE42.13 and CRE42.14 are applicable instead of CRE42.2, CRE42.4 and CRE42.7 respectively.

42.12 For exposures with short-term ratings, or when an inferred rating based on a short-term rating is available, the following risk weights will apply:

ERBA STC risk weights for short-term ratings — Table 3

External credit assessment	A-1/P-1	A-2/P-2	A-3/P-3	All other ratings
Risk weight	10%	30%	60%	1250%

42.13 For exposures with long-term ratings, risk weights will be determined according to Table 4 and will be adjusted for tranche maturity (calculated according to CRE40.22 and CRE40.23), and tranche thickness for non-senior tranches according to CRE42.5 and CRE42.6.

ERBA STC risk weights for long-term ratings Table 4

Rating	Senior tranche		Non-senior (thin) tranche	
	Tranche maturity (M_T)		Tranche maturity (M_T)	
	1 year	5 years	1 year	5 years
AAA	10%	10%	15%	40%
AA+	10%	15%	15%	55%
AA	15%	20%	15%	70%
AA-	15%	25%	25%	80%
A+	20%	30%	35%	95%
A	30%	40%	60%	135%
A-	35%	40%	95%	170%
BBB+	45%	55%	150%	225%
BBB	55%	65%	180%	255%
BBB-	70%	85%	270%	345%
BB+	120%	135%	405%	500%
BB	135%	155%	535%	655%
BB-	170%	195%	645%	740%
B+	225%	250%	810%	855%
B	280%	305%	945%	945%
B-	340%	380%	1015%	1015%
CCC+/CCC/CCC-	415%	455%	1250%	1250%
Below CCC-	1250%	1250%	1250%	1250%

42.14 The resulting risk weight is subject to a floor risk weight of 10% for senior tranches, and 15% for non-senior tranches.

CRE43

Securitisation: Internal assessment approach (SEC-IAA)

This chapter describes how to calculate capital requirements for short-term securitisation exposures according to the internal assessment by the bank of the credit quality of the exposures (SEC-IAA).

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Internal assessment approach (SEC-IAA)

43.1 Subject to supervisory approval, a bank may use its internal assessments of the credit quality of its securitisation exposures extended to ABCP programmes (eg liquidity facilities and credit enhancements) provided that the bank has at least one approved IRB model (which does not need to be applicable to the securitised exposures) and if the bank's internal assessment process meets the operational requirements set out below. Internal assessments of exposures provided to ABCP programmes must be mapped to equivalent external ratings of an ECAI. Those rating equivalents are used to determine the appropriate risk weights under the SEC-ERBA for the exposures.

43.2 A bank's internal assessment process must meet the following operational requirements in order to use internal assessments in determining the IRB capital requirement arising from liquidity facilities, credit enhancements, or other exposures extended to an ABCP programme:

(1) For the unrated exposure to qualify for the internal assessment approach (SEC-IAA), the ABCP must be externally rated. The ABCP itself is subject to the SEC-ERBA.

(2) The internal assessment of the credit quality of a securitisation exposure to the ABCP programme must be based on ECAI criteria for the asset type purchased, and must be the equivalent of at least investment grade when initially assigned to an exposure. In addition, the internal assessment must be used in the bank's internal risk management processes, including management information and economic capital systems, and generally must meet all the relevant requirements of the IRB framework.

(3) In order for banks to use the SEC-IAA, their supervisors must be satisfied

(a) that the ECAI meets the ECAI eligibility criteria outlined in CRE21 and

(b) with the ECAI rating methodologies used in the process.

(4) Banks demonstrate to the satisfaction of their supervisors how these internal assessments correspond to the relevant ECAI's standards. For instance, when calculating the credit enhancement level in the context of the SEC-IAA, supervisors may, if warranted, disallow on a full or partial basis any seller-provided recourse guarantees or excess spread, or any other first-loss credit enhancements that provide limited protection to the bank.

(5) The bank's internal assessment process must identify gradations of risk. Internal assessments must correspond to the external ratings of ECAIs so that supervisors can determine which internal assessment corresponds to each external rating category of the ECAIs.

(6) The bank's internal assessment process, particularly the stress factors for determining credit enhancement requirements, must be at least as conservative as the publicly available rating criteria of the major ECAIs that are externally rating the ABCP programme's commercial paper for the asset type being purchased by the programme. However, banks should consider, to some extent, all publicly available ECAI rating methodologies in developing their internal assessments.

(a) In the case where the commercial paper issued by an ABCP programme is externally rated by two or more ECAIs and the different ECAIs' benchmark stress factors require different levels of credit enhancement to achieve the same external rating equivalent, the bank must apply the ECAI stress factor that requires the most conservative or highest level of credit protection. For example, if one ECAI required enhancement of 2.5 to 3.5 times historical losses for an asset type to obtain a single A rating equivalent and another required two to three times historical losses, the bank must use the higher range of stress factors in determining the appropriate level of seller-provided credit enhancement.

(b) When selecting ECAIs to externally rate an ABCP, a bank must not choose only those ECAIs that generally have relatively less restrictive rating methodologies. In addition, if there are changes in the methodology of one of the selected ECAIs, including the stress factors, that adversely affect the external rating of the programme's commercial paper, then the revised rating methodology must be considered in evaluating whether the internal assessments assigned to ABCP programme exposures are in need of revision.

(c) A bank cannot utilise an ECAI's rating methodology to derive an internal assessment if the ECAI's process or rating criteria are not publicly available. However, banks should consider the non-publicly available methodology - to the extent that they have access to such information - in developing their internal assessments, particularly if it is more conservative than the publicly available criteria.

(d) In general, if the ECAI rating methodologies for an asset or exposure are not publicly available, then the IAA may not be used. However, in certain instances - for example, for new or uniquely structured transactions, which are not currently addressed by the rating criteria of an ECAI rating the programme's commercial paper - a bank may discuss the specific transaction with its supervisor to determine whether the IAA may be applied to the related exposures

(7) Internal or external auditors, an ECAI, or the bank's internal credit review or risk management function must perform regular reviews of the internal

assessment process and assess the validity of those internal assessments. If the bank's internal audit, credit review or risk management functions perform the reviews of the internal assessment process, then these functions must be independent of the ABCP programme business line, as well as the underlying customer relationships.

(8) The bank must track the performance of its internal assessments over time to evaluate the performance of the assigned internal assessments and make adjustments, as necessary, to its assessment process when the performance of the exposures routinely diverges from the assigned internal assessments on those exposures.

(9) The ABCP programme must have credit and investment guidelines, ie underwriting standards, for the ABCP programme. In the consideration of an asset purchase, the ABCP programme (ie the programme administrator) should develop an outline of the structure of the purchase transaction. Factors that should be discussed include the type of asset being purchased; type and monetary value of the exposures arising from the provision of liquidity facilities and credit enhancements; loss waterfall; and legal and economic isolation of the transferred assets from the entity selling the assets.

(10) A credit analysis of the asset seller's risk profile must be performed and should consider, for example, past and expected future financial performance; current market position; expected future competitiveness; leverage, cash flow and interest coverage; and debt rating. In addition, a review of the seller's underwriting standards, servicing capabilities and collection processes should be performed.

(11) The ABCP programme's underwriting policy must establish minimum asset eligibility criteria that, among other things:

(a) exclude the purchase of assets that are significantly past due or defaulted;

(b) limit excess concentration to individual obligor or geographical area; and

(c) limit the tenor of the assets to be purchased.

(12) The ABCP programme should have collection processes established that consider the operational capability and credit quality of the servicer. The programme should mitigate to the extent possible seller/servicer risk through various methods, such as triggers based on current credit quality that would preclude commingling of funds and impose lockbox arrangements that would help ensure the continuity of payments to the ABCP programme.

(13) The aggregate estimate of loss on an asset pool that the ABCP programme is considering purchasing must consider all sources of potential risk, such as credit and dilution risk. If the seller-provided credit enhancement is sized based on only credit-related losses, then a separate reserve should be established for dilution risk, if dilution risk is material for the particular exposure pool. In addition, in sizing the required enhancement level, the bank should review several years of historical information, including losses, delinquencies, dilutions and the turnover rate of the receivables. Furthermore, the bank should evaluate the characteristics of the underlying asset pool (eg weighted-average credit score) and should identify any concentrations to an individual obligor or geographical region and the granularity of the asset pool.

(14) The ABCP programme must incorporate structural features into the purchase of assets in order to mitigate potential credit deterioration of the underlying portfolio. Such features may include wind-down triggers specific to a pool of exposures.

43.3 The exposure amount of the securitisation exposure to the ABCP programme must be assigned to the risk weight in the SEC-ERBA appropriate to the credit rating equivalent assigned to the bank's exposure.

43.4 If a bank's internal assessment process is no longer considered adequate, the bank's supervisor may preclude the bank from applying the SEC-IAA to its ABCP exposures, both existing and newly originated, for determining the appropriate capital treatment until the bank has remedied the deficiencies. In this instance, the bank must revert to the SEC-SA described in CRE41.1 to CRE41.15.

CRE44

Securitisation: Internal-ratings-based approach

This chapter describes how to calculate capital requirements for securitisation exposures under the SEC-IRBA.

Version effective as of 01 Jan 2023

References have been updated and the 1.06 scaling factor has been removed to reflect its removal in the December 2017 publication of Basel III. Chapter reflects the revised implementation date announced on 27 March 2020.

Internal ratings-based approach (SEC-IRBA)

44.1 To calculate capital requirements for a securitisation exposure to an internal ratings-based (IRB) pool, a bank must use the securitisation internal ratings-based approach (SEC-IRBA) and the following bank-supplied inputs: the IRB capital charge had the underlying exposures not been securitised (K_{IRB}), the tranche attachment point (A), the tranche detachment point (D) and the supervisory parameter p, as defined below. Where the only difference between exposures to a transaction is related to maturity, A and D will be the same.

Definition of K_{IRB}

44.2 K_{IRB} is the ratio of the following measures, expressed in decimal form (eg a capital charge equal to 15% of the pool would be expressed as 0.15):

(1) the IRB capital requirement (including the expected loss portion and, where applicable, dilution risk as discussed in CRE44.11 to CRE44.13) for the underlying exposures in the pool; to

(2) the exposure amount of the pool (eg the sum of drawn amounts related to securitised exposures plus the exposure-at-default associated with undrawn commitments related to securitised exposures).[12]

Footnotes

[1] *K_{IRB} must also include the unexpected loss and the expected loss associated with defaulted exposures in the underlying pool.*

[2] *Undrawn balances should not be included in the calculation of K_{IRB} in cases where only the drawn balances of revolving facilities have been securitised.*

44.3 Notwithstanding the clarification in CRE40.46 and CRE40.47 for mixed pools, CRE44.2(1) must be calculated in accordance with applicable minimum IRB standards in CRE30 to CRE36 as if the exposures in the pool were held directly by the bank. This calculation should reflect the effects of any credit risk mitigant that is applied on the underlying exposures (either individually or to the entire pool), and hence benefits all of the securitisation exposures.

44.4 For structures involving a special purpose entity (SPE), all of the SPE's exposures related to the securitisation are to be treated as exposures in the pool. Exposures related to the securitisation that should be treated as exposures in the pool could include assets in which the SPE may have invested a reserve account, such as a cash collateral account or claims against counterparties resulting from interest swaps or currency swaps.[3] Notwithstanding, the bank can exclude the SPE's exposures from the pool for capital calculation purposes if the bank can demonstrate to its national supervisor that the risk of the SPE's exposures is immaterial (for example, because it has been mitigated[4]) or that it does not affect the bank's securitisation exposure.

Footnotes

[3] *In particular, in the case of swaps other than credit derivatives, the numerator of K_{IRB} must include the positive current market value times the risk weight of the swap provider times 8%. In contrast, the denominator should not take into account such a swap, as such a swap would not provide a credit enhancement to any tranche.*

[4] *Certain best market practices can eliminate or at least significantly reduce the potential risk from a default of a swap provider. Examples of such features could be: cash collateralisation of the market value in combination with an agreement of prompt additional payments in case of an increase of the market value of the swap; and minimum credit quality of the swap provider with the obligation to post collateral or present an alternative swap provider without any costs for the SPE in the event of a credit deterioration on the part of the original swap provider. If national supervisors are satisfied with these risk mitigants and accept that the contribution of these exposures to the risk of the holder of a securitisation exposure is insignificant, supervisors may allow the bank to exclude these exposures from the K_{IRB} calculation.*

44.5 In the case of funded synthetic securitisations, any proceeds of the issuances of credit-linked notes or other funded obligations of the SPE that serve as collateral for the repayment of the securitisation exposure in question and for which the bank cannot demonstrate to its national supervisor that it is immaterial must be included in the calculation of K_{IRB} if the default risk of the collateral is subject to the tranched loss allocation.[5]

Footnotes

[5] *As in the case of swaps other than credit derivatives, the numerator of K_{IRB} (ie quantity CRE44.2(1)) must include the exposure amount of the collateral times its risk weight times 8%, but the denominator should be calculated without recognition of the collateral.*

44.6 To calculate K_{IRB}, the treatment for eligible purchased receivables described in CRE30.27 to CRE30.31, CRE34.2 to CRE34.7, CRE36.107, CRE36.109, CRE36.113 to CRE36.121 may be used, with the particularities specified in CRE44.7 to CRE44.9, if, according to IRB minimum requirements:

(1) for non-retail assets, it would be an undue burden on a bank to assess the default risk of individual obligors; and

(2) for retail assets, a bank is unable to primarily rely on internal data.

44.7 CRE44.6 applies to any securitised exposure, not just purchased receivables. For this purpose, "eligible purchased receivables" should be understood as referring to any securitised exposure for which the conditions of CRE44.6 are met, and "eligible purchased corporate receivables" should be understood as referring to any securitised non-retail exposure. All other IRB minimum requirements must be met by the bank.

44.8 Supervisors may deny the use of a top-down approach for eligible purchased receivables for securitised exposures depending on the bank's compliance with minimum requirements.

44.9 The requirements to use a top-down approach for the eligible purchased receivables are generally unchanged when applied to securitisations except in the following cases:

(1) the requirement in CRE30.30 for the bank to have a claim on all proceeds from the pool of receivables or a pro-rata interest in the proceeds does not apply. Instead, the bank must have a claim on all proceeds from the pool of securitised exposures that have been allocated to the bank's exposure in the securitisation in accordance with the terms of the related securitisation documentation;

(2) in CRE36.114, the purchasing bank should be interpreted as the bank calculating K_{IRB};

(3) in CRE36.116 to CRE36.121 "a bank" should be read as "the bank estimating probability of default, loss-given-default (LGD) or expected loss for the securitised exposures"; and

(4) if the bank calculating K_{IRB} cannot itself meet the requirements in CRE36.116 to CRE36.120, it must instead ensure that it meets these requirements through a party to the securitisation acting for and in the interest of the investors in the securitisation, in accordance with the terms of the related securitisation documents. Specifically, requirements for effective control and ownership must be met for all proceeds from the pool of securitised exposures that have been allocated to the bank's exposure to the securitisation. Further, in CRE36.118(1), the relevant eligibility criteria and advancing policies are those of the securitisation, not those of the bank calculating K_{IRB}.

44.10 In cases where a bank has set aside a specific provision or has a non-refundable purchase price discount on an exposure in the pool, the quantities defined in CRE44.2(1) and CRE44.2(2) must be calculated using the gross amount of the exposure without the specific provision and/or non-refundable purchase price discount.

44.11 Dilution risk in a securitisation must be recognised if it is not immaterial, as demonstrated by the bank to its national supervisor (see CRE34.8), whereby the provisions of CRE44.2 to CRE44.5 shall apply.

44.12 Where default and dilution risk are treated in an aggregate manner (eg an identical reserve or overcollateralisation is available to cover losses for both risks), in order to calculate capital requirements for the securitisation exposure, a bank must determine K_{IRB} for dilution risk and default risk, respectively, and combine them into a single K_{IRB} prior to applying the SEC-IRBA. CRE99.4 to CRE99.8 provides an illustration of such a calculation.

44.13 In certain circumstances, pool level credit enhancement will not be available to cover losses from either credit risk or dilution risk. In the case of separate waterfalls for credit risk and dilution risk, a bank should consult with its national supervisor as to how the capital calculation should be performed. To guide banks and supervisors, CRE99.9 to CRE99.19 includes an example of how such calculations could be made in a prudent manner.

Definition of attachment point (A), detachment point (D) and supervisory parameter (p)

44.14 The input A represents the threshold at which losses within the underlying pool would first be allocated to the securitisation exposure. This input, which is a decimal value between zero and one, equals the greater of

(1) zero and

(2) the ratio of

(a) the outstanding balance of all underlying assets in the securitisation minus the outstanding balance of all tranches that rank senior or pari passu to the tranche that contains the securitisation exposure of the bank (including the exposure itself) to

(b) the outstanding balance of all underlying assets in the securitisation.

44.15 The input D represents the threshold at which losses within the underlying pool result in a total loss of principal for the tranche in which a securitisation exposure resides. This input, which is a decimal value between zero and one, equals the greater of

(1) zero and

(2) the ratio of

(a) the outstanding balance of all underlying assets in the securitisation minus the outstanding balance of all tranches that rank senior to the tranche that contains the securitisation exposure of the bank to

(b) the outstanding balance of all underlying assets in the securitisation.

44.16 For the calculation of A and D, overcollateralisation and funded reserve accounts must be recognised as tranches; and the assets forming these reserve accounts must be recognised as underlying assets. Only the loss-absorbing part of the funded reserve accounts that provide credit enhancement can be recognised as tranches and underlying assets. Unfunded reserve accounts, such as those to be funded from future receipts from the underlying exposures (eg unrealised excess spread) and assets that do not provide credit enhancement like pure liquidity support, currency or interest-rate swaps, or cash collateral accounts related to these instruments must not be included in the above calculation of A and D. Banks should take into consideration the economic substance of the transaction and apply these definitions conservatively in the light of the structure.

44.17

The supervisory parameter p in the context of the SEC-IRBA is expressed as follows, where:

(1) 0.3 denotes the p-parameter floor;

(2) N is the effective number of loans in the underlying pool, calculated as described in CRE44.20;

(3) K_{IRB} is the capital charge of the underlying pool (as defined in CRE44.2 to CRE44.5);

(4) LGD is the exposure-weighted average loss-given-default of the underlying pool, calculated as described in CRE44.21);

(5) M_T is the maturity of the tranche calculated according to CRE40.22 and CRE40.23; and

(6) the parameters A, B, C, D, and E are determined according to Table 1:

$$p = \max\left[0.3, \left(A + \frac{B}{N} + (C \times K_{IRB}) + (D \times LGD) + (E \times M_T)\right)\right]$$

Look-up table for supervisory parameters A, B, C, D and E — Table 1

		A	B	C	D	E
Wholesale	Senior, granular (N≥25)	0	3.56	-1.85	0.55	0.07
	Senior, non-granular (N<25)	0.11	2.61	-2.91	0.68	0.07
	Non-senior, granular (N≥25)	0.16	2.87	-1.03	0.21	0.07
	Non-senior, non-granular (N<25)	0.22	2.35	-2.46	0.48	0.07
Retail	Senior	0	0	-7.48	0.71	0.24
	Non-senior	0	0	-5.78	0.55	0.27

44.18 If the underlying IRB pool consists of both retail and wholesale exposures, the pool should be divided into one retail and one wholesale subpool and, for each subpool, a separate p-parameter (and the corresponding input parameters N, K_{IRB} and LGD) should be estimated. Subsequently, a weighted average p-parameter for the transaction should be calculated on the basis of the p-parameters of each subpool and the nominal size of the exposures in each subpool.

44.19 If a bank applies the SEC-IRBA to a mixed pool as described in CRE40.46 and CRE40.47, the calculation of the p-parameter should be based on the IRB underlying assets only. The SA underlying assets should not be considered for this purpose.

44.20 The effective number of exposures, N, is calculated as follows, where EAD_i represents the exposure-at-default associated with the i^{th} instrument in the pool. Multiple exposures to the same obligor must be consolidated (ie treated as a single instrument).

$$N = \frac{(\sum_i EAD_i)^2}{\sum_i EAD_i^2}$$

44.21 The exposure-weighted average LGD is calculated as follows, where LGD_i represents the average LGD associated with all exposures to the i^{th} obligor. When default and dilution risks for purchased receivables are treated in an aggregate manner (eg a single reserve or overcollateralisation is available to cover losses from either source) within a securitisation, the LGD input must be constructed as a weighted average of the LGD for default risk and the 100% LGD for dilution risk. The weights are the stand-alone IRB capital charges for default risk and dilution risk, respectively.

$$LGD = \frac{\sum_i LGD_i \times EAD_i}{\sum_i EAD_i}$$

44.22 Under the conditions outlined below, banks may employ a simplified method for calculating the effective number of exposures and the exposure-weighted average LGD. Let C_m in the simplified calculation denote the share of the pool corresponding to the sum of the largest m exposures (eg a 15% share corresponds to a value of 0.15). The level of m is set by each bank.

(1) If the portfolio share associated with the largest exposure, C_1, is no more than 0.03 (or 3% of the underlying pool), then for purposes of the SEC-IRBA the bank may set LGD as 0.50 and N equal to the following amount:

$$N = \left((C_1 \times C_m) + \frac{(C_m - C_1) \times \max(1 - m \times C_1, 0)}{m - 1} \right)^{-1}$$

(2) Alternatively, if only C_1 is available and this amount is no more than 0.03, then the bank may set LGD as 0.50 and N as $1/C_1$.

Calculation of risk weight

44.23 The formulation of the SEC-IRBA is expressed as follows, where:

(1) $K_{SSFA(K_{IRB})}$ is the capital requirement per unit of securitisation exposure under the SEC-IRBA, which is a function of three variables;

(2) the constant e is the base of the natural logarithm (which equals 2.71828);

(3) the variable a is defined as -(1 / (p * K_{IRB}));

(4) the variable u is defined as D - K_{IRB}; and

(5) the variable l is defined as the maximum of A - K_{IRB} and zero.

$$K_{SSFA(K_{IRB})} = \frac{e^{au} - e^{al}}{a(u - l)}$$

44.24 The risk weight assigned to a securitisation exposure when applying the SEC-IRBA is calculated as follows:

(1) When D for a securitisation exposure is less than or equal to K_{IRB}, the exposure must be assigned a risk weight of 1250%.

(2) When A for a securitisation exposure is greater than or equal to K_{IRB}, the risk weight of the exposure, expressed as a percentage, would equal $K_{SSFA(K_{IRB})}$ times 12.5.

(3) When A is less than K_{IRB} and D is greater than K_{IRB}, the applicable risk weight is a weighted average of 1250% and 12.5 times $K_{SSFA(K_{IRB})}$ according to the following formula:

$$RW = \frac{12.5 \times (K_{IRB} - A)}{D - A} + \frac{12.5 \times K_{SSFA(K_{IRB})} \times (D - K_{IRB})}{D - A}$$

44.25 The risk weight for market risk hedges such as currency or interest rate swaps will be inferred from a securitisation exposure that is pari passu to the swaps or, if such an exposure does not exist, from the next subordinated tranche.

44.26 The resulting risk weight is subject to a floor risk weight of 15%.

Alternative capital treatment for term securitisations and short-term securitisations meeting the STC criteria for capital purposes

44.27 Securitisation transactions that are assessed as simple, transparent and comparable (STC)-compliant for capital purposes in CRE40.67 can be subject to capital requirements under the securitisation framework, taking into account that, when the SEC-IRBA is used, CRE44.28 and CRE44.29 are applicable instead of CRE44.17 and CRE44.26 respectively.

44.28 The supervisory parameter p in SEC-IRBA for an exposure to an STC securitisation is expressed as follows, where:

(1) 0.3 denotes the p-parameter floor;

(2) N is the effective number of loans in the underlying pool, calculated as described in CRE44.20;

(3) K_{IRB} is the capital charge of the underlying pool (as defined in CRE44.2 to CRE44.5);

(4) LGD is the exposure-weighted average loss-given-default of the underlying pool, calculated as described in CRE44.21;

(5) M_T is the maturity of the tranche calculated according to CRE40.22 and CRE40.23; and

(6) the parameters A, B, C, D, and E are determined according to Table 2:

$$p = \max\left[0.3, 0.5\left(A + \frac{B}{N} + (C \times K_{IRB}) + (D \times LGD) + (E \times M_T)\right)\right]$$

Look-up table for supervisory parameters A, B, C, D and E — Table 2

		A	B	C	D	E
Wholesale	Senior, granular (N≥25)	0	3.56	-1.85	0.55	0.07
	Senior, non-granular (N<25)	0.11	2.61	-2.91	0.68	0.07
	Non-senior, granular (N≥25)	0.16	2.87	-1.03	0.21	0.07
	Non-senior, non-granular (N<25)	0.22	2.35	-2.46	0.48	0.07
Retail	Senior	0	0	-7.48	0.71	0.24
	Non-senior	0	0	-5.78	0.55	0.27

44.29 The resulting risk weight is subject to a floor risk weight of 10% for senior tranches, and 15% for non-senior tranches.

CRE45

Securitisations of non-performing loans

This chapter describes how to calculate capital requirements for exposures to securitisations of non-performing loans.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework, introduced to give effect to the treatment of exposures to securitisations of non-performing loans published on 26 November 2020.

45.1 A non-performing loan securitisation (NPL securitisation) means a securitisation where the underlying pool's variable W, as defined in CRE41.6, is equal to or higher than 90% at the origination cut-off date and at any subsequent date on which assets are added to or removed from the underlying pool due to replenishment, restructuring or any other relevant reason. The underlying pool of exposures of an NPL securitisation may only comprise loans, loan-equivalent financial instruments or tradable instruments used for the sole purpose of loan subparticipation as referred to in CRE40.24(2). Loan-equivalent financial instruments include, for example, bonds not listed on a trading venue. For the avoidance of doubt, an NPL securitisation may not be backed by exposures to other securitisations.

45.2 National supervisors may provide for a stricter definition of NPL securitisations than that laid out in CRE45.1. For these purposes, national supervisors may:

(1) raise the minimum level of W to a level higher than 90%; or

(2) require that the non-delinquent exposures in the underlying pool comply with a set of minimum criteria, or preclude certain types of non-delinquent exposures from forming part of the underlying pools of NPL securitisations.

Without prejudice to the foregoing, national supervisors should scrutinise NPL securitisations to prevent any instances of regulatory arbitrage. In particular, national supervisors should preclude transactions executed with the main purpose of reducing the capital charge on the non-delinquent exposures in the underlying relative to the 100% risk weight on the senior exposure to the NPL securitisation referred to in CRE45.5.

45.3 A bank is precluded from applying the SEC-IRBA to an exposure to an NPL securitisation where the bank uses the foundation approach as referred to in CRE30.35 to calculate the KIRB of the underlying pool of exposures.

45.4 The risk weight applicable to exposures to NPL securitisations according to SEC-IRBA (CRE44), SEC-SA (CRE41) or the look-through approach in CRE40.50 is floored at 100%.

45.5 Where, according to the hierarchy of approaches in CRE40.41 to CRE40.47, the bank must use the SEC-IRBA or the SEC-SA, a bank may apply a risk weight of 100% to the senior tranche of an NPL securitisation provided that the NPL securitisation is a traditional securitisation and the sum of the non-refundable purchase price discounts (NRPPD), calculated as described in CRE45.6, is equal to or higher than 50% of the outstanding balance of the pool of exposures.

45.6 For the purposes of CRE45.5, NRPPD is the difference between the outstanding balance of the exposures in the underlying pool and the price at which these exposures are sold by the originator to the securitisation entity, when neither originator nor the original lender are reimbursed for this difference. In cases where the originator underwrites tranches of the NPL securitisation for subsequent sale, the NRPPD may include the differences between the nominal amount of the tranches and the price at which these tranches are first sold to unrelated third parties. For any given piece of a securitisation tranche, only its initial sale from the originator to investors is taken into account in the determination of NRPPD. The purchase prices of subsequent re-sales are not considered.

45.7 An originator or sponsor bank may apply the capital requirement cap specified in CRE40.54 to the aggregated capital requirement for its exposures to the same NPL securitisation. The same applies to an investor bank, provided that it is using the SEC-IRBA for an exposure to the NPL securitisation.

CRE50

Counterparty credit risk definitions and terminology

This chapter defines terms that are used in the chapters of the credit risk standard relating to counterparty credit risk.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

General terms

50.1 **Counterparty credit risk (CCR)** is the risk that the counterparty to a transaction could default before the final settlement of the transaction's cash flows. An economic loss would occur if the transactions or portfolio of transactions with the counterparty has a positive economic value at the time of default. Unlike a firm's exposure to credit risk through a loan, where the exposure to credit risk is unilateral and only the lending bank faces the risk of loss, CCR creates a bilateral risk of loss: the market value of the transaction can be positive or negative to either counterparty to the transaction. The market value is uncertain and can vary over time with the movement of underlying market factors.

50.2 A **central counterparty (CCP)** is a clearing house that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the future performance of open contracts. A CCP becomes counterparty to trades with market participants through novation, an open offer system, or another legally binding arrangement. For the purposes of the capital framework, a CCP is a financial institution.

50.3 A **qualifying central counterparty (QCCP)** is an entity that is licensed to operate as a CCP (including a license granted by way of confirming an exemption), and is permitted by the appropriate regulator/overseer to operate as such with respect to the products offered. This is subject to the provision that the CCP is based and prudentially supervised in a jurisdiction where the relevant regulator/overseer has established, and publicly indicated that it applies to the CCP on an ongoing basis, domestic rules and regulations that are consistent with the Principles for Financial Market Infrastructures issued by the Committee on Payments and Market Infrastructures and the International Organization of Securities Commissions.

(1) Where the CCP is in a jurisdiction that does not have a CCP regulator applying the Principles to the CCP, then the banking supervisor may make the determination of whether the CCP meets this definition.

(2) In addition, for a CCP to be considered a QCCP, the requirements of CRE54.37 must be met to permit each clearing member bank to calculate its capital requirement for its default fund exposures.

50.4 A **clearing member** is a member of, or a direct participant in, a CCP that is entitled to enter into a transaction with the CCP, regardless of whether it enters into trades with a CCP for its own hedging, investment or speculative purposes or whether it also enters into trades as a financial intermediary between the CCP and other market participants.

For the purposes of the CCR standard, where a CCP has a link to a second CCP, that second CCP is to be treated as a clearing member of the first CCP. Whether the second CCP's collateral contribution to the first CCP is treated as initial margin or a default fund contribution will depend upon the legal arrangement between the CCPs. National supervisors should be consulted to determine the treatment of this initial margin and default fund contributions.

50.5 A **client** is a party to a transaction with a CCP through either a clearing member acting as a financial intermediary, or a clearing member guaranteeing the performance of the client to the CCP.

50.6 A **multi-level client structure** is one in which banks can centrally clear as indirect clients; that is, when clearing services are provided to the bank by an institution which is not a direct clearing member, but is itself a client of a clearing member or another clearing client. For exposures between clients and clients of clients, we use the term **higher level client** for the institution providing clearing services; and the term **lower level client** for the institution clearing through that client.

50.7 **Initial margin** means a clearing member's or client's funded collateral posted to the CCP to mitigate the potential future exposure (PFE) of the CCP to the clearing member arising from the possible future change in the value of their transactions. For the purposes of the calculation of counterparty credit risk capital requirements, initial margin does not include contributions to a CCP for mutualised loss sharing arrangements (ie in case a CCP uses initial margin to mutualise losses among the clearing members, it will be treated as a default fund exposure). Initial margin includes collateral deposited by a clearing member or client in excess of the minimum amount required, provided the CCP or clearing member may, in appropriate cases, prevent the clearing member or client from withdrawing such excess collateral.

50.8 **Variation margin** means a clearing member's or client's funded collateral posted on a daily or intraday basis to a CCP based upon price movements of their transactions.

50.9 **Trade exposures** (in CRE54) include the current and potential future exposure of a clearing member or a client to a CCP arising from over-the-counter derivatives, exchange traded derivatives transactions or securities financing transactions, as well as initial margin. For the purposes of this definition, the current exposure of a clearing member includes the variation margin due to the clearing member but not yet received.

50.10 **Default funds** also known as clearing deposits or guaranty fund contributions (or any other names), are clearing members' funded or unfunded contributions towards, or underwriting of, a CCP's mutualised loss sharing arrangements. The

description given by a CCP to its mutualised loss sharing arrangements is not determinative of their status as a default fund; rather, the substance of such arrangements will govern their status.

50.11 **Offsetting transaction** means the transaction leg between the clearing member and the CCP when the clearing member acts on behalf of a client (eg when a clearing member clears or novates a client's trade).

Transaction types

50.12 **Long settlement transactions** are transactions where a counterparty undertakes to deliver a security, a commodity, or a foreign exchange amount against cash, other financial instruments, or commodities, or vice versa, at a settlement or delivery date that is contractually specified as more than the lower of the market standard for this particular instrument and five business days after the date on which the bank enters into the transaction.

50.13 **Securities financing transactions (SFTs)** are transactions such as repurchase agreements, reverse repurchase agreements, security lending and borrowing, and margin lending transactions, where the value of the transactions depends on market valuations and the transactions are often subject to margin agreements.

50.14 **Margin lending transactions** are transactions in which a bank extends credit in connection with the purchase, sale, carrying or trading of securities. Margin lending transactions do not include other loans that happen to be secured by securities collateral. Generally, in margin lending transactions, the loan amount is collateralised by securities whose value is greater than the amount of the loan.

Netting sets, hedging sets, and related terms

50.15 **Netting set** is a group of transactions with a single counterparty that are subject to a legally enforceable bilateral netting arrangement and for which netting is recognised for regulatory capital purposes under the provisions of CRE52.7 and CRE52.8 that are applicable to the group of transactions, this framework text on credit risk mitigation techniques in CRE22, or the cross product netting rules set out in CRE53.61 to CRE53.71. Each transaction that is not subject to a legally enforceable bilateral netting arrangement that is recognised for regulatory capital purposes should be interpreted as its own netting set for the purpose of these rules.

50.16 **Hedging set** is a set of transactions within a single netting set within which full or partial offsetting is recognised for the purpose of calculating the PFE add-on of the Standardised Approach for counterparty credit risk.

50.17 **Margin agreement** is a contractual agreement or provisions to an agreement under which one counterparty must supply variation margin to a second counterparty when an exposure of that second counterparty to the first counterparty exceeds a specified level.

50.18 **Margin threshold** is the largest amount of an exposure that remains outstanding until one party has the right to call for variation margin.

50.19 **Margin period of risk** is the time period from the last exchange of collateral covering a netting set of transactions with a defaulting counterparty until that counterparty is closed out and the resulting market risk is re-hedged.

50.20 **Effective maturity** under the Internal Models Method for a netting set with maturity greater than one year is the ratio of the sum of expected exposure over the life of the transactions in a netting set discounted at the risk-free rate of return divided by the sum of expected exposure over one year in a netting set discounted at the risk-free rate. This effective maturity may be adjusted to reflect rollover risk by replacing expected exposure with effective expected exposure for forecasting horizons under one year. The formula is given in CRE53.20.

50.21 **Cross-product netting** refers to the inclusion of transactions of different product categories within the same netting set pursuant to the cross-product netting rules set out in CRE53.

Distributions

50.22 **Distribution of market values** is the forecast of the probability distribution of net market values of transactions within a netting set for some future date (the forecasting horizon) given the realised market value of those transactions up to the present time.

50.23 **Distribution of exposures** is the forecast of the probability distribution of market values that is generated by setting forecast instances of negative net market values equal to zero (this takes account of the fact that, when the bank owes the counterparty money, the bank does not have an exposure to the counterparty).

50.24 **Risk-neutral distribution** is a distribution of market values or exposures at a future time period where the distribution is calculated using market implied values such as implied volatilities.

50.25 **Actual distribution** is a distribution of market values or exposures at a future time period where the distribution is calculated using historic or realised values such as volatilities calculated using past price or rate changes.

Exposure measures and adjustments

50.26 **Current exposure** is the larger of zero, or the current market value of a transaction or portfolio of transactions within a netting set with a counterparty that would be lost upon the immediate default of the counterparty, assuming no recovery on the value of those transactions in bankruptcy. Current exposure is often also called Replacement Cost.

50.27 **Peak exposure** is a high percentile (typically 95% or 99%) of the distribution of exposures at any particular future date before the maturity date of the longest transaction in the netting set. A peak exposure value is typically generated for many future dates up until the longest maturity date of transactions in the netting set.

50.28 **Expected exposure** is the mean (average) of the distribution of exposures at any particular future date before the longest-maturity transaction in the netting set matures. An expected exposure value is typically generated for many future dates up until the longest maturity date of transactions in the netting set.

50.29 **Effective expected exposure** at a specific date is the maximum expected exposure that occurs at that date or any prior date. Alternatively, it may be defined for a specific date as the greater of the expected exposure at that date, or the effective exposure at the previous date. In effect, the Effective Expected Exposure is the Expected Exposure that is constrained to be non-decreasing over time.

50.30 **Expected positive exposure (EPE)** is the weighted average over time of expected exposure where the weights are the proportion that an individual expected exposure represents of the entire time interval. When calculating the minimum capital requirement, the average is taken over the first year or, if all the contracts in the netting set mature before one year, over the time period of the longest-maturity contract in the netting set.

50.31 **Effective expected positive exposure (Effective EPE)** is the weighted average over time of effective expected exposure over the first year, or, if all the contracts in the netting set mature before one year, over the time period of the longest-maturity contract in the netting set where the weights are the proportion that an individual expected exposure represents of the entire time interval.

50.32 **Credit valuation adjustment** is an adjustment to the mid-market valuation of the portfolio of trades with a counterparty. This adjustment reflects the market value of the credit risk due to any failure to perform on contractual agreements with a counterparty. This adjustment may reflect the market value of the credit risk of the counterparty or the market value of the credit risk of both the bank and the counterparty.

50.33 **One-sided credit valuation adjustment** is a credit valuation adjustment that reflects the market value of the credit risk of the counterparty to the firm, but does not reflect the market value of the credit risk of the bank to the counterparty.

CCR-related risks

50.34 **Rollover risk** is the amount by which expected positive exposure is understated when future transactions with a counterparty are expected to be conducted on an ongoing basis, but the additional exposure generated by those future transactions is not included in calculation of expected positive exposure.

50.35 **General wrong-way risk** arises when the probability of default of counterparties is positively correlated with general market risk factors.

50.36 **Specific wrong-way risk** arises when the exposure to a particular counterparty is positively correlated with the probability of default of the counterparty due to the nature of the transactions with the counterparty.

CRE51

Counterparty credit risk overview

This chapter explains the meaning of counterparty credit risk and sets out the various approaches within the Basel framework that banks can use to measure counterparty credit risk exposures.

Version effective as of 01 Jan 2023

Changes to introduce minimum haircut floors, as set out in the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020.

Introduction

51.1 Banks are required to identify their transactions that expose them to counterparty credit risk and calculate a counterparty credit risk charge. This chapter starts by explaining the definition of counterparty credit risk. It then sets out the various approaches that banks can use to measure their counterparty credit risk exposures and then calculate the related capital requirement.

Counterparty credit risk definition and explanation

51.2 Counterparty credit risk is defined in CRE50. It is the risk that the counterparty to a transaction could default before the final settlement of the transaction in cases where there is a bilateral risk of loss. The bilateral risk of loss is the key concept on which the definition of counterparty credit risk is based and is explained further below.

51.3 When a bank makes a loan to a borrower the credit risk exposure is unilateral. That is, the bank is exposed to the risk of loss arising from the default of the borrower, but the transaction does not expose the borrower to a risk of loss from the default of the bank. By contrast, some transactions give rise to a bilateral risk of loss and therefore give rise to a counterparty credit risk charge. For example:

(1) A bank makes a loan to a borrower and receives collateral from the borrower. [1]

(a) The bank is exposed to the risk that the borrower defaults and the sale of the collateral is insufficient to cover the loss on the loan.

(b) The borrower is exposed to the risk that the bank defaults and does not return the collateral. Even in cases where the customer has the legal right to offset the amount it owes on the loan in compensation for the lost collateral, the customer is still exposed to the risk of loss at the outset of the loan because the value of the loan may be less than the value of the collateral the time of default of the bank.

(2) A bank borrows cash from a counterparty and posts collateral to the counterparty (or undertakes a transaction that is economically equivalent, such as the sale and repurchase (repo) of a security).

(a) The bank is exposed to the risk that its counterparty defaults and does not return the collateral that the bank posted.

(b) The counterparty is exposed to the risk that the bank defaults and the amount the counterparty raises from the sale of the collateral that the

bank posted is insufficient to cover the loss on the counterparty's loan to the bank.

(3) A bank borrows a security from a counterparty and posts cash to the counterparty as collateral (or undertakes a transaction that is economically equivalent, such as a reverse repo).

(a) The bank is exposed to the risk that its counterparty defaults and does not return the cash that the bank posted as collateral.

(b) The counterparty is exposed to the risk that the bank defaults and the cash that the bank posted as collateral is insufficient to cover the loss of the security that the bank borrowed.

(4) A bank enters a derivatives transaction with a counterparty (eg it enters a swap transaction or purchases an option). The value of the transaction can vary over time with the movement of underlying market factors.[2]

(a) The bank is exposed to the risk that the counterparty defaults when the derivative has a positive value for the bank.

(b) The counterparty is exposed to the risk that the bank defaults when the derivative has a positive value for the counterparty.

Footnotes

[1] *The bilateral risk of loss in this example arises because the bank receives, ie takes possession of, the collateral as part of the transaction. By contrast, collateralized loans where the collateral is not exchanged prior to default, do not give rise to a bilateral risk of loss; for example a corporate or retail loan secured on a property of the borrower where the bank may only take possession of the property when the borrower defaults does not give rise to counterparty credit risk.*

[2] *The counterparty credit risk rules capture the risk of loss to the bank from the default of the derivative counterparty. The risk of gains or losses on the changing market value of the derivative is captured by the market risk framework. The market risk framework captures the risk that the bank will suffer a loss as a result of market movements in underlying risk factors referenced by the derivative (eg interest rates for an interest rate swap); however, it also captures the risk of losses that can result from the derivative declining in value due to a deterioration in the creditworthiness of the derivative counterparty. The latter risk is the credit valuation adjustment risk set out in MAR50.*

Scope of counterparty credit risk charge

51.4 Banks must calculate a counterparty credit risk charge for all exposures that give rise to counterparty credit risk, with the exception of those transactions listed in CRE51.16 below. The categories of transaction that give rise to counterparty credit risk are:

(1) Over-the-counter (OTC) derivatives

(2) Exchange-traded derivatives

(3) Long settlement transactions

(4) Securities financing transactions

51.5 The transactions listed in CRE51.4 above generally exhibit the following abstract characteristics:

(1) The transactions generate a current exposure or market value.

(2) The transactions have an associated random future market value based on market variables.

(3) The transactions generate an exchange of payments or an exchange of a financial instrument (including commodities) against payment.

(4) The transactions are undertaken with an identified counterparty against which a unique probability of default can be determined.

51.6 Other common characteristics of the transactions listed in CRE51.4 include the following:

(1) Collateral may be used to mitigate risk exposure and is inherent in the nature of some transactions.

(2) Short-term financing may be a primary objective in that the transactions mostly consist of an exchange of one asset for another (cash or securities) for a relatively short period of time, usually for the business purpose of financing. The two sides of the transactions are not the result of separate decisions but form an indivisible whole to accomplish a defined objective.

(3) Netting may be used to mitigate the risk.

(4) Positions are frequently valued (most commonly on a daily basis), according to market variables.

(5) Remargining may be employed.

Methods to calculate counterparty credit risk exposure

51.7 For the transaction types listed in CRE51.4 above, banks must calculate their counterparty credit risk exposure, or exposure at default (EAD),[3] using one of the methods set out in CRE51.8 to CRE51.9 below. The methods vary according to the type of the transaction, the counterparty to the transaction, and whether the bank has received supervisory approval to use the method (if such approval is required).

Footnotes

[3] *The terms "exposure" and "EAD" are used interchangeable in the counterparty credit risk chapters of the credit risk standard. This reflects the fact that the amounts calculated under the counterparty credit risk rules must typically be used as either the "exposure" within the standardised approach to credit risk, or the EAD within the internal ratings-based (IRB) approach to credit risk, as described in CRE51.13.*

51.8 For exposures that are not cleared through a central counterparty (CCP) the following methods must be used to calculate the counterparty credit risk exposure:

(1) Standardised approach for measuring counterparty credit risk exposures (SA-CCR), which is set out in CRE52. This method is to be used for exposures arising from OTC derivatives, exchange-traded derivatives and long settlement transactions. This method must be used if the bank does not have approval to use the internal models method (IMM).

(2) The simple approach or comprehensive approach to the recognition of collateral, which are both set out in the credit risk mitigation chapter of the standardised approach to credit risk (see CRE22). These methods are to be used for securities financing transactions (SFTs) and must be used if the bank does not have approval to use the IMM.

(3) The value-at-risk (VaR) models approach, which is set out in CRE32.39 to CRE32.41. For banks applying the IRB approach to credit risk, the VaR models approach may be used to calculate EAD for SFTs, subject to supervisory approval, as an alternative to the method set out in (2) above.

(4) The IMM, which is set out in CRE53. This method may be used, subject to supervisory approval, as an alternative to the methods to calculate counterparty credit risk exposures set out in (1) and (2) above (for all of the exposures referenced in those bullets).

51.9 For exposures that are cleared through a CCP, banks must apply the method set out CRE54. This method covers:

(1) the exposures of a bank to a CCPs when the bank is a clearing member of the CCP;

(2) the exposures of a bank to its clients, when the bank is a clearing members and act as an intermediary between the client and the CCP; and

(3) the exposures of a bank to a clearing member of a CCP, when the bank is a client of the clearing member and the clearing member is acting as an intermediary between the bank and the CCP.

51.10 Exposures to central counterparties arising from the settlement of cash transactions (equities, fixed income, spot foreign exchange and spot commodities), are excluded from the requirements of CRE54. They are instead subject to the requirements of CRE70.

51.11 Under the methods outlined above, the exposure amount or EAD for a given counterparty is equal to the sum of the exposure amounts or EADs calculated for

each netting set with that counterparty, subject to the exception outlined in CRE51.12 below.

51.12 The exposure or EAD for a given OTC derivative counterparty is defined as the greater of zero and the difference between the sum of EADs across all netting sets with the counterparty and the credit valuation adjustment (CVA) for that counterparty which has already been recognised by the bank as an incurred write-down (ie a CVA loss). This CVA loss is calculated without taking into account any offsetting debit valuation adjustments which have been deducted from capital under CAP30.15. This reduction of EAD by incurred CVA losses does not apply to the determination of the CVA risk capital requirement.

Methods to calculate CCR risk-weighted assets

51.13 After banks have calculated their counterparty credit risk exposures, or EAD, according to the methods outlined above, they must apply the standardised approach to credit risk, the IRB approach to credit risk, or, in the case of the exposures to CCPs, the capital requirements set out in CRE54. For counterparties to which the bank applies the standardised approach, the counterparty credit risk exposure amount will be risk weighted according to the relevant risk weight of the counterparty. For counterparties to which the bank applies the IRB approach, the counterparty credit risk exposure amount defines the EAD that is used within the IRB approach to determine risk-weighted assets (RWA) and expected loss amounts.

51.14 For IRB exposures, the risk weights applied to OTC derivative exposures should be calculated with the full maturity adjustment (as defined in CRE31.6) capped at 1 for each netting set for which the bank calculates CVA capital under either the basic approach (BA-CVA) or the standardised approach (SA-CVA), as provided in MAR50.12.

51.15 For banks that have supervisory approval to use IMM, RWA for credit risk must be calculated as the higher of:

(1) the sum of RWA calculated using IMM with current parameter calibrations; and

(2) the sum of RWA calculated using IMM with stressed parameter calibrations.

FAQ

FAQ1 *How often is Effective expected positive exposure (EPE) using current market data to be compared with Effective EPE using a stress calibration?*

The frequency of calculation should be discussed with your national supervisor.

FAQ2 *How this requirement is to be applied to the use test in the context of credit risk management and CVA (eg can a multiplier to the Effective EPE be used between comparisons)?*

The use test only applies to the Effective EPE calculated using current market data.

Exemptions

51.16 As an exception to the requirements of CRE51.4 above, banks are not required to calculate a counterparty credit risk charge for the following types of transactions (ie the exposure amount or EAD for counterparty credit risk for the transaction will be zero):

(1) Credit derivative protection purchased by the bank against a banking book exposure, or against a counterparty credit risk exposure. In such cases, the bank will determine its capital requirement for the hedged exposure according to the criteria and general rules for the recognition of credit derivatives within the standardised approach or IRB approach to credit risk (ie substitution approach).

(2) Sold credit default swaps in the banking book where they are treated in the framework as a guarantee provided by the bank and subject to a credit risk charge for the full notional amount.

Minimum haircut floors for securities financing transactions (SFTs)

51.17 Chapter CRE56 specifies the treatment of certain non-centrally cleared SFTs with certain counterparties (in-scope SFTs). The requirements are applicable to banks in jurisdictions that are permitted to conduct in-scope SFTs below the minimum haircut floors specified within CRE56.

CRE52

Standardised approach to counterparty credit risk

This chapter sets out the standardised approach for counterparty credit risk (SA-CCR).

Version effective as of 01 Jan 2023

Updated to include the following FAQ: CRE52.51 FAQ2.

Overview and scope

52.1 The Standardised Approach for Counterparty Credit Risk (SA-CCR) applies to over-the-counter (OTC) derivatives, exchange-traded derivatives and long settlement transactions. Banks that do not have approval to apply the internal model method (IMM) for the relevant transactions must use SA-CCR, as set out in this chapter. EAD is to be calculated separately for each netting set (as set out in CRE50.15, each transaction that is not subject to a legally enforceable bilateral netting arrangement that is recognised for regulatory capital purposes should be interpreted as its own netting set). It is determined using the following formula, where:

(1) alpha = 1.4

(2) RC = the replacement cost calculated according to CRE52.3 to CRE52.19

(3) PFE = the amount for potential future exposure calculated according to CRE52.20 to CRE52.76

$$\text{EAD} = alpha * (RC + PFE)$$

FAQ

FAQ1 *How should the EAD be determined for sold options where premiums have been paid up front?*

The EAD can be set to zero only for sold options that are outside netting and margin agreements.

FAQ2 *How should the EAD be determined for credit derivatives where the bank is the protection seller?*

For credit derivatives where the bank is the protection seller and that are outside netting and margin agreements, the EAD may be capped to the amount of unpaid premia. Banks have the option to remove such credit derivatives from their legal netting sets and treat them as individual unmargined transactions in order to apply the cap.

FAQ3 *Are banks permitted to decompose certain types of products for which no specific treatment is specified in the SA-CCR standard into several simpler contracts resulting in the same cash flows?*

In the case of options (eg interest rate caps/floors that may be represented as the portfolio of individual caplets/floorlets), banks may decompose those products in a manner consistent with CRE52.43.

Banks may not decompose linear products (eg ordinary interest rate swaps).

52.2 The replacement cost (RC) and the potential future exposure (PFE) components are calculated differently for margined and unmargined netting sets. Margined netting sets are netting sets covered by a margin agreement under which the bank's counterparty has to post variation margin; all other netting sets, including those covered by a one-way margin agreement where only the bank posts variation margin, are treated as unmargined for the purposes of the SA-CCR. The EAD for a margined netting set is capped at the EAD of the same netting set calculated on an unmargined basis.

FAQ

FAQ1 *The capping of the exposure at default (EAD) at the otherwise unmargined EAD is motivated by the need to ignore exposure from a large threshold amount that would not realistically be hit by some small (or non-existent) transactions. There is, however, a potential anomaly relating to this capping, namely in the case of margined netting sets comprising short-term transactions with a residual maturity of 10 business days or less. In this situation, the maturity factor (MF) weighting will be greater for a margined set than for a non-margined set, because of the 3/2 multiplier in CRE52.52. That multiplier will, however, be negated by the capping. The anomaly would be magnified if there were some disputes under the margin agreement, ie where the margin period or risk (MPOR) would be doubled to 20 days but, again, negated by the capping to an unmargined calculation. Does this anomaly exist?*

Yes, such an anomaly does exist. Nonetheless, this anomaly is generally expected to have no significant impact on banks' capital requirements. Thus, no modification to the standard is required.

Replacement Cost and Net Independent Collateral Amount

52.3 For unmargined transactions, the RC intends to capture the loss that would occur if a counterparty were to default and were closed out of its transactions immediately. The PFE add-on represents a potential conservative increase in exposure over a one-year time horizon from the present date (ie the calculation date).

52.4

For margined trades, the RC intends to capture the loss that would occur if a counterparty were to default at the present or at a future time, assuming that the closeout and replacement of transactions occur instantaneously. However, there may be a period (the margin period of risk) between the last exchange of collateral before default and replacement of the trades in the market. The PFE add-on represents the potential change in value of the trades during this time period.

52.5 In both cases, the haircut applicable to noncash collateral in the replacement cost formulation represents the potential change in value of the collateral during the appropriate time period (one year for unmargined trades and the margin period of risk for margined trades).

52.6 Replacement cost is calculated at the netting set level, whereas PFE add-ons are calculated for each asset class within a given netting set and then aggregated (see CRE52.24 to CRE52.76 below).

52.7 For capital adequacy purposes, banks may net transactions (eg when determining the RC component of a netting set) subject to novation under which any obligation between a bank and its counterparty to deliver a given currency on a given value date is automatically amalgamated with all other obligations for the same currency and value date, legally substituting one single amount for the previous gross obligations. Banks may also net transactions subject to any legally valid form of bilateral netting not covered in the preceding sentence, including other forms of novation. In every such case where netting is applied, a bank must satisfy its national supervisor that it has:

(1) A netting contract with the counterparty or other agreement which creates a single legal obligation, covering all included transactions, such that the bank would have either a claim to receive or obligation to pay only the net sum of the positive and negative mark-to-market values of included individual transactions in the event a counterparty fails to perform due to any of the following: default, bankruptcy, liquidation or similar circumstances.[1]

(2) Written and reasoned legal reviews that, in the event of a legal challenge, the relevant courts and administrative authorities would find the bank's exposure to be such a net amount under:

(a) The law of the jurisdiction in which the counterparty is chartered and, if the foreign branch of a counterparty is involved, then also under the law of the jurisdiction in which the branch is located;

(b) The law that governs the individual transactions; and

(c) The law that governs any contract or agreement necessary to effect the netting.

(3) Procedures in place to ensure that the legal characteristics of netting arrangements are kept under review in light of the possible changes in relevant law.

Footnotes

[1] *The netting contract must not contain any clause which, in the event of default of a counterparty, permits a non-defaulting counterparty to make limited payments only, or no payments at all, to the estate of the defaulting party, even if the defaulting party is a net creditor.*

52.8 The national supervisor, after consultation when necessary with other relevant supervisors, must be satisfied that the netting is enforceable under the laws of each of the relevant jurisdictions. Thus, if any of these supervisors is dissatisfied about enforceability under its laws, the netting contract or agreement will not meet this condition and neither counterparty could obtain supervisory benefit.

52.9 There are two formulations of replacement cost depending on whether the trades with a counterparty are margined or unmargined. The margined formulation could apply both to bilateral transactions and to central clearing relationships. The formulation also addresses the various arrangements that a bank may have to post and/or receive collateral that may be referred to as initial margin.

Formulation for unmargined transactions

52.10 For unmargined transactions, RC is defined as the greater of: (i) the current market value of the derivative contracts less net haircut collateral held by the bank (if any), and (ii) zero. This is consistent with the use of replacement cost as the measure of current exposure, meaning that when the bank owes the counterparty money it has no exposure to the counterparty if it can instantly replace its trades and sell collateral at current market prices. The formula for RC is as follows, where:

(1) V is the value of the derivative transactions in the netting set

(2) C is the haircut value of net collateral held, which is calculated in accordance with the net independent collateral amount (NICA) methodology defined in CRE52.17[2]

$$\text{RC} = \max\{V - C;\ 0\}$$

Footnotes

[2] *As set out in CRE52.2, netting sets that include a one-way margin agreement in favour of the bank's counterparty (ie the bank posts, but does not receive variation margin) are treated as unmargined for the purposes of SA-CCR. For such netting sets, C also includes, with a negative sign, the variation margin amount posted by the bank to the counterparty.*

FAQ

FAQ1 *How must banks calculate the haircut applicable in the replacement cost calculation for unmargined trades?*

The haircut applicable in the replacement cost calculation for unmargined trades should follow the formula in CRE22.59. In applying the formula, banks must use the maturity of the longest transaction in the netting set as the value for N_R, capped at 250 days, in order to scale haircuts for unmargined trades, which is capped at 100%.

52.11 For the purpose of CRE52.10 above, the value of non-cash collateral posted by the bank to its counterparty is increased and the value of the non-cash collateral received by the bank from its counterparty is decreased using haircuts (which are the same as those that apply to repo-style transactions) for the time periods described in CRE52.5 above.

52.12 The formulation set out in CRE52.10 above, does not permit the replacement cost, which represents today's exposure to the counterparty, to be less than zero. However, banks sometimes hold excess collateral (even in the absence of a margin agreement) or have out-of-the-money trades which can further protect the bank from the increase of the exposure. As discussed in CRE52.21 to CRE52.23 below, the SA-CCR allows such over-collateralisation and negative mark-to-market value to reduce PFE, but they are not permitted to reduce replacement cost.

Formulation for margined transactions

52.13 The RC formula for margined transactions builds on the RC formula for unmargined transactions. It also employs concepts used in standard margining agreements, as discussed more fully below.

52.14 The RC for margined transactions in the SA-CCR is defined as the greatest exposure that would not trigger a call for VM, taking into account the mechanics of collateral exchanges in margining agreements.[3] Such mechanics include, for example, "Threshold", "Minimum Transfer Amount" and "Independent Amount" in the standard industry documentation,[4] which are factored into a call for VM.[5] A defined, generic formulation has been created to reflect the variety of margining approaches used and those being considered by supervisors internationally.

Footnotes

[3] *See CRE99 for illustrative examples of the effect of standard margin agreements on the SA-CCR formulation.*

[4] *For example, the 1992 (Multicurrency-Cross Border) Master Agreement and the 2002 Master Agreement published by the International Swaps & Derivatives Association, Inc. (ISDA Master Agreement). The ISDA Master Agreement includes the ISDA Credit Support Annexes: the 1994 Credit Support Annex (Security Interest – New York Law), or, as applicable, the 1995 Credit Support Annex (Transfer – English Law) and the 1995 Credit Support Deed (Security Interest – English Law).*

[5] *For example, in the ISDA Master Agreement, the term "Credit Support Amount", or the overall amount of collateral that must be delivered between the parties, is defined as the greater of the Secured Party's Exposure plus the aggregate of all Independent Amounts applicable to the Pledgor minus all Independent Amounts applicable to the Secured Party, minus the Pledgor's Threshold and zero.*

Incorporating NICA into replacement cost

52.15 One objective of the SA-CCR is to reflect the effect of margining agreements and the associated exchange of collateral in the calculation of CCR exposures. The following paragraphs address how the exchange of collateral is incorporated into the SA-CCR.

52.16 To avoid confusion surrounding the use of terms initial margin and independent amount which are used in various contexts and sometimes interchangeably, the term independent collateral amount (ICA) is introduced. ICA represents: (i) collateral (other than VM) posted by the counterparty that the bank may seize upon default of the counterparty, the amount of which does not change in response to the value of the transactions it secures and/or (ii) the Independent Amount (IA) parameter as defined in standard industry documentation. ICA can change in response to factors such as the value of the collateral or a change in the number of transactions in the netting set.

52.17 Because both a bank and its counterparty may be required to post ICA, it is necessary to introduce a companion term, net independent collateral amount (NICA), to describe the amount of collateral that a bank may use to offset its exposure on the default of the counterparty. NICA does not include collateral that a bank has posted to a segregated, bankruptcy remote account, which presumably would be returned upon the bankruptcy of the counterparty. That is, NICA represents any collateral (segregated or unsegregated) posted by the

counterparty less the unsegregated collateral posted by the bank. With respect to IA, NICA takes into account the differential of IA required for the bank minus IA required for the counterparty.

52.18 For margined trades, the replacement cost is calculated using the following formula, where:

(1) V and C are defined as in the unmargined formulation, except that C now includes the net variation margin amount, where the amount received by the bank is accounted with a positive sign and the amount posted by the bank is accounted with a negative sign

(2) TH is the positive threshold before the counterparty must send the bank collateral

(3) MTA is the minimum transfer amount applicable to the counterparty

$$\text{RC} = \max\{V - C; TH + MTA - NICA;\ 0\}$$

52.19 TH + MTA – NICA represents the largest exposure that would not trigger a VM call and it contains levels of collateral that need always to be maintained. For example, without initial margin or IA, the greatest exposure that would not trigger a variation margin call is the threshold plus any minimum transfer amount. In the adapted formulation, NICA is subtracted from TH + MTA. This makes the calculation more accurate by fully reflecting both the actual level of exposure that would not trigger a margin call and the effect of collateral held and /or posted by a bank. The calculation is floored at zero, recognising that the bank may hold NICA in excess of TH + MTA, which could otherwise result in a negative replacement cost.

PFE add-on for each netting set

52.20 The PFE add-on consists of: (i) an aggregate add-on component; and (ii) a multiplier that allows for the recognition of excess collateral or negative mark-to-market value for the transactions within the netting set. The formula for PFE is as follows, where:

(1) AddOn^{aggregate} is the aggregate add-on component (see CRE52.25 below)

(2) multiplier is defined as a function of three inputs: V, C and AddOn^{aggregate}

$$PFE = multiplier * AddOn^{aggregate}$$

Multiplier (recognition of excess collateral and negative mark-to-market)

52.21 As a general principle, over-collateralisation should reduce capital requirements for counterparty credit risk. In fact, many banks hold excess collateral (ie collateral greater than the net market value of the derivatives contracts) precisely to offset potential increases in exposure represented by the add-on. As discussed in CRE52.10 and CRE52.18, collateral may reduce the replacement cost component of the exposure under the SA-CCR. The PFE component also reflects the risk-reducing property of excess collateral.

52.22 For prudential reasons, the Basel Committee decided to apply a multiplier to the PFE component that decreases as excess collateral increases, without reaching zero (the multiplier is floored at 5% of the PFE add-on). When the collateral held is less than the net market value of the derivative contracts ("under-collateralisation"), the current replacement cost is positive and the multiplier is equal to one (ie the PFE component is equal to the full value of the aggregate add-on). Where the collateral held is greater than the net market value of the derivative contracts ("over-collateralisation"), the current replacement cost is zero and the multiplier is less than one (ie the PFE component is less than the full value of the aggregate add-on).

52.23 This multiplier will also be activated when the current value of the derivative transactions is negative. This is because out-of-the-money transactions do not currently represent an exposure and have less chance to go in-the-money. The formula for the multiplier is as follows, where:

(1) exp(…) is the exponential function

(2) Floor is 5%

(3) V is the value of the derivative transactions in the netting set

(4) C is the haircut value of net collateral held

$$multiplier = \min\left\{1;\ Floor + (1\text{-Floor}) * \exp\left(\frac{V - C}{2 * (1\text{-Floor}) * AddOn^{aggregate}}\right)\right\}$$

Aggregate add-on and asset classes

52.24 To calculate the aggregate add-on, banks must calculate add-ons for each asset class within the netting set. The SA-CCR uses the following five asset classes:

(1) Interest rate derivatives

(2) Foreign exchange derivatives

(3) Credit derivatives

(4) Equity derivatives.

(5) Commodity derivatives

52.25 Diversification benefits across asset classes are not recognised. Instead, the respective add-ons for each asset class are simply aggregated using the following formula (where the sum is across the asset classes):

$$AddOn^{aggregate} = \sum_{assetclass} AddOn^{(assetclass)}$$

Allocation of derivative transactions to one or more asset classes

52.26 The designation of a derivative transaction to an asset class is to be made on the basis of its primary risk driver. Most derivative transactions have one primary risk driver, defined by its reference underlying instrument (eg an interest rate curve for an interest rate swap, a reference entity for a credit default swap, a foreign exchange rate for a foreign exchange (FX) call option, etc). When this primary risk driver is clearly identifiable, the transaction will fall into one of the asset classes described above.

52.27 For more complex trades that may have more than one risk driver (eg multi-asset or hybrid derivatives), banks must take sensitivities and volatility of the underlying into account for determining the primary risk driver.

52.28 Bank supervisors may also require more complex trades to be allocated to more than one asset class, resulting in the same position being included in multiple classes. In this case, for each asset class to which the position is allocated, banks must determine appropriately the sign and delta adjustment of the relevant risk driver (the role of delta adjustments in SA-CCR is outlined further in CRE52.30 below).

General steps for calculating the PFE add-on for each asset class

52.29 For each transaction, the primary risk factor or factors need to be determined and attributed to one or more of the five asset classes: interest rate, foreign exchange, credit, equity or commodity. The add-on for each asset class is calculated using asset-class-specific formulas.[6]

Footnotes

[6] *The formulas for calculating the asset class add-ons represent stylised Effective EPE calculations under the assumption that all trades in the asset class have zero current mark-to-market value (ie they are at-the-money).*

52.30 Although the formulas for the asset class add-ons vary between asset classes, they all use the following general steps:

(1) The **effective notional (D)** must be calculated for each derivative (ie each individual trade) in the netting set. The effective notional is a measure of the sensitivity of the trade to movements in underlying risk factors (ie interest rates, exchange rates, credit spreads, equity prices and commodity prices). The effective notional is calculated as the product of the following parameters (ie D = d * MF * δ):

(a) The **adjusted notional (d)**. The adjusted notional is a measure of the size of the trade. For derivatives in the foreign exchange asset class this is simply the notional value of the foreign currency leg of the derivative contract, converted to the domestic currency. For derivatives in the equity and commodity asset classes, it is simply the current price of the relevant share or unit of commodity multiplied by the number of shares /units that the derivative references. For derivatives in the interest rate and credit asset classes, the notional amount is adjusted by a measure of the duration of the instrument to account for the fact that the value of instruments with longer durations are more sensitive to movements in underlying risk factors (ie interest rates and credit spreads).

(b) The **maturity factor (MF)**. The maturity factor is a parameter that takes account of the time period over which the potential future exposure is calculated. The calculation of the maturity factor varies depending on whether the netting set is margined or unmargined.

(c) The **supervisory delta (δ)**. The supervisory delta is used to ensure that the effective notional take into account the direction of the trade, ie whether the trade is long or short, by having a positive or negative sign.

It is also takes into account whether the trade has a non-linear relationship with the underlying risk factor (which is the case for options and collateralised debt obligation tranches).

(2) A **supervisory factor (SF)** is identified for each individual trade in the netting set. The supervisory factor is the supervisory specified change in value of the underlying risk factor on which the potential future exposure calculation is based, which has been calibrated to take into account the volatility of underlying risk factors.

(3) The trades within each asset class are separated into supervisory specified hedging sets. The purpose of the hedging sets is to group together trades within the netting set where long and short positions should be permitted to offset each other in the calculation of potential future exposure.

(4) Aggregation formulas are applied to aggregate the effective notionals and supervisory factors across all trades within each hedging set and finally at the asset-class level to give the asset class level add-on. The method of

aggregation varies between asset classes and for credit, equity and commodity derivatives it also involves the application of supervisory correlation parameters to capture diversification of trades and basis risk.

Time period parameters: M_i, E_i, S_i and T_i

52.31 There are four time period parameters that are used in the SA-CCR (all expressed in years):

(1) For all asset classes, the maturity M_i of a contract is the time period (starting today) until the latest day when the contract may still be active. This time period appears in the maturity factor defined in CRE52.48 to CRE52.53 that scales down the adjusted notionals for unmargined trades for all asset classes. If a derivative contract has another derivative contract as its underlying (for example, a swaption) and may be physically exercised into the underlying contract (ie a bank would assume a position in the underlying contract in the event of exercise), then maturity of the contract is the time period until the final settlement date of the underlying derivative contract.

(2) For interest rate and credit derivatives, S_i is the period of time (starting today) until start of the time period referenced by an interest rate or credit contract. If the derivative references the value of another interest rate or credit instrument (eg swaption or bond option), the time period must be determined on the basis of the underlying instrument. S_i appears in the definition of supervisory duration defined in CRE52.34.

(3) For interest rate and credit derivatives, E_i is the period of time (starting today) until the end of the time period referenced by an interest rate or credit contract. If the derivative references the value of another interest rate or credit instrument (eg swaption or bond option), the time period must be determined on the basis of the underlying instrument. E_i appears in the definition of supervisory duration defined in CRE52.34. In addition, E_i is used for allocating derivatives in the interest rate asset class to maturity buckets, which are used in the calculation of the asset class add-on (see CRE52.57(3)).

(4) For options in all asset classes, T_i is the time period (starting today) until the latest contractual exercise date as referenced by the contract. This period shall be used for the determination of the option's supervisory delta in CRE52.38 to CRE52.41.

52.32 Table 1 includes example transactions and provides each transaction's related maturity M_i, start date S_i and end date E_i. In addition, the option delta in CRE52.38 to CRE52.41 depends on the latest contractual exercise date T_i (not separately shown in the table).

Table 1

Instrument	M_i	S_i	E_i
Interest rate or credit default swap maturing in 10 years	10 years	0	10 years
10-year interest rate swap, forward starting in 5 years	15 years	5 years	15 years
Forward rate agreement for time period starting in 6 months and ending in 12 months	1 year	0.5 year	1 year
Cash-settled European swaption referencing 5-year interest rate swap with exercise date in 6 months	0.5 year	0.5 year	5.5 years
Physically-settled European swaption referencing 5-year interest rate swap with exercise date in 6 months	5.5 years	0.5 year	5.5 years
10-year Bermudan swaption with annual exercise dates	10 years	1 year	10 years
Interest rate cap or floor specified for semi-annual interest rate with maturity 5 years	5 years	0	5 years
Option on a bond maturing in 5 years with the latest exercise date in 1 year	1 year	1 year	5 years
3-month Eurodollar futures that matures in 1 year	1 year	1 year	1.25 years
Futures on 20-year treasury bond that matures in 2 years	2 years	2 years	22 years
6-month option on 2-year futures on 20-year treasury bond	2 years	2 years	22 years

FAQ

FAQ1 *According to Table 1 in CRE52.32, the "3-month Eurodollar futures that matures in 1 year" has an M_i of 1 year and an E_i of 1.25 years. This is in accordance with CRE52.31. However, is this the correct treatment given that these contracts settle daily?*

The example of the three-month Eurodollar future in Table 1 did not include the effect of margining or settlement and would apply only in the case where a futures contract were neither margined nor settled. With regard to the remaining maturity parameter (M_i), CRE52.37(5) states: "For a derivative contract that is structured so that on specified dates any outstanding exposure is settled and the terms are reset so that the fair value of the contract is zero, the remaining maturity equals the time until the next reset date." This means that exchanges where daily settlement occurs are different from exchanges where daily margining occurs. Trades with daily settlement should be treated as unmargined transactions with a maturity factor given by the formula in CRE52.48, with the parameter M_i set to its floor value of 10 business days. For trades subject to daily margining, the maturity factor is given in CRE52.52 depending on the margin period of risk (MPOR), which can be as short as five business days. With regard to the end date (E_i), the value of 1.25 years applies. Margining or daily settlement have no influence on the time period referenced by the interest rate contract. Note that, the parameter E_i defines the maturity bucket for the purpose of netting. This means that the trade in this example will be attributed to the intermediate maturity bucket "between one and five years" and not to the short maturity bucket "less than one year" irrespective of daily settlement.

FAQ2 *Regarding row 3 of Table 1, as forward rate agreements are cash-settled at the start of the underlying interest rate period (the "effective date"), the effective date represents the "end-of-risk" date, ie "M" in the SA-CCR notation. Therefore, in this example, should M be 0.5 years instead of 1 year.*

In Table 1 it is assumed that the payment is made at the end of the period (similar to vanilla interest rate swaps). If the payment is made at the beginning of the period, as it is typically the case according to market convention, M should indeed be 0.5 years.

Trade-level adjusted notional (for trade i): d_i

52.33 The adjusted notionals are defined at the trade level and take into account both the size of a position and its maturity dependency, if any.

52.34 For interest rate and credit derivatives, the trade-level adjusted notional is the product of the trade notional amount, converted to the domestic currency, and the supervisory duration SD_i which is given by the formula below (ie d_i = notional * SD_i). The calculated value of SD_i is floored at ten business days.[7] If the start date has occurred (eg an ongoing interest rate swap), S_i must be set to zero.

$$SD_i = \frac{\exp\left(-0.05 * S_i\right) - \exp\left(-0.05 * E_i\right)}{0.05}$$

Footnotes

[7] *Note there is a distinction between the time period of the underlying transaction and the remaining maturity of the derivative contract. For example, a European interest rate swaption with expiry of 1 year and the term of the underlying swap of 5 years has S_i = 1 year and E_i = 6 years.*

52.35 For foreign exchange derivatives, the adjusted notional is defined as the notional of the foreign currency leg of the contract, converted to the domestic currency. If both legs of a foreign exchange derivative are denominated in currencies other than the domestic currency, the notional amount of each leg is converted to the domestic currency and the leg with the larger domestic currency value is the adjusted notional amount.

52.36 For equity and commodity derivatives, the adjusted notional is defined as the product of the current price of one unit of the stock or commodity (eg a share of equity or barrel of oil) and the number of units referenced by the trade.

FAQ

FAQ1 *How should the definition of adjusted notional be applied to volatility transactions such as equity volatility swaps mentioned in paragraph CRE52.47?*

For equity and commodity volatility transactions, the underlying volatility or variance referenced by the transaction should replace the unit price and contractual notional should replace the number of units.

52.37 In many cases the trade notional amount is stated clearly and fixed until maturity. When this is not the case, banks must use the following rules to determine the trade notional amount.

(1) Where the notional is a formula of market values, the bank must enter the current market values to determine the trade notional amount.

(2) For all interest rate and credit derivatives with variable notional amounts specified in the contract (such as amortising and accreting swaps), banks must use the average notional over the remaining life of the derivative as the trade notional amount. The average should be calculated as "time weighted". The averaging described in this paragraph does not cover transactions where the notional varies due to price changes (typically, FX, equity and commodity derivatives).

(3) Leveraged swaps must be converted to the notional of the equivalent unleveraged swap, that is, where all rates in a swap are multiplied by a factor, the stated notional must be multiplied by the factor on the interest rates to determine the trade notional amount.

(4) For a derivative contract with multiple exchanges of principal, the notional is multiplied by the number of exchanges of principal in the derivative contract to determine the trade notional amount.

(5) For a derivative contract that is structured such that on specified dates any outstanding exposure is settled and the terms are reset so that the fair value of the contract is zero, the remaining maturity equals the time until the next reset date.

Supervisory delta adjustments

52.38 The supervisory delta adjustment (δ_i) parameters are also defined at the trade level and are applied to the adjusted notional amounts to reflect the direction of the transaction and its non-linearity.

52.39 The delta adjustments for all instruments that are not options and are not collateralised debt obligation (CDO) tranches are as set out in the table below:[8]

δ_i	Long in the primary risk factor	Short in the primary risk factor
Instruments that are not options or CDO tranches	+1	-1

Footnotes

[8] *"Long in the primary risk factor" means that the market value of the instrument increases when the value of the primary risk factor increases. "Short in the primary risk factor" means that the market value of the instrument decreases when the value of the primary risk factor increases.*

52.40 The delta adjustments for options are set out in the table below, where:

(1) The following are parameters that banks must determine appropriately:

(a) P_i : Underlying price (spot, forward, average, etc)

(b) K_i : Strike price

(c) T_i : Latest contractual exercise date of the option

(2) The supervisory volatility σ_i of an option is specified on the basis of supervisory factor applicable to the trade (see Table 2 in CRE52.72).

(3) The symbol Φ represents the standard normal cumulative distribution function.

δ_i	Bought	Sold
Call Options	$+\Phi\left(\frac{\ln(P_i / K_i) + 0.5 * \sigma_i^2 * T_i}{\sigma_i * \sqrt{T_i}}\right)$	$-\Phi\left(\frac{\ln(P_i / K_i) + 0.5 * \sigma_i^2 * T_i}{\sigma_i * \sqrt{T_i}}\right)$
Put Options	$-\Phi\left(-\frac{\ln(P_i / K_i) + 0.5 * \sigma_i^2 * T_i}{\sigma_i * \sqrt{T_i}}\right)$	$+\Phi\left(-\frac{\ln(P_i / K_i) + 0.5 * \sigma_i^2 * T_i}{\sigma_i * \sqrt{T_i}}\right)$

FAQ

FAQ1 *Why doesn't the supervisory delta adjustment calculation take the risk-free rate into account? It is identical to the Black-Scholes formula except that it's missing the risk-free rate.*

Whenever appropriate, the forward (rather than spot) value of the underlying in the supervisory delta adjustments formula should be used in order to account for the risk-free rate as well as for possible cash flows prior to the option expiry (such as dividends).

FAQ2 *How is the supervisory delta for options in CRE52.40 to be calculated when the term P/K is zero or negative such that the term ln(P/K) cannot be computed (eg as may be the case in a negative interest rate environment)?*

In such cases banks must incorporate a shift in the price value and strike value by adding λ, where λ represents the presumed lowest possible extent to which interest rates in the respective currency can become negative. Therefore, the Delta δ_i for a transaction i in such cases is calculated using the formula that follows. The same parameter must be used consistently for all interest rate options in the same currency. For each jurisdiction, and for each affected currency j, the supervisor is encouraged to make a recommendation to banks for an appropriate value of λ_j, with the objective to set it as low as possible. Banks are permitted to use lower values if it suits their portfolios.

Delta (δ)	***Bought***	***Sold***

Call options	$+\Phi\left(\frac{\ln\left(\left(P_i+\lambda_j\right)/\left(K_i+\lambda_j\right)\right)+0.5*\sigma_i^2*T_i}{\sigma_i*\sqrt{T_i}}\right)$	$-\Phi\left(\frac{\ln\left(\left(P_i+\lambda_j\right)/\left(K_i+\lambda_j\right)\right)+0.5*\sigma_i^2*T_i}{\sigma_i*\sqrt{T_i}}\right)$
Put options	$-\Phi\left(\frac{-\ln\left(\left(P_i+\lambda_j\right)/\left(K_i+\lambda_j\right)\right)-0.5*\sigma_i^2*T_i}{\sigma_i*\sqrt{T_i}}\right)$	$+\Phi\left(\frac{-\ln\left(\left(P_i+\lambda_j\right)/\left(K_i+\lambda_j\right)\right)-0.5*\sigma_i^2*T_i}{\sigma_i*\sqrt{T_i}}\right)$

52.41 The delta adjustments for CDO tranches[9] are set out in the table below, where the following are parameters that banks must determine appropriately:

(1) A_i : Attachment point of the CDO tranche

(2) D_i : Detachment point of the CDO tranche

δ_i	Purchased (long protection)	Sold (short protection)
CDO tranches	$+\frac{15}{\left(1+14*A_i\right)*\left(1+14*D_i\right)}$	$-\frac{15}{\left(1+14*A_i\right)*\left(1+14*D_i\right)}$

Footnotes

[9] *First-to-default, second-to-default and subsequent-to-default credit derivative transactions should be treated as CDO tranches under SA-CCR. For an nth-to-default transaction on a pool of m reference names, banks must use an attachment point of A=(n–1)/m and a detachment point of D=n/m in order to calculate the supervisory delta formula set out CRE52.41.*

Effective notional for options

52.42 For single-payment options the effective notional (ie D = d * MF * δ) is calculated using the following specifications:

(1) For European, Asian, American and Bermudan put and call options, the supervisory delta must be calculated using the simplified Black-Scholes formula referenced in CRE52.40. In the case of Asian options, the underlying price must be set equal to the current value of the average used in the payoff. In the case of American and Bermudan options, the latest allowed exercise date must be used as the exercise date T_i in the formula.

(2) For Bermudan swaptions, the start date S_i must be equal to the earliest allowed exercise date, while the end date E_i must be equal to the end date of the underlying swap.

(3) For digital options, the payoff of each digital option (bought or sold) with strike K_i must be approximated via the "collar" combination of bought and sold European options of the same type (call or put), with the strikes set equal to $0.95 \cdot K_i$ and $1.05 \cdot K_i$. The size of the position in the collar components must be such that the digital payoff is reproduced exactly outside the region between the two strikes. The effective notional is then computed for the bought and sold European components of the collar separately, using the option formulae for the supervisory delta referenced in CRE52.40 (the exercise date T_i and the current value of the underlying P_i of the digital option must be used). The absolute value of the digital-option effective notional must be capped by the ratio of the digital payoff to the relevant supervisory factor.

(4) If a trade's payoff can be represented as a combination of European option payoffs (eg collar, butterfly/calendar spread, straddle, strangle), each European option component must be treated as a separate trade.

52.43 For the purposes of effective notional calculations, multiple-payment options may be represented as a combination of single-payment options. In particular, interest rate caps/floors may be represented as the portfolio of individual caplets /floorlets, each of which is a European option on the floating interest rate over a specific coupon period. For each caplet/floorlet, S_i and T_i are the time periods starting from the current date to the start of the coupon period, while E_i is the time period starting from the current date to the end of the coupon period.

Supervisory factors: SF_i

52.44 Supervisory factors (SF_i) are used, together with aggregation formulas, to convert effective notional amounts into the add-on for each hedging set.[10] The way in which supervisory factors are used within the aggregation formulas varies between asset classes. The supervisory factors are listed in Table 2 under CRE52.72 .

Footnotes

[10] *Each factor has been calibrated to result in an add-on that reflects the Effective EPE of a single at-the-money linear trade of unit notional and one-year maturity. This includes the estimate of realised volatilities assumed by supervisors for each underlying asset class.*

Hedging sets

52.45 The hedging sets in the different asset classes are defined as follows, except for those described in CRE52.46 and CRE52.47:

(1) Interest rate derivatives consist of a separate hedging set for each currency.

(2) FX derivatives consist of a separate hedging set for each currency pair.

(3) Credit derivatives consist of a single hedging set.

(4) Equity derivatives consist of a single hedging set.

(5) Commodity derivatives consist of four hedging sets defined for broad categories of commodity derivatives: energy, metals, agricultural and other commodities.

52.46 Derivatives that reference the basis between two risk factors and are denominated in a single currency[11] (basis transactions) must be treated within separate hedging sets within the corresponding asset class. There is a separate hedging set[12] for each pair of risk factors (ie for each specific basis). Examples of specific bases include three-month Libor versus six-month Libor, three-month Libor versus three-month T-Bill, one-month Libor versus overnight indexed swap rate, Brent Crude oil versus Henry Hub gas. For hedging sets consisting of basis transactions, the supervisory factor applicable to a given asset class must be multiplied by one-half.

Footnotes

[11] *Derivatives with two floating legs that are denominated in different currencies (such as cross-currency swaps) are not subject to this treatment; rather, they should be treated as non-basis foreign exchange contracts.*

[12] *Within this hedging set, long and short positions are determined with respect to the basis.*

52.47 Derivatives that reference the volatility of a risk factor (volatility transactions) must be treated within separate hedging sets within the corresponding asset class. Volatility hedging sets must follow the same hedging set construction outlined in CRE52.45 (for example, all equity volatility transactions form a single hedging set). Examples of volatility transactions include variance and volatility swaps, options on realised or implied volatility. For hedging sets consisting of volatility transactions, the supervisory factor applicable to a given asset class must be multiplied by a factor of five.

Maturity factors

52.48 The minimum time risk horizon for an unmargined transaction is the lesser of one year and the remaining maturity of the derivative contract, floored at ten business days.[13] Therefore, the calculation of the effective notional for an unmargined transaction includes the following maturity factor, where M_i is the remaining maturity of transaction i, floored at 10 business days:

$$MF_i^{(\text{unmargined})} = \sqrt{\frac{\min\{M_i;\ 1\,year\}}{1\,year}}$$

Footnotes

[13] *For example, remaining maturity for a one-month option on a 10-year Treasury bond is the one-month to expiration date of the derivative contract. However, the end date of the transaction is the 10-year remaining maturity on the Treasury bond.*

52.49 The maturity parameter (M_i) is expressed in years but is subject to a floor of 10 business days. Banks should use standard market convention to convert business days into years, and vice versa. For example, 250 business days in a year, which results in a floor of 10/250 years for M_i.

52.50 For margined transactions, the maturity factor is calculated using the margin period of risk (MPOR), subject to specified floors. That is, banks must first estimate the margin period of risk (as defined in CRE50.18) for each of their netting sets. They must then use the higher of their estimated margin period of risk and the relevant floor in the calculation of the maturity factor (CRE52.52). The floors for the margin period of risk are as follows:

(1) Ten business days for non-centrally-cleared transactions subject to daily margin agreements.

(2) The sum of nine business days plus the re-margining period for non-centrally cleared transactions that are not subject daily margin agreements.

(3) The relevant floors for centrally cleared transactions are prescribed in the capital requirements for bank exposures to central counterparties (see CRE54).

52.51 The following are exceptions to the floors on the minimum margin period of risk set out in CRE52.50 above:

(1) For netting sets consisting of more than 5000 transactions that are not with a central counterparty the floor on the margin period of risk is 20 business days.

(2) For netting sets containing one or more trades involving either illiquid collateral, or an OTC derivative that cannot be easily replaced, the floor on the margin period of risk is 20 business days. For these purposes, "Illiquid collateral" and "OTC derivatives that cannot be easily replaced" must be determined in the context of stressed market conditions and will be characterised by the absence of continuously active markets where a counterparty would, within two or fewer days, obtain multiple price quotations that would not move the market or represent a price reflecting a market discount (in the case of collateral) or premium (in the case of an OTC derivative). Examples of situations where trades are deemed illiquid for this purpose include, but are not limited to, trades that are not marked daily and trades that are subject to specific accounting treatment for valuation purposes (eg OTC derivatives transactions referencing securities whose fair value is determined by models with inputs that are not observed in the market).

(3) If a bank has experienced more than two margin call disputes on a particular netting set over the previous two quarters that have lasted longer than the applicable margin period of risk (before consideration of this provision), then the bank must reflect this history appropriately by doubling the applicable supervisory floor on the margin period of risk for that netting set for the subsequent two quarters.

FAQ

FAQ1 *In the case of non-centrally cleared derivatives that are subject to the requirements of MGN20, what margin calls are to be taken into account for the purpose counting the number of disputes according to CRE52.51(3)?*

In the case of non-centrally cleared derivatives that are subject to the requirements of MGN20, CRE52.51(3) applies only to variation margin call disputes.

FAQ2 *Regarding the reform of benchmark reference rates, does the extended margin period of risk in CRE52.51(2) (SA-CCR) and CRE53.24(2) (IMM) apply if the new benchmark rate experiences transitional illiquidity?*

Until one year after the discontinuation of an old benchmark rate, any transitional illiquidity of collateral and OTC derivatives that reference the relevant new benchmark rate should not trigger the extended margin period of risk in CRE52.51(2) for SA-CCR and CRE53.24(2) for the IMM.

52.52 The calculation of the effective notional for a margined transaction includes the following maturity factor, where $MPOR_i$ is the margin period of risk appropriate for the margin agreement containing the transaction i (subject to the floors set out in CRE52.50 and CRE52.51 above).

$$MF_i^{(\text{margined})} = \frac{3}{2}\sqrt{\frac{MPOR_i}{1\,year}}$$

52.53 The margin period of risk ($MPOR_i$) is often expressed in days, but the calculation of the maturity factor for margined netting sets references 1 year in the denominator. Banks should use standard market convention to convert business days into years, and vice versa. For example, 1 year can be converted into 250 business days in the denominator of the MF formula if MPOR is expressed in business days. Alternatively, the MPOR expressed in business days can be converted into years by dividing it by 250.

Supervisory correlation parameters

52.54 The supervisory correlation parameters (ρ_i) only apply to the PFE add-on calculation for equity, credit and commodity derivatives, and are set out in Table 2 under CRE52.72. For these asset classes, the supervisory correlation parameters are derived from a single-factor model and specify the weight between systematic and idiosyncratic components. This weight determines the degree of offset between individual trades, recognising that imperfect hedges provide some, but not perfect, offset. Supervisory correlation parameters do not apply to interest rate and foreign exchange derivatives.

Asset class level add-ons

52.55 As set out in CRE52.25, the aggregate add-on for a netting set ($AddOn^{aggregate}$) is calculated as the sum of the add-ons calculated for each asset class within the netting set. The sections that follow set out the calculation of the add-on for each asset class.

Add-on for interest rate derivatives

52.56 The calculation of the add-on for the interest rate derivative asset class captures the risk of interest rate derivatives of different maturities being imperfectly correlated. It does this by allocating trades to maturity buckets, in which full offsetting of long and short positions is permitted, and by using an aggregation formula that only permits limited offsetting between maturity buckets. This allocation of derivatives to maturity buckets and the process of aggregation (steps 3 to 5 below) are only used in the interest rate derivative asset class.

52.57 The add-on for the interest rate derivative asset class ($AddOn^{IR}$) within a netting set is calculated using the following steps:

(1) Step 1: Calculate the effective notional for each trade in the netting set that is in the interest rate derivative asset class. This is calculated as the product of the following three terms: (i) the adjusted notional of the trade (d); (ii) the supervisory delta adjustment of the trade (δ); and (iii) the maturity factor (MF). That is, for each trade i, the effective notional D_i is calculated as $D_i = d_i * MF_i * \delta_i$, where each term is as defined in CRE52.33 to CRE52.53.

(2) Step 2: Allocate the trades in the interest rate derivative asset class to hedging sets. In the interest rate derivative asset class the hedging sets consist of all the derivatives that reference the same currency.

(3) Step 3: Within each hedging set allocate each of the trades to the following three maturity buckets: less than one year (bucket 1), between one and five years (bucket 2) and more than five years (bucket 3).

(4) Step 4: Calculate the effective notional of each maturity bucket by adding together all the trade level effective notionals calculated in step 1 of the trades within the maturity bucket. Let D^{B1}, D^{B2} and D^{B3} be the effective notionals of buckets 1, 2 and 3 respectively.

(5) Step 5: Calculate the effective notional of the hedging set (EN_{HS}) by using either following aggregation formulas (the latter is to be used if the bank chooses no offsets between long and short positions across maturity buckets):

$$Offset\ formula: EN_{HS} = \left[\left(D^{B1}\right)^2 + \left(D^{B2}\right)^2 + \left(D^{B3}\right)^2 + 1.4 * D^{B1} * D^{B2} + 1.4 * D^{B2} * D^{B3} + 0.6 * D^{B1} * D^{B3}\right]^{\frac{1}{2}}$$

$$No\ offset\ formula: EN_{HS} = \left|D^{B1}\right| + \left|D^{B2}\right| + \left|D^{B3}\right|$$

(6) Step 6: Calculate the hedging set level add-on ($AddOn_{HS}$) by multiplying the effective notional of the hedging set (EN_{HS}) by the prescribed supervisory factor (SF_{HS}). The prescribed supervisory factor in the interest rate asset class is set at 0.5%, which means that $AddOn_{HS} = EN_{HS} * 0.005$.

(7) Step 7: Calculate the asset class level add-on ($AddOn^{IR}$) by adding together all of the hedging set level add-ons calculated in step 6:

$$AddOn^{IR} = \sum_{HS} AddOn_{HS}$$

FAQ

FAQ1 *Are banks permitted to treat inflation derivatives (which SA-CCR does not specifically assign to a particular asset class) in the same manner as they treat interest rate derivatives and subject them to the same 0.5% supervisory factor?*

Yes. Banks may treat inflation derivatives in the same manner as interest rate derivatives. Derivatives referencing inflation rates for the same currency should form a separate hedging set and should be subjected to the same 0.5% supervisory factor. AddOn amounts from inflation derivatives must be added to $AddOn^{IR}$.

Add-on for foreign exchange derivatives

52.58 The steps to calculate the add-on for the foreign exchange derivative asset class are similar to the steps for the interest rate derivative asset class, except that there is no allocation of trades to maturity buckets (which means that there is full offsetting of long and short positions within the hedging sets of the foreign exchange derivative asset class).

52.59 The add-on for the foreign exchange derivative asset class ($AddOn^{FX}$) within a netting set is calculated using the following steps:

(1) Step 1: Calculate the effective notional for each trade in the netting set that is in the foreign exchange derivative asset class. This is calculated as the product of the following three terms: (i) the adjusted notional of the trade (d); (ii) the supervisory delta adjustment of the trade (δ); and (iii) the maturity factor (MF). That is, for each trade i, the effective notional D_i is calculated as $D_i = d_i * MF_i * \delta_i$, where each term is as defined in CRE52.33 to CRE52.53.

(2) Step 2: Allocate the trades in the foreign exchange derivative asset class to hedging sets. In the foreign exchange derivative asset class the hedging sets consist of all the derivatives that reference the same currency pair.

(3) Step 3: Calculate the effective notional of each hedging set (EN_{HS}) by adding together the trade level effective notionals calculated in step 1.

(4) Step 4: Calculate the hedging set level add-on ($AddOn_{HS}$) by multiplying the absolute value of the effective notional of the hedging set (EN_{HS}) by the prescribed supervisory factor (SF_{HS}). The prescribed supervisory factor in the foreign exchange derivative asset class is set at 4%, which means that $AddOn_{HS} = |EN_{HS}| * 0.04$.

(5) Step 5: Calculate the asset class level add-on ($AddOn^{FX}$) by adding together all of the hedging set level add-ons calculated in step 5:

$$AddOn^{FX} = \sum_{HS} AddOn_{HS}$$

FAQ

FAQ1 *In SA-CCR, the calculation of the supervisory delta for foreign exchange options depends on the convention taken with respect to the ordering of the respective currency pair. For example, a call option on EUR/USD is economically identical to a put option in USD/EUR. Nevertheless, the calculation of the supervisory delta leads to different results in the two cases. Which convention should banks select for each currency pair?*

For each currency pair, the same ordering convention must be used consistently across the bank and over time. The convention is to be chosen in such a way that it corresponds best to the market practice for how derivatives in the respective currency pair are usually quoted and traded.

Add-on for credit derivatives

52.60 The calculation of the add-on for the credit derivative asset class only gives full recognition of the offsetting of long and short positions for derivatives that reference the same entity (eg the same corporate issuer of bonds). Partial offsetting is recognised between derivatives that reference different entities in step 4 below. The formula used in step 4 is explained further in CRE52.62 to CRE52.64.

52.61 The add-on for the credit derivative asset class ($AddOn^{Credit}$) within a netting set is calculated using the following steps:

(1) Step 1: Calculate the effective notional for each trade in the netting set that is in the credit derivative asset class. This is calculated as the product of the following three terms: (i) the adjusted notional of the trade (d); (ii) the supervisory delta adjustment of the trade (δ); and (iii) the maturity factor (MF). That is, for each trade i, the effective notional D_i is calculated as $D_i = d_i * MF_i * \delta_i$, where each term is as defined in CRE52.33 to CRE52.53.

(2) Step 2: Calculate the combined effective notional for all derivatives that reference the same entity. Each separate credit index that is referenced by derivatives in the credit derivative asset class should be treated as a separate entity. The combined effective notional of the entity (EN_{entity}) is calculated by adding together the trade level effective notionals calculated in step 1 that reference that entity.

(3) Step 3: Calculate the add-on for each entity ($AddOn_{entity}$) by multiplying the combined effective notional for that entity calculated in step 2 by the supervisory factor that is specified for that entity (SF_{entity}). The supervisory factors vary according to the credit rating of the entity in the case of single name derivatives, and whether the index is considered investment grade or non-investment grade in the case of derivatives that reference an index. The supervisory factors are set out in Table 2 in CRE52.72.

(4) Step 4: Calculate the asset class level add-on ($AddOn^{Credit}$) by using the formula that follows. In the formula the summations are across all entities referenced by the derivatives, $AddOn_{entity}$ is the add-on amount calculated in step 3 for each entity referenced by the derivatives and ρ_{entity} is the supervisory prescribed correlation factor corresponding to the entity. As set out in Table 2 in CRE52.72, the correlation factor is 50% for single entities and 80% for indices.

$$AddOn^{Credit} = \left[\left(\sum_{entity} \rho_{entity} * AddOn_{entity}\right)^2 + \sum_{entity}\left(1-\left(\rho_{entity}\right)^2\right) * \left(AddOn_{entity}\right)^2\right]^{\frac{1}{2}}$$

52.62 The formula to recognise partial offsetting in CRE52.61(4) above, is a single-factor model, which divides the risk of the credit derivative asset class into a systematic component and an idiosyncratic component. The entity-level add-ons are allowed to offset each other fully in the systematic component; whereas, there is no offsetting benefit in the idiosyncratic component. These two components are weighted by a correlation factor which determines the degree of offsetting /hedging benefit within the credit derivatives asset class. The higher the correlation factor, the higher the importance of the systematic component, hence the higher the degree of offsetting benefits.

52.63 It should be noted that a higher or lower correlation does not necessarily mean a higher or lower capital requirement. For portfolios consisting of long and short credit positions, a high correlation factor would reduce the charge. For portfolios consisting exclusively of long positions (or short positions), a higher correlation factor would increase the charge. If most of the risk consists of systematic risk, then individual reference entities would be highly correlated and long and short positions should offset each other. If, however, most of the risk is idiosyncratic to a reference entity, then individual long and short positions would not be effective hedges for each other.

52.64 The use of a single hedging set for credit derivatives implies that credit derivatives from different industries and regions are equally able to offset the systematic component of an exposure, although they would not be able to offset the idiosyncratic portion. This approach recognises that meaningful distinctions between industries and/or regions are complex and difficult to analyse for global conglomerates.

Add-on for equity derivatives

52.65 The calculation of the add-on for the equity derivative asset class is very similar to the calculation of the add-on for the credit derivative asset class. It only gives full recognition of the offsetting of long and short positions for derivatives that reference the same entity (eg the same corporate issuer of shares). Partial offsetting is recognised between derivatives that reference different entities in step 4 below.

52.66 The add-on for the equity derivative asset class ($AddOn^{Equity}$) within a netting set is calculated using the following steps:

(1) Step 1: Calculate the effective notional for each trade in the netting set that is in the equity derivative asset class. This is calculated as the product of the following three terms: (i) the adjusted notional of the trade (d); (ii) the supervisory delta adjustment of the trade (δ); and (iii) the maturity factor (MF). That is, for each trade i, the effective notional D_i is calculated as $D_i = d_i * MF_i * \delta_i$, where each term is as defined in CRE52.33 to CRE52.53.

(2) Step 2: Calculate the combined effective notional for all derivatives that reference the same entity. Each separate equity index that is referenced by derivatives in the equity derivative asset class should be treated as a separate entity. The combined effective notional of the entity (EN_{entity}) is calculated by adding together the trade level effective notionals calculated in step 1 that reference that entity.

(3) Step 3: Calculate the add-on for each entity ($AddOn_{entity}$) by multiplying the combined effective notional for that entity calculated in step 2 by the supervisory factor that is specified for that entity (SF_{entity}). The supervisory factors are set out in Table 2 in CRE52.72 and vary according to whether the entity is a single name (SF_{entity} = 32%) or an index (SF_{entity} =20%).

(4) Step 4: Calculate the asset class level add-on ($AddOn^{Equity}$) by using the formula that follows. In the formula the summations are across all entities referenced by the derivatives, $AddOn_{entity}$ is the add-on amount calculated in step 3 for each entity referenced by the derivatives and ρ_{entity} is the supervisory prescribed correlation factor corresponding to the entity. As set out in Table 2 in CRE52.72, the correlation factor is 50% for single entities and 80% for indices.

$$AddOn^{Equity} = \left[\left(\sum_{entity} \rho_{entity} * AddOn_{entity}\right)^2 + \sum_{entity}\left(1-\left(\rho_{entity}\right)^2\right) * \left(AddOn_{entity}\right)^2\right]^{\frac{1}{2}}$$

52.67 The supervisory factors for equity derivatives were calibrated based on estimates of the market volatility of equity indices, with the application of a conservative beta factor[14] to translate this estimate into an estimate of individual volatilities.

Footnotes

[14] *The beta of an individual equity measures the volatility of the stock relative to a broad market index. A value of beta greater than one means the individual equity is more volatile than the index. The greater the beta is, the more volatile the stock. The beta is calculated by running a linear regression of the stock on the broad index.*

52.68 Banks are not permitted to make any modelling assumptions in the calculation of the PFE add-ons, including estimating individual volatilities or taking publicly available estimates of beta. This is a pragmatic approach to ensure a consistent implementation across jurisdictions but also to keep the add-on calculation relatively simple and prudent. Therefore, bank must only use the two values of supervisory factors that are defined for equity derivatives, one for single entities and one for indices.

Add-on for commodity derivatives

52.69 The calculation of the add-on for the commodity derivative asset class is similar to the calculation of the add-on for the credit and equity derivative asset classes. It recognises the full offsetting of long and short positions for derivatives that reference the same type of underlying commodity. It also allows partial offsetting between derivatives that reference different types of commodity, however, this partial offsetting is only permitted within each of the four hedging sets of the commodity derivative asset class, where the different commodity types are more likely to demonstrate some stable, meaningful joint dynamics. Offsetting between hedging sets is not recognised (eg a forward contract on crude oil cannot hedge a forward contract on corn).

52.70 The add-on for the commodity derivative asset class ($AddOn^{Commodity}$) within a netting set is calculated using the following steps:

(1) Step 1: Calculate the effective notional for each trade in the netting set that is in the commodity derivative asset class. This is calculated as the product of the following three terms: (i) the adjusted notional of the trade (d); (ii) the supervisory delta adjustment of the trade (δ); and (iii) the maturity factor (MF). That is, for each trade i, the effective notional D_i is calculated as $D_i = d_i * MF_i * \delta_i$, where each term is as defined in CRE52.33 to CRE52.53.

(2) Step 2: Allocate the trades in commodity derivative asset class to hedging sets. In the commodity derivative asset class there are four hedging sets consisting of derivatives that reference: energy, metals, agriculture and other commodities.

(3) Step 3: Calculate the combined effective notional for all derivatives with each hedging set that reference the same commodity type (eg all derivative that reference copper within the metals hedging set). The combined effective notional of the commodity type ($EN_{ComType}$) is calculated by adding together the trade level effective notionals calculated in step 1 that reference that commodity type.

(4) Step 4: Calculate the add-on for each commodity type ($AddOn_{ComType}$) within each hedging set by multiplying the combined effective notional for that commodity calculated in step 3 by the supervisory factor that is specified for that commodity type ($SF_{ComType}$). The supervisory factors are set out in Table 2 in CRE52.72 and are set at 40% for electricity derivatives and 18% for derivatives that reference all other types of commodities.

(5) Step 5: Calculate the add-on for each of the four commodity hedging sets (Ad
) by using the formula that follows. In the formula the summations are across a
commodity types within the hedging set, $AddOn_{ComType}$ is the add-on amount
calculated in step 4 for each commodity type and $\rho_{ComType}$ is the supervisory
prescribed correlation factor corresponding to the commodity type. As set out
Table 2 in CRE52.72, the correlation factor is set at 40% for all commodity type

$$AddOn_{HS} = \left[\left(\sum_{ComType} \rho_{ComType} * AddOn_{ComType} \right)^2 + \sum_{ComType} \left(1 - \left(\rho_{ComType} \right)^2 \right) * \left(AddOn_{ComType} \right)^2 \right]^{\frac{1}{2}}$$

(6) Step 6: Calculate the asset class level add-on ($AddOn^{Commodity}$) by adding together all of the hedging set level add-ons calculated in step 5:

$$AddOn^{Commodity} = \sum_{HS} AddOn_{HS}$$

52.71 Regarding the calculation steps above, defining individual commodity types is operationally difficult. In fact, it is impossible to fully specify all relevant distinctions between commodity types so that all basis risk is captured. For example crude oil could be a commodity type within the energy hedging set, but in certain cases this definition could omit a substantial basis risk between different types of crude oil (West Texas Intermediate, Brent, Saudi Light, etc). Also, the four commodity type hedging sets have been defined without regard to characteristics such as location and quality. For example, the energy hedging set contains commodity types such as crude oil, electricity, natural gas and coal. National supervisors may require banks to use more refined definitions of commodities when they are significantly exposed to the basis risk of different products within those commodity types.

Supervisory specified parameters

52.72 Table 2 includes the supervisory factors, correlations and supervisory option volatility add-ons for each asset class and subclass.

Summary table of supervisory parameters Table 2

Asset Class	Subclass	Supervisory factor	Correlation	Supervisory option volatility
Interest rate		0.50%	N/A	50%
Foreign exchange		4.0%	N/A	15%
Credit, Single Name	AAA	0.38%	50%	100%
	AA	0.38%	50%	100%
	A	0.42%	50%	100%
	BBB	0.54%	50%	100%
	BB	1.06%	50%	100%
	B	1.6%	50%	100%
	CCC	6.0%	50%	100%
Credit, Index	IG	0.38%	80%	80%
	SG	1.06%	80%	80%
Equity, Single Name		32%	50%	120%
Equity, Index		20%	80%	75%
Commodity	Electricity	40%	40%	150%
	Oil/Gas	18%	40%	70%
	Metals	18%	40%	70%
	Agricultural	18%	40%	70%
	Other	18%	40%	70%

FAQ

FAQ1 *Should a 50% supervisory option volatility on swaptions for all currencies be used?*

Yes.

FAQ2 *Are the supervisory volatilities in the table in paragraph CRE52.72 recommended or required?*

They are required. They must be used for calculating the supervisory delta of options.

52.73 For a hedging set consisting of basis transactions, the supervisory factor applicable to its relevant asset class must be multiplied by one-half. For a hedging set consisting of volatility transactions, the supervisory factor applicable to its relevant asset class must be multiplied by a factor of five.

Treatment of multiple margin agreements and multiple netting sets

52.74 If multiple margin agreements apply to a single netting set, the netting set must be divided into sub-netting sets that align with their respective margin agreement. This treatment applies to both RC and PFE components.

FAQ

FAQ1 *How should multiple margin agreements be treated in a single netting agreement?*

The SA-CCR standard provides two distinct methods of calculating exposure at default: one for "margined transactions" and one for "unmargined transactions." A "margined transaction" should be understood as a derivative transaction covered by a margin agreement such that the bank's counterparty must post variation margin to the bank. All derivative transactions that are not "margined" in this sense should be treated as "unmargined transactions." This distinction of "margined" or "unmargined" for the purposes of SA-CCR is unrelated to initial margin requirements of the transaction.

The SA-CCR standard implicitly assumes the following generic variation margin set-up: either (i) the entire netting set consists exclusively of unmargined trades, or (ii) the entire netting set consists exclusively of margined trades covered by the same variation margin agreement. CRE52.74 should be applied in either of the following cases: (i) the netting set consist of both margined and unmargined trades; (ii) the netting set consists of margined trades covered by different variation margin agreements.

Under CRE52.74, the replacement cost (RC) is calculated for the entire netting set via the formula for margined trades in CRE52.18. The inputs to the formula should be interpreted as follows:

- *V is the value of all derivative transactions (both margined and unmargined) in the netting set;*
- *C is the haircut value of net collateral held by the bank for all derivative transactions within the netting set;*
- *TH is the sum of the counterparty thresholds across all variation margin agreements within the netting set;*
- *MTA is the sum of the minimum transfer amounts across all variation margin agreements within the netting set;*

Under CRE52.74, the potential future exposure (PFE) for the netting set is calculated as the product of the aggregate add-on and the multiplier (per CRE52.20). The multiplier of the netting set is calculated via the formula in CRE52.23, with the inputs V and C interpreted as described above. The aggregate add-on for the netting set (also to be used as an input to the multiplier) is calculated as the sum of the aggregated add-ons calculated for each sub-netting set. The sub-netting sets are constructed as follows:

- *all unmargined transactions within the netting set form a single sub-netting set;*
- *all margined transactions within the netting set that share the same margin period of risk (MPOR) form a single sub-netting set.*

52.75 If a single margin agreement applies to several netting sets, special treatment is necessary because it is problematic to allocate the common collateral to individual netting sets. The replacement cost at any given time is determined by the sum of two terms. The first term is equal to the unmargined current exposure of the bank to the counterparty aggregated across all netting sets within the margin agreement reduced by the positive current net collateral (ie collateral is subtracted only when the bank is a net holder of collateral). The second term is non-zero only when the bank is a net poster of collateral: it is equal to the current net posted collateral (if there is any) reduced by the unmargined current exposure of the counterparty to the bank aggregated across all netting sets within the margin agreement. Net collateral available to the bank should include both VM and NICA. Mathematically, RC for the entire margin agreement is calculated as follows, where:

(1) where the summation NS $\in$ MA is across the netting sets covered by the margin agreement (hence the notation)

(2) V_{NS} is the current mark-to-market value of the netting set NS and C_{MA} is the c equivalent value of all currently available collateral under the margin agreemer

$$RC_{MA} = \max\left\{\sum_{NS\in MA} \max\{V_{NS};\ 0\} - \max\{C_{MA};0\};\ 0\right\} + \max\left\{\sum_{NS\in MA} \min\{V_{NS};\ 0\} - \min\{C_{MA};0\};\ 0\right\}$$

52.76 Where a single margin agreement applies to several netting sets as described in CRE52.75 above, collateral will be exchanged based on mark-to-market values that are netted across all transactions covered under the margin agreement, irrespective of netting sets. That is, collateral exchanged on a net basis may not be sufficient to cover PFE. In this situation, therefore, the PFE add-on must be calculated according to the unmargined methodology. Netting set-level PFEs are then aggregated using the following formula, where $PFE_{NS}^{(unmargined)}$ is the PFE add-on for the netting set NS calculated according to the unmargined requirements:

$$PFE_{MA} = \sum_{NS\in MA} PFE_{NS}^{(unmargined)}$$

FAQ

FAQ1 *How must a bank calculate the potential future exposure (PFE) in a case in which a single margin agreement applies to multiple netting sets?*

According to CRE52.76, the aggregate add-on for each netting set under the variation margin agreement is calculated according to the unmargined methodology. For the calculation of the multiplier (CRE52.23) of the PFE of each of the individual netting sets covered by a single margin agreement or collateral amount, the available collateral C (which, in the case of a variation margin agreement, includes variation margin posted or received) should be allocated to the netting sets as follows:

- *If the bank is a net receiver of collateral (C>0), all of the individual amounts allocated to the individual netting sets must also be positive or zero. Netting sets with positive market values must first be allocated collateral up to the amount of those market values. Only after all positive market values have been compensated may surplus collateral be attributed freely among all netting sets.*
- *If the bank is a net provider of collateral (C<0), all of the individual amounts allocated to the individual netting sets must also be negative or zero. Netting sets with negative market values must first be allocated collateral up to the amount of their market values. If the collateral provided is larger than the sum of the negative market values, then all multipliers must be set equal to 1 and no allocation is necessary.*
- *The allocated parts must add up to the total collateral available for the margin agreement.*

Apart from these limitations, banks may allocate available collateral at their discretion.

The multiplier is then calculated per netting set according to CRE52.23 taking the allocated amount of collateral into account.

Treatment of collateral taken outside of netting sets

52.77 Eligible collateral which is taken outside a netting set, but is available to a bank to offset losses due to counterparty default on one netting set only, should be treated as an independent collateral amount associated with the netting set and used within the calculation of replacement cost under CRE52.10 when the netting set is unmargined and under CRE52.18 when the netting set is margined. Eligible collateral which is taken outside a netting set, and is available to a bank to offset losses due to counterparty default on more than one netting set, should be treated as collateral taken under a margin agreement applicable to multiple netting sets, in which case the treatment under CRE52.75 and CRE52.76 applies. If eligible collateral is available to offset losses on non-derivatives exposures as well as exposures determined using the SA-CCR, only that portion of the collateral assigned to the derivatives may be used to reduce the derivatives exposure.

CRE53

Internal models method for counterparty credit risk

This chapter sets out the internal models method for counterparty credit risk.

Version effective as of 01 Jan 2023

Updated to include the following FAQ: CRE53.24 FAQ4.

Approval to adopt an internal models method to estimate EAD

53.1 A bank (meaning the individual legal entity or a group) that wishes to adopt an internal models method to measure exposure or exposure at default (EAD) for regulatory capital purposes must seek approval from its supervisor. The internal models method is available both for banks that adopt the internal ratings-based approach to credit risk and for banks for which the standardised approach to credit risk applies to all of their credit risk exposures. The bank must meet all of the requirements given in CRE53.6 to CRE53.60 and must apply the method to all of its exposures that are subject to counterparty credit risk, except for long settlement transactions.

53.2 A bank may also choose to adopt an internal models method to measure counterparty credit risk (CCR) for regulatory capital purposes for its exposures or EAD to only over-the-counter (OTC) derivatives, to only securities financing transactions (SFTs), or to both, subject to the appropriate recognition of netting specified in CRE53.61 to CRE53.71. The bank must apply the method to all relevant exposures within that category, except for those that are immaterial in size and risk. During the initial implementation of the internal models method, a bank may use the Standardised Approach for counterparty credit risk for a portion of its business. The bank must submit a plan to its supervisor to bring all material exposures for that category of transactions under the internal models method.

53.3 For all OTC derivative transactions and for all long settlement transactions for which a bank has not received approval from its supervisor to use the internal models method, the bank must use the standardised approach to counterparty credit risk (SA-CCR, CRE52).

53.4 Exposures or EAD arising from long settlement transactions can be determined using either of the methods identified in this document regardless of the methods chosen for treating OTC derivatives and SFTs. In computing capital requirements for long settlement transactions banks that hold permission to use the internal ratings-based approach may opt to apply the risk weights under this Framework's standardised approach for credit risk on a permanent basis and irrespective to the materiality of such positions.

53.5 After adoption of the internal models method, the bank must comply with the above requirements on a permanent basis. Only under exceptional circumstances or for immaterial exposures can a bank revert to the standardised approach for counterparty credit risk for all or part of its exposure. The bank must demonstrate that reversion to a less sophisticated method does not lead to an arbitrage of the regulatory capital rules.

Exposure amount or EAD under the internal models method

53.6 CCR exposure or EAD is measured at the level of the netting set as defined in CRE50 and CRE53.61 to CRE53.71. A qualifying internal model for measuring counterparty credit exposure must specify the forecasting distribution for changes in the market value of the netting set attributable to changes in market variables, such as interest rates, foreign exchange rates, etc. The model then computes the bank's CCR exposure for the netting set at each future date given the changes in the market variables. For margined counterparties, the model may also capture future collateral movements. Banks may include eligible financial collateral as defined in CRE22.34 and CRE55.2 in their forecasting distributions for changes in the market value of the netting set, if the quantitative, qualitative and data requirements for internal models method are met for the collateral.

53.7 As set out in RBC20.8, banks that use the internal models method must calculate credit RWA as the higher of two amounts, one based on current parameter estimates and one based on stressed parameter estimates. Specifically, to determine the default risk capital requirement for counterparty credit risk, banks must use the greater of the portfolio-level capital requirement (not including the credit valuation adjustment, or CVA, charge in MAR50) based on Effective expected positive exposure (EPE) using current market data and the portfolio-level capital requirement based on Effective EPE using a stress calibration. The stress calibration should be a single consistent stress calibration for the whole portfolio of counterparties. The greater of Effective EPE using current market data and the stress calibration should not be applied on a counterparty by counterparty basis, but on a total portfolio level.

53.8 To the extent that a bank recognises collateral in EAD via current exposure, a bank would not be permitted to recognise the benefits in its estimates of loss-given-default (LGD). As a result, the bank would be required to use an LGD of an otherwise similar uncollateralised facility. In other words, the bank would be required to use an LGD that does not include collateral that is already included in EAD.

53.9 Under the internal models method, the bank need not employ a single model. Although the following text describes an internal model as a simulation model, no particular form of model is required. Analytical models are acceptable so long as they are subject to supervisory review, meet all of the requirements set forth in this section and are applied to all material exposures subject to a CCR-related capital requirement as noted above, with the exception of long settlement transactions, which are treated separately, and with the exception of those exposures that are immaterial in size and risk.

53.10

Expected exposure or peak exposure measures should be calculated based on a distribution of exposures that accounts for the possible non-normality of the distribution of exposures, including the existence of leptokurtosis ("fat tails"), where appropriate.

53.11 When using an internal model, exposure amount or EAD is calculated as the product of alpha times Effective EPE, as specified below (except for counterparties that have been identified as having explicit specific wrong way risk – see CRE53.48):

$$EAD = \alpha \times Effective\,EPE \qquad (equation\ 1)$$

53.12 Effective EPE is computed by estimating expected exposure (EE_t) as the average exposure at future date t, where the average is taken across possible future values of relevant market risk factors, such as interest rates, foreign exchange rates, etc. The internal model estimates EE at a series of future dates t_1, t_2, t_3...[1] Specifically, "Effective EE" is computed recursively using the following formula, where the current date is denoted as t_0 and Effective EE_{t0} equals current exposure:

$$Effective\,EE_{t_k} = \max\left(Effective\,EE_{t_{k-1}}, EE_{t_k}\right) \qquad (equation\ 2)$$

Footnotes

[1] *In theory, the expectations should be taken with respect to the actual probability distribution of future exposure and not the risk-neutral one. Supervisors recognise that practical considerations may make it more feasible to use the risk-neutral one. As a result, supervisors will not mandate which kind of forecasting distribution to employ.*

53.13 In this regard, "Effective EPE" is the average Effective EE during the first year of future exposure. If all contracts in the netting set mature before one year, EPE is the average of expected exposure until all contracts in the netting set mature. Effective EPE is computed as a weighted average of Effective EE, using the following formula where the weights $\Delta t_k = t_k - t_{k-1}$ allows for the case when future exposure is calculated at dates that are not equally spaced over time:

$$Effective\ EPE = \sum_{k=1}^{\min(1\,year,\,maturity)} Effective\,EE_{t_k} \times \Delta t_k \qquad (equation\ 3)$$

53.14 Alpha (α) is set equal to 1.4.

53.15 Supervisors have the discretion to require a higher alpha based on a bank's CCR exposures. Factors that may require a higher alpha include the low granularity of counterparties; particularly high exposures to general wrong-way risk; particularly high correlation of market values across counterparties; and other institution-specific characteristics of CCR exposures.

Own estimates for alpha

53.16 Banks may seek approval from their supervisors to compute internal estimates of alpha subject to a floor of 1.2, where alpha equals the ratio of economic capital from a full simulation of counterparty exposure across counterparties (numerator) and economic capital based on EPE (denominator), assuming they meet certain operating requirements. Eligible banks must meet all the operating requirements for internal estimates of EPE and must demonstrate that their internal estimates of alpha capture in the numerator the material sources of stochastic dependency of distributions of market values of transactions or of portfolios of transactions across counterparties (eg the correlation of defaults across counterparties and between market risk and default).

53.17 In the denominator, EPE must be used as if it were a fixed outstanding loan amount.

53.18 To this end, banks must ensure that the numerator and denominator of alpha are computed in a consistent fashion with respect to the modelling methodology, parameter specifications and portfolio composition. The approach used must be based on the bank's internal economic capital approach, be well-documented and be subject to independent validation. In addition, banks must review their estimates on at least a quarterly basis, and more frequently when the composition of the portfolio varies over time. Banks must assess the model risk and supervisors should be alert to the significant variation in estimates of alpha that arises from the possibility for mis-specification in the models used for the numerator, especially where convexity is present.

53.19 Where appropriate, volatilities and correlations of market risk factors used in the joint simulation of market and credit risk should be conditioned on the credit risk factor to reflect potential increases in volatility or correlation in an economic downturn. Internal estimates of alpha should take account of the granularity of exposures.

Maturity

53.20 If the original maturity of the longest-dated contract contained in the set is greater than one year, the formula for effective maturity (M) in CRE32.47 is replaced with formula that follows, where df_k is the risk-free discount factor for future time period t_k and the remaining symbols are defined above. Similar to the treatment under corporate exposures, M has a cap of five years.[2]

$$M = \frac{\sum_{k=1}^{t_k \le 1\,year} (EffectiveEE_k \times \Delta t_k \times df_k) + \sum_{t_k > 1\,year}^{maturity} (EE_k \times \Delta t_k \times df_k)}{\sum_{k=1}^{t_k \le 1\,year} (EffectiveEE_k \times \Delta t_k \times df_k)}$$

Footnotes

[2] *Conceptually, M equals the effective credit duration of the counterparty exposure. A bank that uses an internal model to calculate a one-sided credit valuation adjustment (CVA) can use the effective credit duration estimated by such a model in place of the above formula with prior approval of its supervisor.*

53.21 For netting sets in which all contracts have an original maturity of less than one year, the formula for effective maturity (M) in CRE32.47 is unchanged and a floor of one year applies, with the exception of short-term exposures as described in CRE32.52 to CRE32.54.

Margin agreements

53.22 If the netting set is subject to a margin agreement and the internal model captures the effects of margining when estimating EE, the model's EE measure may be used directly in equation (2). Such models are noticeably more complicated than models of EPE for unmargined counterparties. As such, they are subject to a higher degree of supervisory scrutiny before they are approved, as discussed below.

53.23 An EPE model must also include transaction-specific information in order to capture the effects of margining. It must take into account both the current amount of margin and margin that would be passed between counterparties in the future. Such a model must account for the nature of margin agreements (unilateral or bilateral), the frequency of margin calls, the margin period of risk, the thresholds of unmargined exposure the bank is willing to accept, and the minimum transfer amount. Such a model must either model the mark-to-market change in the value of collateral posted or apply this Framework's rules for collateral.

53.24 For transactions subject to daily re-margining and mark-to-market valuation, a supervisory floor of five business days for netting sets consisting only of repo-style transactions, and 10 business days for all other netting sets is imposed on the margin period of risk used for the purpose of modelling EAD with margin agreements. In the following cases a higher supervisory floor is imposed:

(1) For all netting sets where the number of trades exceeds 5000 at any point during a quarter, a supervisory floor of 20 business days is imposed for the margin period of risk for the following quarter.

(2) For netting sets containing one or more trades involving either illiquid collateral, or an OTC derivative that cannot be easily replaced, a supervisory floor of 20 business days is imposed for the margin period of risk. For these purposes, "Illiquid collateral" and "OTC derivatives that cannot be easily replaced" must be determined in the context of stressed market conditions and will be characterised by the absence of continuously active markets where a counterparty would, within two or fewer days, obtain multiple price quotations that would not move the market or represent a price reflecting a market discount (in the case of collateral) or premium (in the case of an OTC derivative). Examples of situations where trades are deemed illiquid for this purpose include, but are not limited to, trades that are not marked daily and trades that are subject to specific accounting treatment for valuation purposes (eg OTC derivatives or repo-style transactions referencing securities whose fair value is determined by models with inputs that are not observed in the market).

(3) In addition, a bank must consider whether trades or securities it holds as collateral are concentrated in a particular counterparty and if that counterparty exited the market precipitously whether the bank would be able to replace its trades.

FAQ

FAQ1 *Is it correct that the margin period of risk is netting set dependent and not on an aggregated basis across a counterparty?*

Yes, the margin period of risk (MPOR) applies to a netting set. This extends only to a counterparty if all transactions with this counterparty are in one margined netting set.

FAQ2 *Is it correct that where there is illiquidity of transactions or collateral, the margin period of risk immediately changes, as opposed to the criteria for number of trades in a netting set or collateral dispute which has a lag effect?*

That is correct.

FAQ3 *Where the margin period of risk is increased above the minimum, for instance due to the inclusion of an illiquid trade, when the Expected Exposure is calculated should the margin period of risk be reduced to the minimum for tenors beyond the expected expiry of the event (the expected maturity of the illiquid trade, in this example)?*

The extension of the margin period of risk (MPOR) is ruled by market liquidity considerations. That means liquidation of respective positions might take more time than the standard MPOR. In very rare cases market liquidity horizons are as long as the maturity of these positions.

FAQ4 *Regarding the reform of benchmark reference rates, does the extended margin period of risk in CRE52.51(2) (SA-CCR) and CRE53.24(2) (IMM) apply if the new benchmark rate experiences transitional illiquidity?*

Until one year after the discontinuation of an old benchmark rate, any transitional illiquidity of collateral and OTC derivatives that reference the relevant new benchmark rate should not trigger the extended margin period of risk in CRE52.51(2) for SA-CCR and CRE53.24(2) for the IMM.

53.25 If a bank has experienced more than two margin call disputes on a particular netting set over the previous two quarters that have lasted longer than the applicable margin period of risk (before consideration of this provision), then the bank must reflect this history appropriately by using a margin period of risk that is at least double the supervisory floor for that netting set for the subsequent two quarters.

FAQ

FAQ1 *Are all margin disputes be counted even for those where the disputed amount was very small, or if there is any threshold amount that can be applied here?*

Every instance of a margin call being disputed must be counted, irrespective of the amount.

FAQ2 *In the case of non-centrally cleared derivatives that are subject to the requirements of MGN20, what margin calls are to be taken into account for the purpose counting the number of disputes according to CRE53.25?*

In the case of non-centrally cleared derivatives that are subject to the requirements of MGN20, CRE53.25 applies only to variation margin call disputes.

53.26 For re-margining with a periodicity of N-days the margin period of risk should be at least equal to the supervisory floor, F, plus the N days minus one day. That is:

$$Margin\ Period\ of\ Risk = F + N - 1$$

53.27 Banks using the internal models method must not capture the effect of a reduction of EAD due to any clause in a collateral agreement that requires receipt of collateral when counterparty credit quality deteriorates.

Model validation

53.28 It is important that supervisory authorities are able to assure themselves that banks using models have counterparty credit risk management systems that are conceptually sound and implemented with integrity. Accordingly the supervisory authority will specify a number of qualitative criteria that banks would have to meet before they are permitted to use a models-based approach. The extent to which banks meet the qualitative criteria may influence the level at which supervisory authorities will set the multiplication factor referred to in CRE53.14 (Alpha) above. Only those banks in full compliance with the qualitative criteria will be eligible for application of the minimum multiplication factor. The qualitative criteria include:

(1) The bank must conduct a regular programme of backtesting, ie an ex-post comparison of the risk measures generated by the model against realised risk measures, as well as comparing hypothetical changes based on static positions with realised measures. “Risk measures” in this context, refers not only to Effective EPE, the risk measure used to derive regulatory capital, but also to the other risk measures used in the calculation of Effective EPE such as the exposure distribution at a series of future dates, the positive exposure distribution at a series of future dates, the market risk factors used to derive those exposures and the values of the constituent trades of a portfolio.

(2) The bank must carry out an initial validation and an on-going periodic review of its IMM model and the risk measures generated by it. The validation and review must be independent of the model developers.

(3) The board of directors and senior management should be actively involved in the risk control process and must regard credit and counterparty credit risk control as an essential aspect of the business to which significant resources need to be devoted. In this regard, the daily reports prepared by the independent risk control unit must be reviewed by a level of management with sufficient seniority and authority to enforce both reductions of positions taken by individual traders and reductions in the bank’s overall risk exposure.

(4) The bank’s internal risk measurement exposure model must be closely integrated into the day-to-day risk management process of the bank. Its output should accordingly be an integral part of the process of planning, monitoring and controlling the bank’s counterparty credit risk profile.

(5) The risk measurement system should be used in conjunction with internal trading and exposure limits. In this regard, exposure limits should be related to the bank’s risk measurement model in a manner that is consistent over time and that is well understood by traders, the credit function and senior management.

(6) Banks should have a routine in place for ensuring compliance with a documented set of internal policies, controls and procedures concerning the operation of the risk measurement system. The bank’s risk measurement system must be well documented, for example, through a risk management manual that describes the basic principles of the risk management system and that provides an explanation of the empirical techniques used to measure counterparty credit risk.

(7) An independent review of the risk measurement system should be carried out regularly in the bank's own internal auditing process. This review should include both the activities of the business trading units and of the independent risk control unit. A review of the overall risk management process should take place at regular intervals (ideally no less than once a year) and should specifically address, at a minimum:

(a) The adequacy of the documentation of the risk management system and process;

(b) The organisation of the risk control unit;

(c) The integration of counterparty credit risk measures into daily risk management;

(d) The approval process for counterparty credit risk models used in the calculation of counterparty credit risk used by front office and back office personnel;

(e) The validation of any significant change in the risk measurement process;

(f) The scope of counterparty credit risks captured by the risk measurement model;

(g) The integrity of the management information system;

(h) The accuracy and completeness of position data;

(i) The verification of the consistency, timeliness and reliability of data sources used to run internal models, including the independence of such data sources;

(j) The accuracy and appropriateness of volatility and correlation assumptions;

(k) The accuracy of valuation and risk transformation calculations; and

(l) The verification of the model's accuracy as described below in CRE53.29 to CRE53.33.

(8) The on-going validation of counterparty credit risk models, including backtesting, must be reviewed periodically by a level of management with sufficient authority to decide the course of action that will be taken to address weaknesses in the models.

53.29

Banks must document the process for initial and on-going validation of their IMM model to a level of detail that would enable a third party to recreate the analysis. Banks must also document the calculation of the risk measures generated by the models to a level of detail that would allow a third party to re-create the risk measures. This documentation must set out the frequency with which backtesting analysis and any other on-going validation will be conducted, how the validation is conducted with respect to dataflows and portfolios and the analyses that are used.

53.30 Banks must define criteria with which to assess their EPE models and the models that input into the calculation of EPE and have a written policy in place that describes the process by which unacceptable performance will be determined and remedied.

53.31 Banks must define how representative counterparty portfolios are constructed for the purposes of validating an EPE model and its risk measures.

53.32 When validating EPE models and its risk measures that produce forecast distributions, validation must assess more than a single statistic of the model distribution.

53.33 As part of the initial and on-going validation of an IMM model and its risk measures, the following requirements must be met:

(1) A bank must carry out backtesting using historical data on movements in market risk factors prior to supervisory approval. Backtesting must consider a number of distinct prediction time horizons out to at least one year, over a range of various start (initialisation) dates and covering a wide range of market conditions.

(2) Banks must backtest the performance of their EPE model and the model's relevant risk measures as well as the market risk factor predictions that support EPE. For collateralised trades, the prediction time horizons considered must include those reflecting typical margin periods of risk applied in collateralised/margined trading, and must include long time horizons of at least 1 year.

(3) The pricing models used to calculate counterparty credit risk exposure for a given scenario of future shocks to market risk factors must be tested as part of the initial and on-going model validation process. These pricing models may be different from those used to calculate Market Risk over a short horizon. Pricing models for options must account for the nonlinearity of option value with respect to market risk factors.

(4) An EPE model must capture transaction specific information in order to aggregate exposures at the level of the netting set. Banks must verify that transactions are assigned to the appropriate netting set within the model.

(5) Static, historical backtesting on representative counterparty portfolios must be a part of the validation process. At regular intervals as directed by its supervisor, a bank must conduct such backtesting on a number of representative counterparty portfolios. The representative portfolios must be chosen based on their sensitivity to the material risk factors and correlations to which the bank is exposed. In addition, IMM banks need to conduct backtesting that is designed to test the key assumptions of the EPE model and the relevant risk measures, eg the modelled relationship between tenors of the same risk factor, and the modelled relationships between risk factors.

(6) Significant differences between realised exposures and the forecast distribution could indicate a problem with the model or the underlying data that the supervisor would require the bank to correct. Under such circumstances, supervisors may require additional capital to be held while the problem is being solved.

(7) The performance of EPE models and its risk measures must be subject to good backtesting practice. The backtesting programme must be capable of identifying poor performance in an EPE model's risk measures.

(8) Banks must validate their EPE models and all relevant risk measures out to time horizons commensurate with the maturity of trades for which exposure is calculated using an internal models method.

(9) The pricing models used to calculate counterparty exposure must be regularly tested against appropriate independent benchmarks as part of the on-going model validation process.

(10) The on-going validation of a bank's EPE model and the relevant risk measures include an assessment of recent performance.

(11) The frequency with which the parameters of an EPE model are updated needs to be assessed as part of the validation process.

(12) Under the IMM, a measure that is more conservative than the metric used to calculate regulatory EAD for every counterparty, may be used in place of alpha times Effective EPE with the prior approval of the supervisor. The degree of relative conservatism will be assessed upon initial supervisory approval and at the regular supervisory reviews of the EPE models. The bank must validate the conservatism regularly.

(13) The on-going assessment of model performance needs to cover all counterparties for which the models are used.

(14) The validation of IMM models must assess whether or not the bank level and netting set exposure calculations of EPE are appropriate.

Operational requirements for EPE models

53.34 In order to be eligible to adopt an internal model for estimating EPE arising from CCR for regulatory capital purposes, a bank must meet the following operational requirements. These include meeting the requirements related to the qualifying standards on CCR Management, a use test, stress testing, identification of wrong-way risk, and internal controls.

Qualifying standards on CCR Management

53.35 The bank must satisfy its supervisor that, in addition to meeting the operational requirements identified in CRE53.36 to CRE53.60 below, it adheres to sound practices for CCR management, including those specified in SRP32.14 to SRP32.27.

Use test

53.36 The distribution of exposures generated by the internal model used to calculate effective EPE must be closely integrated into the day-to-day CCR management process of the bank. For example, the bank could use the peak exposure from the distributions for counterparty credit limits or expected positive exposure for its internal allocation of capital. The internal model's output must accordingly play an essential role in the credit approval, counterparty credit risk management, internal capital allocations, and corporate governance of banks that seek approval to apply such models for capital adequacy purposes. Models and estimates designed and implemented exclusively to qualify for the internal models method are not acceptable.

53.37 A bank must have a credible track record in the use of internal models that generate a distribution of exposures to CCR. Thus, the bank must demonstrate that it has been using an internal model to calculate the distributions of exposures upon which the EPE calculation is based that meets broadly the minimum requirements for at least one year prior to supervisory approval.

53.38 Banks employing the internal models method must have an independent control unit that is responsible for the design and implementation of the bank's CCR management system, including the initial and on-going validation of the internal model. This unit must control input data integrity and produce and analyse daily reports on the output of the bank's risk measurement model, including an evaluation of the relationship between measures of CCR risk exposure and credit and trading limits. This unit must be independent from business credit and trading units; it must be adequately staffed; it must report directly to senior management of the bank. The work of this unit should be closely integrated into the day-to-day credit risk management process of the bank. Its output should accordingly be an integral part of the process of planning, monitoring and controlling the bank's credit and overall risk profile.

53.39 Banks applying the internal models method must have a collateral management unit that is responsible for calculating and making margin calls, managing margin call disputes and reporting levels of independent amounts, initial margins and variation margins accurately on a daily basis. This unit must control the integrity of the data used to make margin calls, and ensure that it is consistent and reconciled regularly with all relevant sources of data within the bank. This unit must also track the extent of reuse of collateral (both cash and non-cash) and the rights that the bank gives away to its respective counterparties for the collateral that it posts. These internal reports must indicate the categories of collateral assets that are reused, and the terms of such reuse including instrument, credit quality and maturity. The unit must also track concentration to individual collateral asset classes accepted by the banks. Senior management must allocate sufficient resources to this unit for its systems to have an appropriate level of operational performance, as measured by the timeliness and accuracy of outgoing calls and response time to incoming calls. Senior management must ensure that this unit is adequately staffed to process calls and disputes in a timely manner even under severe market crisis, and to enable the bank to limit its number of large disputes caused by trade volumes.

53.40 The bank's collateral management unit must produce and maintain appropriate collateral management information that is reported on a regular basis to senior management. Such internal reporting should include information on the type of collateral (both cash and non-cash) received and posted, as well as the size, aging and cause for margin call disputes. This internal reporting should also reflect trends in these figures.

53.41 A bank employing the internal models method must ensure that its cash management policies account simultaneously for the liquidity risks of potential incoming margin calls in the context of exchanges of variation margin or other margin types, such as initial or independent margin, under adverse market shocks, potential incoming calls for the return of excess collateral posted by counterparties, and calls resulting from a potential downgrade of its own public rating. The bank must ensure that the nature and horizon of collateral reuse is consistent with its liquidity needs and does not jeopardise its ability to post or return collateral in a timely manner.

53.42 The internal model used to generate the distribution of exposures must be part of a counterparty risk management framework that includes the identification, measurement, management, approval and internal reporting of counterparty risk.[3] This Framework must include the measurement of usage of credit lines (aggregating counterparty exposures with other credit exposures) and economic capital allocation. In addition to EPE (a measure of future exposure), a bank must measure and manage current exposures. Where appropriate, the bank must measure current exposure gross and net of collateral held. The use test is satisfied if a bank uses other counterparty risk measures, such as peak exposure or potential future exposure (PFE), based on the distribution of exposures generated by the same model to compute EPE.

Footnotes

[3] *This section draws heavily on the Counterparty Risk Management Policy Group's paper, Improving Counterparty Risk Management Practices (June 1999).*

53.43 A bank is not required to estimate or report EE daily, but to meet the use test it must have the systems capability to estimate EE daily, if necessary, unless it demonstrates to its supervisor that its exposures to CCR warrant some less frequent calculation. It must choose a time profile of forecasting horizons that adequately reflects the time structure of future cash flows and maturity of the contracts. For example, a bank may compute EE on a daily basis for the first ten days, once a week out to one month, once a month out to eighteen months, once a quarter out to five years and beyond five years in a manner that is consistent with the materiality and composition of the exposure.

53.44 Exposure must be measured out to the life of all contracts in the netting set (not just to the one year horizon), monitored and controlled. The bank must have procedures in place to identify and control the risks for counterparties where exposure rises beyond the one-year horizon. Moreover, the forecasted increase in exposure must be an input into the bank's internal economic capital model.

Stress testing

53.45 A bank must have in place sound stress testing processes for use in the assessment of capital adequacy. These stress measures must be compared against the measure of EPE and considered by the bank as part of its internal capital adequacy assessment process. Stress testing must also involve identifying possible events or future changes in economic conditions that could have unfavourable effects on a bank's credit exposures and assessment of the bank's ability to withstand such changes. Examples of scenarios that could be used are; (i) economic or industry downturns, (ii) market-place events, or (iii) decreased liquidity conditions.

53.46 Banks must have a comprehensive stress testing program for counterparty credit risk. The stress testing program must include the following elements:

(1) Banks must ensure complete trade capture and exposure aggregation across all forms of counterparty credit risk (not just OTC derivatives) at the counterparty-specific level in a sufficient time frame to conduct regular stress testing.

(2) For all counterparties, banks should produce, at least monthly, exposure stress testing of principal market risk factors (eg interest rates, FX, equities, credit spreads, and commodity prices) in order to proactively identify, and when necessary, reduce outsized concentrations to specific directional sensitivities.

(3) Banks should apply multifactor stress testing scenarios and assess material non-directional risks (ie yield curve exposure, basis risks, etc) at least quarterly. Multiple-factor stress tests should, at a minimum, aim to address scenarios in which a) severe economic or market events have occurred; b) broad market liquidity has decreased significantly; and c) the market impact of liquidating positions of a large financial intermediary. These stress tests may be part of bank-wide stress testing.

(4) Stressed market movements have an impact not only on counterparty exposures, but also on the credit quality of counterparties. At least quarterly, banks should conduct stress testing applying stressed conditions to the joint movement of exposures and counterparty creditworthiness.

(5) Exposure stress testing (including single factor, multifactor and material non-directional risks) and joint stressing of exposure and creditworthiness should be performed at the counterparty-specific, counterparty group (eg industry and region), and aggregate bank-wide CCR levels.

(6) Stress tests results should be integrated into regular reporting to senior management. The analysis should capture the largest counterparty-level impacts across the portfolio, material concentrations within segments of the portfolio (within the same industry or region), and relevant portfolio and counterparty specific trends.

(7) The severity of factor shocks should be consistent with the purpose of the stress test. When evaluating solvency under stress, factor shocks should be severe enough to capture historical extreme market environments and/or extreme but plausible stressed market conditions. The impact of such shocks on capital resources should be evaluated, as well as the impact on capital requirements and earnings. For the purpose of day-to-day portfolio monitoring, hedging, and management of concentrations, banks should also consider scenarios of lesser severity and higher probability.

(8) Banks should consider reverse stress tests to identify extreme, but plausible, scenarios that could result in significant adverse outcomes.

(9) Senior management must take a lead role in the integration of stress testing into the risk management framework and risk culture of the bank and ensure that the results are meaningful and proactively used to manage counterparty credit risk. At a minimum, the results of stress testing for significant exposures should be compared to guidelines that express the bank's risk appetite and elevated for discussion and action when excessive or concentrated risks are present.

Wrong-way risk

53.47 Banks must identify exposures that give rise to a greater degree of general wrong-way risk. Stress testing and scenario analyses must be designed to identify risk factors that are positively correlated with counterparty credit worthiness. Such testing needs to address the possibility of severe shocks occurring when relationships between risk factors have changed. Banks should monitor general wrong way risk by product, by region, by industry, or by other categories that are germane to the business. Reports should be provided to senior management and the appropriate committee of the Board on a regular basis that communicate wrong way risks and the steps that are being taken to manage that risk.

53.48 A bank is exposed to "specific wrong-way risk" if future exposure to a specific counterparty is highly correlated with the counterparty's probability of default. For example, a company writing put options on its own stock creates wrong-way exposures for the buyer that is specific to the counterparty. A bank must have procedures in place to identify, monitor and control cases of specific wrong way risk, beginning at the inception of a trade and continuing through the life of the trade. To calculate the CCR capital requirement, the instruments for which there exists a legal connection between the counterparty and the underlying issuer, and for which specific wrong way risk has been identified, are not considered to be in the same netting set as other transactions with the counterparty. Furthermore, for single-name credit default swaps where there exists a legal connection between the counterparty and the underlying issuer, and where specific wrong way risk has been identified, EAD in respect of such swap counterparty exposure equals the full expected loss in the remaining fair value of the underlying instruments assuming the underlying issuer is in liquidation. The use of the full expected loss in remaining fair value of the underlying instrument allows the bank to recognise, in respect of such swap, the market value that has been lost already and any expected recoveries. Accordingly LGD for advanced or foundation IRB banks must be set to 100% for such swap transactions.[4] For banks using the Standardised Approach, the risk weight to use is that of an unsecured transaction. For equity derivatives, bond options, securities financing transactions etc referencing a single company where there exists a legal connection between the counterparty and the underlying company, and where specific wrong way risk has been identified, EAD equals the value of the transaction under the assumption of a jump-to-default of the underlying security. Inasmuch this makes re-use of possibly existing (market risk) calculations (for incremental risk charge) that already contain an LGD assumption, the LGD must be set to 100%.

Footnotes

[4] *Note that the recoveries may also be possible on the underlying instrument beneath such swap. The capital requirements for such underlying exposure are to be calculated without reduction for the swap which introduces wrong way risk. Generally this means that such underlying exposure will receive the risk weight and capital treatment associated with an unsecured transaction (ie assuming such underlying exposure is an unsecured credit exposure).*

FAQ

FAQ1 *Please clarify exactly what needs to be done with respect to credit default swaps (CDSs) with specific wrong-way risk. Can you provide an example?*

Assume you hold a single name CDS with no wrong-way risk. Then, the EAD of that exposure would be equal to alpha times the effective EPE of the CDS contract, whilst the LGD assigned to the counterparty would be that of the corresponding netting set of the counterparty from whom the CDS was bought. Now assume that this single name CDS has Specific wrong-way risk. First, the CDS is taken out of its netting set. Second, the EAD should be equal to the expected loss on the underlying reference asset, conditional on default of the issuer of the underlying, ie assuming that the reference asset has a PD of 100%. If a non-zero recovery is assumed for the underlying asset, then the LGD for the netting set assigned to the single name CDS exposure in the risk-weighted asset calculation is set to 100%.

Integrity of modelling process

53.49 Other operational requirements focus on the internal controls needed to ensure the integrity of model inputs; specifically, the requirements address the transaction data, historical market data, frequency of calculation, and valuation models used in measuring EPE.

53.50 The internal model must reflect transaction terms and specifications in a timely, complete, and conservative fashion. Such terms include, but are not limited to, contract notional amounts, maturity, reference assets, collateral thresholds, margining arrangements, netting arrangements, etc. The terms and specifications must reside in a secure database that is subject to formal and periodic audit. The process for recognising netting arrangements must require signoff by legal staff to verify the legal enforceability of netting and be input into the database by an independent unit. The transmission of transaction terms and specifications data to the internal model must also be subject to internal audit and formal reconciliation processes must be in place between the internal model and source data systems to verify on an ongoing basis that transaction terms and specifications are being reflected in EPE correctly or at least conservatively.

53.51 When the Effective EPE model is calibrated using historic market data, the bank must employ current market data to compute current exposures and at least three years of historical data must be used to estimate parameters of the model. Alternatively, market implied data may be used to estimate parameters of the model. In all cases, the data must be updated quarterly or more frequently if

market conditions warrant. To calculate the Effective EPE using a stress calibration, the bank must also calibrate Effective EPE using three years of data that include a period of stress to the credit default spreads of a bank's counterparties or calibrate Effective EPE using market implied data from a suitable period of stress. The following process will be used to assess the adequacy of the stress calibration:

(1) The bank must demonstrate, at least quarterly, that the stress period coincides with a period of increased CDS or other credit spreads – such as loan or corporate bond spreads – for a representative selection of the bank's counterparties with traded credit spreads. In situations where the bank does not have adequate credit spread data for a counterparty, the bank should map each counterparty to specific credit spread data based on region, internal rating and business types.

(2) The exposure model for all counterparties must use data, either historic or implied, that include the data from the stressed credit period, and must use such data in a manner consistent with the method used for the calibration of the Effective EPE model to current data.

(3) To evaluate the effectiveness of its stress calibration for Effective EPE, the bank must create several benchmark portfolios that are vulnerable to the same main risk factors to which the bank is exposed. The exposure to these benchmark portfolios shall be calculated using (a) current positions at current market prices, stressed volatilities, stressed correlations and other relevant stressed exposure model inputs from the 3-year stress period and (b) current positions at end of stress period market prices, stressed volatilities, stressed correlations and other relevant stressed exposure model inputs from the 3-year stress period. Supervisors may adjust the stress calibration if the exposures of these benchmark portfolios deviate substantially.

FAQ

FAQ1 *Can the Basel Committee confirm that banks that use market implied data do not need to employ current market data to compute current exposures for either normal or stressed EPE, but can instead rely respectively on market implied and stressed market implied calibrations?*

This will depend on the specifics of the modelling framework, but current exposure should be based on current market valuations. However, in any case, current exposure has to be based on current market data, be they directly observed or implied by other observable prices which also need to be as of the valuation date.

FAQ2 *Can the Basel Committee confirm that the stressed three year data period will be centred on the credit spread stress point, ie there will be equal history used before and after that point? Where the stress period occurs in the current three year data set, is it correct that a separate stress data set would only be required once the stress point is more than 18 months in the past, ie before that the stress and current period will be the same?*

There is no explicit requirement that the three-year data period needs to be centred on the credit spread stress period. The determination and review of the stress period should be discussed with your national supervisor.

53.52 For a bank to recognise in its EAD calculations for OTC derivatives the effect of collateral other than cash of the same currency as the exposure itself, if it is not able to model collateral jointly with the exposure then it must use the standard supervisory haircuts of the comprehensive approach.

FAQ

FAQ1 *How is the FX haircut to be applied for mixed currency exposures?*

The FX haircut should be applied to each element of collateral that is provided in a different currency to the exposure.

53.53 If the internal model includes the effect of collateral on changes in the market value of the netting set, the bank must model collateral other than cash of the same currency as the exposure itself jointly with the exposure in its EAD calculations for securities-financing transactions.

53.54 The EPE model (and modifications made to it) must be subject to an internal model validation process. The process must be clearly articulated in banks' policies and procedures. The validation process must specify the kind of testing needed to ensure model integrity and identify conditions under which assumptions are violated and may result in an understatement of EPE. The validation process must include a review of the comprehensiveness of the EPE model, for example such as whether the EPE model covers all products that have a material contribution to counterparty risk exposures.

53.55 The use of an internal model to estimate EPE, and hence the exposure amount or EAD, of positions subject to a CCR capital requirement will be conditional upon the explicit approval of the bank's supervisory authority. Home and host country supervisory authorities of banks that carry out material trading activities in multiple jurisdictions will work co-operatively to ensure an efficient approval process.

53.56 In the Basel Framework and in prior documents, the Committee has issued guidance regarding the use of internal models to estimate certain parameters of risk and determine minimum capital requirements against those risks. Supervisors will require that banks seeking to make use of internal models to estimate EPE meet similar requirements regarding, for example, the integrity of the risk management system, the skills of staff that will rely on such measures in operational areas and in control functions, the accuracy of models, and the rigour of internal controls over relevant internal processes. As an example, banks seeking to make use of an internal model to estimate EPE must demonstrate that they meet the Committee's general criteria for banks seeking to make use of internal models to assess market risk exposures, but in the context of assessing counterparty credit risk.[5]

Footnotes

[5] *See MAR30.1 to MAR30.4.*

53.57 The supervisory review process (SRP) standard of this framework provides general background and specific guidance to cover counterparty credit risks that may not be fully covered by the Pillar 1 process.

53.58 No particular form of model is required to qualify to make use of an internal model. Although this text describes an internal model as a simulation model, other forms of models, including analytic models, are acceptable subject to supervisory approval and review. Banks that seek recognition for the use of an internal model that is not based on simulations must demonstrate to their supervisors that the model meets all operational requirements.

53.59 For a bank that qualifies to net transactions, the bank must have internal procedures to verify that, prior to including a transaction in a netting set, the transaction is covered by a legally enforceable netting contract that meets the applicable requirements of the standardised approach to counterparty credit risk (CRE52), the credit risk mitigation chapter of the framework (CRE22), or the Cross-Product Netting Rules set forth CRE53.61 to CRE53.71 below.

53.60 For a bank that makes use of collateral to mitigate its CCR, the bank must have internal procedures to verify that, prior to recognising the effect of collateral in its calculations, the collateral meets the appropriate legal certainty standards as set out in CRE22.

Cross-product netting rules

53.61 The Cross-Product Netting Rules apply specifically to netting across SFTs, or to netting across both SFTs and OTC derivatives, for purposes of regulatory capital computation under IMM.

53.62 Banks that receive approval to estimate their exposures to CCR using the internal models method may include within a netting set SFTs, or both SFTs and OTC derivatives subject to a legally valid form of bilateral netting that satisfies the following legal and operational criteria for a Cross-Product Netting Arrangement (as defined below). The bank must also have satisfied any prior approval or other procedural requirements that its national supervisor determines to implement for purposes of recognising a Cross-Product Netting Arrangement.

Legal Criteria

53.63 The bank has executed a written, bilateral netting agreement with the counterparty that creates a single legal obligation, covering all included bilateral master agreements and transactions ("Cross-Product Netting Arrangement"), such that the bank would have either a claim to receive or obligation to pay only the net sum of the positive and negative (i) close-out values of any included individual master agreements and (ii) mark-to-market values of any included individual transactions (the "Cross-Product Net Amount"), in the event a counterparty fails to perform due to any of the following: default, bankruptcy, liquidation or similar circumstances.

53.64 The bank has written and reasoned legal opinions that conclude with a high degree of certainty that, in the event of a legal challenge, relevant courts or administrative authorities would find the bank's exposure under the Cross-Product Netting Arrangement to be the Cross-Product Net Amount under the laws of all relevant jurisdictions. In reaching this conclusion, legal opinions must address the validity and enforceability of the entire Cross-Product Netting Arrangement under its terms and the impact of the Cross-Product Netting Arrangement on the material provisions of any included bilateral master agreement.

(1) The laws of "all relevant jurisdictions" are: (i) the law of the jurisdiction in which the counterparty is chartered and, if the foreign branch of a counterparty is involved, then also under the law of the jurisdiction in which the branch is located, (ii) the law that governs the individual transactions, and (iii) the law that governs any contract or agreement necessary to effect the netting.

(2) A legal opinion must be generally recognised as such by the legal community in the bank's home country or a memorandum of law that addresses all relevant issues in a reasoned manner.

53.65 The bank has internal procedures to verify that, prior to including a transaction in a netting set, the transaction is covered by legal opinions that meet the above criteria.

53.66 The bank undertakes to update legal opinions as necessary to ensure continuing enforceability of the Cross-Product Netting Arrangement in light of possible changes in relevant law.

53.67 The Cross-Product Netting Arrangement does not include a walkaway clause. A walkaway clause is a provision which permits a non-defaulting counterparty to make only limited payments, or no payment at all, to the estate of the defaulter, even if the defaulter is a net creditor.

53.68 Each included bilateral master agreement and transaction included in the Cross-Product Netting Arrangement satisfies applicable legal requirements for recognition of credit risk mitigation techniques in CRE22.

53.69 The bank maintains all required documentation in its files.

Operational Criteria

53.70

The supervisory authority is satisfied that the effects of a Cross-Product Netting Arrangement are factored into the bank's measurement of a counterparty's aggregate credit risk exposure and that the bank manages its counterparty credit risk on such basis.

53.71 Credit risk to each counterparty is aggregated to arrive at a single legal exposure across products covered by the Cross-Product Netting Arrangement. This aggregation must be factored into credit limit and economic capital processes.

CRE54

Capital requirements for bank exposures to central counterparties

This chapter sets out the calculation of capital requirements for bank exposures to central counterparties.

Version effective as of 01 Jan 2023

Cross references updated to take account of the revised credit risk standards that come into effect due to the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020.

Scope of application

54.1 This chapter applies to exposures to central counterparties arising from over-the-counter (OTC) derivatives, exchange-traded derivatives transactions, securities financing transactions (SFTs) and long settlement transactions. Exposures arising from the settlement of cash transactions (equities, fixed income, spot foreign exchange and spot commodities) are not subject to this treatment.[1] The settlement of cash transactions remains subject to the treatment described in CRE70.

Footnotes

[1] *For contributions to prepaid default funds covering settlement-risk-only products, the applicable risk weight is 0%.*

54.2 When the clearing member-to-client leg of an exchange-traded derivatives transaction is conducted under a bilateral agreement, both the client bank and the clearing member are to capitalise that transaction as an OTC derivative.[2] This treatment also applies to transactions between lower-level clients and higher-level clients in a multi-level client structure.

Footnotes

[2] *For this purpose, the treatment in CRE54.12 would also apply.*

Central Counterparties

54.3 Regardless of whether a central counterparty (CCP) is classified as a qualifying CCP (QCCP), a bank retains the responsibility to ensure that it maintains adequate capital for its exposures. Under the supervisory review process standard (SRP), a bank should consider whether it might need to hold capital in excess of the minimum capital requirements if, for example:

(1) its dealings with a CCP give rise to more risky exposures;

(2) where, given the context of that bank's dealings, it is unclear that the CCP meets the definition of a QCCP; or

(3) an external assessment such as an International Monetary Fund Financial Sector Assessment Program has found material shortcomings in the CCP or the regulation of CCPs, and the CCP and/or the CCP regulator have not since publicly addressed the issues identified.

54.4 Where the bank is acting as a clearing member, the bank should assess through appropriate scenario analysis and stress testing whether the level of capital held against exposures to a CCP adequately addresses the inherent risks of those transactions. This assessment will include potential future or contingent exposures resulting from future drawings on default fund commitments, and/or from secondary commitments to take over or replace offsetting transactions from clients of another clearing member in case of this clearing member defaulting or becoming insolvent.

54.5 A bank must monitor and report to senior management and the appropriate committee of the Board on a regular basis all of its exposures to CCPs, including exposures arising from trading through a CCP and exposures arising from CCP membership obligations such as default fund contributions.

54.6 Where a bank is clearing derivative, SFT and/or long settlement transactions through a QCCP as defined in CRE50, then paragraphs CRE54.7 to CRE54.40 will apply. In the case of non-qualifying CCPs, paragraphs CRE54.41 and CRE54.42 will apply. Within three months of a CCP ceasing to qualify as a QCCP, unless a bank's national supervisor requires otherwise, the trades with a former QCCP may continue to be capitalised as though they are with a QCCP. After that time, the bank's exposures with such a CCP must be capitalised according to paragraphs CRE54.41 and CRE54.42.

Exposures to Qualifying CCPs : trade exposures

Clearing member exposures to CCPs

54.7 Where a bank acts as a clearing member of a CCP for its own purposes, a risk weight of 2% must be applied to the bank's trade exposure to the CCP in respect of OTC derivatives, exchange-traded derivative transactions, SFTs and long-settlement transactions. Where the clearing member offers clearing services to clients, the 2% risk weight also applies to the clearing member's trade exposure to the CCP that arises when the clearing member is obligated to reimburse the client for any losses suffered due to changes in the value of its transactions in the event that the CCP defaults. The risk weight applied to collateral posted to the CCP by the bank must be determined in accordance with paragraphs CRE54.18 to CRE54.23.

54.8

The exposure amount for a bank's trade exposure is to be calculated in accordance with methods set out in the counterparty credit risk chapters of the Basel framework (see paragraph CRE51.8), as consistently applied by the bank in the ordinary course of its business.[3] In applying these methods:

(1) Provided that the netting set does not contain illiquid collateral or exotic trades and provided there are no disputed trades, the 20-day floor for the margin period of risk (MPOR) established for netting sets where the number of trades exceeds 5000 does not apply. This floor is set out in CRE52.51(1) of the standardised approach for counterparty credit risk (SA-CCR), CRE22.61 of comprehensive approach within the standardised approach to credit risk and CRE53.24(1) of the internal models method (IMM).

(2) In all cases, a minimum MPOR of 10 days must be used for the calculation of trade exposures to CCPs for OTC derivatives.

(3) Where CCPs retain variation margin against certain trades (eg where CCPs collect and hold variation margin against positions in exchange-traded or OTC forwards), and the member collateral is not protected against the insolvency of the CCP, the minimum time risk horizon applied to banks' trade exposures on those trades must be the lesser of one year and the remaining maturity of the transaction, with a floor of 10 business days.

Footnotes

[3] *Where the firm's internal model permission does not specifically cover centrally cleared products, the IMM scope would have to be extended to cover these products (even where the non-centrally cleared versions are included in the permission). Usually, national supervisors have a well-defined model approval/change process by which IMM firms can extend the products covered within their IMM scope. The introduction of a centrally cleared version of a product within the existing IMM scope must be considered as part of such a model change process, as opposed to a natural extension.*

54.9 The methods for calculating counterparty credit risk exposures (see CRE51.8), when applied to bilateral trading exposures (ie non-CCP counterparties), require banks to calculate exposures for each individual netting set. However, netting arrangements for CCPs are not as standardised as those for OTC netting agreements in the context of bilateral trading. As a consequence, paragraph CRE54.10 below makes certain adjustments to the methods for calculating counterparty credit risk exposure to permit netting under certain conditions for exposures to CCPs.

54.10 Where settlement is legally enforceable on a net basis in an event of default and regardless of whether the counterparty is insolvent or bankrupt, the total replacement cost of all contracts relevant to the trade exposure determination can be calculated as a net replacement cost if the applicable close-out netting sets meet the requirements set out in:

(1) Paragraphs CRE22.62 and, where applicable, also CRE22.63 in the case of repo-style transactions.

(2) CRE52.7 and CRE52.8 of the SA-CCR in the case of derivative transactions.

(3) CRE53.61 to CRE53.71 of IMM in the case of cross-product netting.

54.11 To the extent that the rules referenced in CRE54.10 above include the term "master agreement" or the phrase "a netting contract with a counterparty or other agreement", this terminology must be read as including any enforceable arrangement that provides legally enforceable rights of set-off. If the bank cannot demonstrate that netting agreements meet these requirements, each single transaction will be regarded as a netting set of its own for the calculation of trade exposure.

Clearing member exposures to clients

54.12 The clearing member will always capitalise its exposure (including potential credit valuation adjustment, or CVA, risk exposure) to clients as bilateral trades, irrespective of whether the clearing member guarantees the trade or acts as an intermediary between the client and the CCP. However, to recognise the shorter close-out period for cleared client transactions, clearing members can capitalise the exposure to their clients applying a margin period of risk of at least five days in IMM or SA-CCR. The reduced exposure at default (EAD) should also be used for the calculation of the CVA capital requirement.

54.13 If a clearing member collects collateral from a client for client cleared trades and this collateral is passed on to the CCP, the clearing member may recognise this collateral for both the CCP-clearing member leg and the clearing member-client leg of the client-cleared trade. Therefore, initial margin posted by clients to their

clearing member mitigates the exposure the clearing member has against these clients. The same treatment applies, in an analogous fashion, to multi-level client structures (between a higher-level client and a lower-level client).

FAQ

FAQ1 *What treatment must a clearing member bank apply to collateral that is collected from a client of the clearing member and posted to a CCP, but that is not held in a bankruptcy-remote manner, where the clearing member is not obligated to reimburse the client for any losses due to changes in the value of its transactions in the event that the CCP defaults?*

If the clearing member bank is not obligated to reimburse the client for any loss of such posted collateral in the event that the CCP defaults, the clearing member bank is not subject to capital requirements for the posted collateral. If the clearing member bank is obligated to reimburse the client for any loss of posted collateral in the event the CCP defaults, the clearing member bank should compute the capital requirement for the posted collateral held by the CCP as an exposure to the CCP.

Client exposures

54.14 Subject to the two conditions set out in CRE54.15 below being met, the treatment set out in CRE54.7 to CRE54.11 (ie the treatment of clearing member exposures to CCPs) also applies to the following:

(1) A bank's exposure to a clearing member where:

(a) the bank is a client of the clearing member; and

(b) the transactions arise as a result of the clearing member acting as a financial intermediary (ie the clearing member completes an offsetting transaction with a CCP).

(2) A bank's exposure to a CCP resulting from a transaction with the CCP where:

(a) the bank is a client of a clearing member; and

(b) the clearing member guarantees the performance the bank's exposure to the CCP.

(3) Exposures of lower-level clients to higher-level clients in a multi-level client structure, provided that for all client levels in-between the two conditions in CRE54.15 below are met.

54.15 The two conditions referenced in CRE54.14 above are:

(1) The offsetting transactions are identified by the CCP as client transactions and collateral to support them is held by the CCP and/or the clearing member, as applicable, under arrangements that prevent any losses to the client due to: (a) the default or insolvency of the clearing member; (b) the default or insolvency of the clearing member's other clients; and (c) the joint default or insolvency of the clearing member and any of its other clients. Regarding the condition set out in this paragraph:

(a) Upon the insolvency of the clearing member, there must be no legal impediment (other than the need to obtain a court order to which the client is entitled) to the transfer of the collateral belonging to clients of a defaulting clearing member to the CCP, to one or more other surviving clearing members or to the client or the client's nominee. National supervisors should be consulted to determine whether this is achieved based on particular facts and such supervisors should consult and communicate with other supervisors via the "frequently asked questions" process to ensure consistency.

(b) The client must have conducted a sufficient legal review (and undertake such further review as necessary to ensure continuing enforceability) and have a well founded basis to conclude that, in the event of legal challenge, the relevant courts and administrative authorities would find that such arrangements mentioned above would be legal, valid, binding and enforceable under the relevant laws of the relevant jurisdiction(s).

(2) Relevant laws, regulation, rules, contractual, or administrative arrangements provide that the offsetting transactions with the defaulted or insolvent clearing member are highly likely to continue to be indirectly transacted through the CCP, or by the CCP, if the clearing member defaults or becomes insolvent. In such circumstances, the client positions and collateral with the CCP will be transferred at market value unless the client requests to close out the position at market value. Regarding the condition set out in this paragraph, if there is a clear precedent for transactions being ported at a

CCP and industry intent for this practice to continue, then these factors must be considered when assessing if trades are highly likely to be ported. The fact that CCP documentation does not prohibit client trades from being ported is not sufficient to say they are highly likely to be ported.

54.16 Where a client is not protected from losses in the case that the clearing member and another client of the clearing member jointly default or become jointly insolvent, but all other conditions in the preceding paragraph are met, a risk weight of 4% will apply to the client's exposure to the clearing member, or to the higher-level client, respectively.

FAQ

FAQ1 *What is the applicable capital treatment for collateral posted by a bank as a client of a clearing member and held at the qualifying CCP, where conditions set out in CRE54.15 and CRE54.16 are not met?*

Where the collateral is posted by a bank as a client of a clearing member and held at the qualifying CCP not in a bankruptcy remote manner and where it does not meet the conditions set out in CRE54.15 and CRE54.16, the bank must apply the risk weight of the clearing member to those collateral exposures.

54.17 Where the bank is a client of the clearing member and the requirements in CRE54.14 to CRE54.16 above are not met, the bank will capitalise its exposure (including potential CVA risk exposure) to the clearing member as a bilateral trade.

Treatment of posted collateral

54.18 In all cases, any assets or collateral posted must, from the perspective of the bank posting such collateral, receive the risk weights that otherwise applies to such assets or collateral under the capital adequacy framework, regardless of the fact that such assets have been posted as collateral. That is, collateral posted must receive the banking book or trading book treatment it would receive if it had not been posted to the CCP.

54.19 In addition to the requirements of CRE54.18 above, the posted assets or collateral are subject to the counterparty credit risk requirements, regardless of whether they are in the banking or trading book. This includes the increase in the counterparty credit risk exposure due to the application of haircuts. The counterparty credit risk requirements arise where assets or collateral of a clearing member or client are posted with a CCP or a clearing member and are not held in a bankruptcy remote manner. In such cases, the bank posting such assets or collateral must recognise credit risk based upon the assets or collateral being exposed to risk of loss based on the creditworthiness of the entity holding such assets or collateral, as described further below.

54.20 Where such collateral is included in the definition of trade exposures (see CRE50) and the entity holding the collateral is the CCP, the following risk weights apply where the assets or collateral is not held on a bankruptcy-remote basis:

(1) For banks that are clearing members a risk weight of 2% applies.

(2) For banks that are clients of clearing members:

(a) a 2% risk weight applies if the conditions established in CRE54.14 and CRE54.15 are met; or

(b) a 4% risk weight applies if the conditions in CRE54.16 are met.

54.21 Where such collateral is included in the definition of trade exposures (see CRE50), there is no capital requirement for counterparty credit risk exposure (ie the related risk weight or EAD is equal to zero) if the collateral is: (a) held by a custodian; and (b) bankruptcy remote from the CCP. Regarding this paragraph:

(1) All forms of collateral are included, such as: cash, securities, other pledged assets, and excess initial or variation margin, also called overcollateralidation.

(2) The word “custodian” may include a trustee, agent, pledgee, secured creditor or any other person that holds property in a way that does not give such person a beneficial interest in such property and will not result in such property being subject to legally-enforceable claims by such persons creditors, or to a court-ordered stay of the return of such property, if such person becomes insolvent or bankrupt.

54.22 The relevant risk weight of the CCP will apply to assets or collateral posted by a bank that do not meet the definition of trade exposures (for example treating the exposure as a financial institution under standardised approach or internal ratings-based approach to credit risk).

54.23 Regarding the calculation of the exposure, or EAD, where banks use the SA-CCR to calculate exposures, collateral posted which is not held in a bankruptcy remote manner must be accounted for in the net independent collateral amount term in accordance with CRE52.15 to CRE52.19. For banks using IMM models, the alpha multiplier must be applied to the exposure on posted collateral.

Default fund exposures

54.24 Where a default fund is shared between products or types of business with settlement risk only (eg equities and bonds) and products or types of business which give rise to counterparty credit risk ie OTC derivatives, exchange-traded derivatives, SFTs or long settlement transactions, all of the default fund contributions will receive the risk weight determined according to the formulae and methodology set forth below, without apportioning to different classes or types of business or products. However, where the default fund contributions from clearing members are segregated by product types and only accessible for specific product types, the capital requirements for those default fund exposures determined according to the formulae and methodology set forth below must be calculated for each specific product giving rise to counterparty credit risk. In case the CCP's prefunded own resources are shared among product types, the CCP will have to allocate those funds to each of the calculations, in proportion to the respective product specific EAD.

54.25 Whenever a bank is required to capitalise for exposures arising from default fund contributions to a QCCP, clearing member banks will apply the following approach.

54.26 Clearing member banks will apply a risk weight to their default fund contributions determined according to a risk sensitive formula that considers (i) the size and quality of a qualifying CCP's financial resources, (ii) the counterparty credit risk exposures of such CCP, and (iii) the application of such financial resources via the CCP's loss-bearing waterfall, in the case of one or more clearing member defaults. The clearing member bank's risk sensitive capital requirement for its default fund contribution (K_{CMi}) must be calculated using the formulae and methodology set forth below. This calculation may be performed by a CCP, bank, supervisor or other body with access to the required data, as long as the conditions in CRE54.37 to CRE54.39 are met.

54.27 The clearing member bank's risk-sensitive capital requirement for its default fund contribution (K_{CMi}) is calculated in two steps:

(1) Calculate the hypothetical capital requirement of the CCP due to its counterparty credit risk exposures to all of its clearing members and their clients.

(2) Calculate the capital requirement for the clearing member bank.

Hypothetical capital requirement of the CCP

54.28 The first step in calculating the clearing member bank's capital requirement for its default fund contribution (K_{CMi}) is to calculate the hypothetical capital requirement of the CCP (K_{CCP}) due to its counterparty credit risk exposures to all of its clearing members and their clients. K_{CCP} is a hypothetical capital requirement for a CCP, calculated on a consistent basis for the sole purpose of determining the capitalisation of clearing member default fund contributions; it does not represent the actual capital requirements for a CCP which may be determined by a CCP and its supervisor.

54.29 K_{CCP} is calculated using the following formula, where:

(1) RW is a risk weight of 20%[4]

(2) capital ratio is 8%

(3) CM is the clearing member

(4) EAD_i is the exposure amount of the CCP to clearing member 'i', relating to the valuation at the end of the regulatory reporting date before the margin called on the final margin call of that day is exchanged. The exposure includes both:

(a) the clearing member's own transactions and client transactions guaranteed by the clearing member; and

(b) all values of collateral held by the CCP (including the clearing member's prefunded default fund contribution) against the transactions in (a).

(5) The sum is over all clearing member accounts.

$$K_{CCP} = \sum_{CM_i} EAD_i \cdot RW \cdot capital\ ratio$$

Footnotes

[4] *The 20% risk weight is a minimum requirement. As with other parts of the capital adequacy framework, the national supervisor of a bank may increase the risk weight. An increase in such risk weight would be appropriate if, for example, the clearing members in a CCP are not highly rated. Any such increase in risk weight is to be communicated by the affected banks to the person completing this calculation.*

54.30 Where clearing members provide client clearing services, and client transactions and collateral are held in separate (individual or omnibus) sub-accounts to the clearing member's proprietary business, each such client sub-account should enter the sum in CRE54.29 above separately, ie the member EAD in the formula above is then the sum of the client sub-account EADs and any house sub-account EAD. This will ensure that client collateral cannot be used to offset the CCP's exposures to clearing members' proprietary activity in the calculation of K_{CCP}. If any of these sub-accounts contains both derivatives and SFTs, the EAD of that sub-account is the sum of the derivative EAD and the SFT EAD.

54.31 In the case that collateral is held against an account containing both SFTs and derivatives, the prefunded initial margin provided by the member or client must be allocated to the SFT and derivatives exposures in proportion to the respective product-specific EADs, calculated according to:

(1) CRE22.68 to CRE22.72 for SFTs; and

(2) SA-CCR (see CRE52) for derivatives, without including the effects of collateral.

54.32 If the default fund contributions of the member (DF_i) are not split with regard to client and house sub-accounts, they must be allocated per sub-account according to the respective fraction the initial margin of that sub-account has in relation to the total initial margin posted by or for the account of the clearing member.

54.33 For derivatives, EAD_i is calculated as the bilateral trade exposure the CCP has against the clearing member using the SA-CCR. In applying the SA-CCR:

(1) A MPOR of 10 business days must be used to calculate the CCP's potential future exposure to its clearing members on derivatives transactions (the 20 day floor on the MPOR for netting sets with more than 5000 trades does not apply).

(2) All collateral held by a CCP to which that CCP has a legal claim in the event of the default of the member or client, including default fund contributions

of that member (DF_i), is used to offset the CCP's exposure to that member or client, through inclusion in the PFE multiplier in accordance with CRE52.21 to CRE52.23.

54.34 For SFTs, EAD_i is equal to max($EBRM_i$ – IM_i – DF_i; 0), where:

(1) $EBRM_i$ denotes the exposure value to clearing member 'i' before risk mitigation under CRE22.69 to CRE22.73; where, for the purposes of this calculation, variation margin that has been exchanged (before the margin called on the final margin call of that day) enters into the mark-to-market value of the transactions.

(2) IM_i is the initial margin collateral posted by the clearing member with the CCP.

(3) DF_i is the prefunded default fund contribution by the clearing member that will be applied upon such clearing member's default, either along with or immediately following such member's initial margin, to reduce the CCP loss.

54.35 As regards the calculation in this first step (ie CRE54.28 to CRE54.34):

(1) Any haircuts to be applied for SFTs must be the standard supervisory haircuts set out in CRE22.44.

(2) The holding periods for SFT calculations in CRE22.61 to CRE22.64 apply.

(3) The netting sets that are applicable to regulated clearing members are the same as those referred to in CRE54.10 and CRE54.11. For all other clearing members, they need to follow the netting rules as laid out by the CCP based upon notification of each of its clearing members. The national supervisor can demand more granular netting sets than laid out by the CCP.

Capital requirement for each clearing member

54.36 The second step in calculating the clearing member bank's capital requirement for its default fund contribution (K_{CMi}) is to apply the following formula,[5] where:

(1) K_{CMi} is the capital requirement on the default fund contribution of clearing member bank i

(2) DF_{CM}^{pref} is the total prefunded default fund contributions from clearing members

(3) DF_{CCP} is the CCP's prefunded own resources (eg contributed capital, retained earnings, etc), which are contributed to the default waterfall, where these are junior or pari passu to prefunded member contributions

(4) DF_{i}^{pref} is the prefunded default fund contributions provided by clearing member bank i

$$K_{CM_i} = \max\left(K_{CCP} \cdot \left(\frac{DF_i^{pref}}{DF_{CCP} + DF_{CM}^{pref}} \right); 8\% * 2\% * DF_i^{pref} \right)$$

Footnotes

[5] *The formula puts a floor on the default fund exposure risk weight of 2%.*

FAQ

FAQ1 *Is collateral posted as default fund contributions to a qualifying CCP subject to standardised supervisory haircuts in the computation of capital requirements for each clearing member (K_{CMi})?*

No. Exposures for collateral posted as default fund contributions to a qualifying CCP are not subject to haircuts in the computation of capital requirements for each clearing member (K_{CMi}) per the formula in CRE54.36. However, haircuts apply for collateral used in the computation of EAD in the formula for Kccp in CRE54.29.

54.37 The CCP, bank, supervisor or other body with access to the required data, must make a calculation of K_{CCP}, DF_{CM}^{pref}, and DF_{CCP} in such a way to permit the supervisor of the CCP to oversee those calculations, and it must share sufficient information of the calculation results to permit each clearing member to calculate their capital requirement for the default fund and for the bank supervisor of such clearing member to review and confirm such calculations.

54.38 K_{CCP} must be calculated on a quarterly basis at a minimum; although national supervisors may require more frequent calculations in case of material changes (such as the CCP clearing a new product). The CCP, bank, supervisor or other body that did the calculations must make available to the home supervisor of any bank clearing member sufficient aggregate information about the composition of the CCP's exposures to clearing members and information provided to the clearing member for the purposes of the calculation of K_{CCP}, DF_{CM}^{pref}, and DF_{CCP}. Such information must be provided no less frequently than the home bank supervisor would require for monitoring the risk of the clearing member that it supervises.

54.39 K_{CCP} and K_{CMi} must be recalculated at least quarterly, and should also be recalculated when there are material changes to the number or exposure of cleared transactions or material changes to the financial resources of the CCP.

Cap with regard to QCCPs

54.40 Where the sum of a bank's capital requirements for exposures to a QCCP due to its trade exposure and default fund contribution is higher than the total capital requirement that would be applied to those same exposures if the CCP were for a non-qualifying CCP, as outlined in CRE54.41 and CRE54.42 below, the latter total capital requirement shall be applied.

Exposures to non-qualifying CCPs

54.41 Banks must apply the standardised approach for credit risk, according to the category of the counterparty, to their trade exposure to a non-qualifying CCP.

54.42 Banks must apply a risk weight of 1250% to their default fund contributions to a non-qualifying CCP. For the purposes of this paragraph, the default fund contributions of such banks will include both the funded and the unfunded contributions which are liable to be paid if the CCP so requires. Where there is a liability for unfunded contributions (ie unlimited binding commitments), the national supervisor should determine in its supervisory review process assessments the amount of unfunded commitments to which a 1250% risk weight applies.

CRE55

Counterparty credit risk in the trading book

This chapter describes how to calculate risk-weighted assets for counterparty credit risk exposures in the trading book, which is treated separately from the capital requirements for market risk.

Version effective as of 01 Jan 2023

Cross references updated and references to own estimates of haircuts deleted to take account of the revised credit risk standards that come into effect due to the December 2017 Basel III publication, the revised implementation date announced on 27 March 2020 and a FAQ published on 14 December 2023.

55.1 Banks must calculate the counterparty credit risk charge for over-the-counter (OTC) derivatives, repo-style and other transactions booked in the trading book, separate from the capital requirement for market risk.[1] The risk weights to be used in this calculation must be consistent with those used for calculating the capital requirements in the banking book. Thus, banks using the standardised approach in the banking book will use the standardised approach risk weights in the trading book and banks using the internal ratings-based (IRB) approach in the banking book will use the IRB risk weights in the trading book in a manner consistent with the IRB roll-out situation in the banking book as described in CRE30.45 to CRE30.52. For counterparties included in portfolios where the IRB approach is being used the IRB risk weights will have to be applied.

Footnotes

[1] *The treatment for unsettled foreign exchange and securities trades is set forth in CRE70.*

55.2 In the trading book, for repo-style transactions, all instruments, which are included in the trading book, may be used as eligible collateral. Those instruments which fall outside the banking book definition of eligible collateral shall be subject to a haircut at the level applicable to non-main index equities listed on recognised exchanges (as noted in CRE22.49 and CRE22.50). Where banks are using a value-at-risk approach to measuring exposure for securities financing transactions, they also may apply this approach in the trading book in accordance with CRE32.39 to CRE32.42 and CRE51.

FAQ

FAQ1 *Can cryptoassets used in repo-style transactions be used as eligible collateral when they are included in the trading book?*

[SCO60.94] address the calculation of counterparty credit risk for SFTs involving cryptoassets. It states that banks must apply the comprehensive approach formula set out in the credit risk mitigation section of the standardised approach to credit risk. Furthermore, it states that Group 1b, Group 2a and Group 2b cryptoassets are not eligible forms of collateral in the comprehensive approach. These requirements apply to SFTs irrespective of whether they are in the banking book or trading book.

TEST!

55.3 The calculation of the counterparty credit risk charge for collateralised OTC derivative transactions is the same as the rules prescribed for such transactions booked in the banking book (see CRE51).

55.4 The calculation of the counterparty charge for repo-style transactions will be conducted using the rules in CRE51 spelt out for such transactions booked in the banking book. The firm-size adjustment for small or medium-sized entities as set out in CRE31.8 shall also be applicable in the trading book.

CRE56

Minimum haircut floors for securities financing transactions

This chapter sets out the minimum haircut floors for securities financing transactions and the treatment of portfolios that breach the floors.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework, updated to take account of the revised implementation date announced on 27 March 2020 and the technical amendments announced on 1 July 2021.

Scope

56.1 This chapter specifies the treatment of certain non-centrally cleared securities financing transactions (SFTs) with certain counterparties. The requirements are not applicable to banks in jurisdictions that are prohibited from conducting such transactions below the minimum haircut floors specified in CRE56.6 below.

56.2 The haircut floors found in CRE56.6 below apply to the following transactions:

(1) Non-centrally cleared SFTs in which the financing (ie the lending of cash) against collateral other than government securities is provided to counterparties who are not supervised by a regulator that imposes prudential requirements consistent with international norms.

(2) Collateral upgrade transactions with these same counterparties. A collateral upgrade transaction is when a bank lends a security to its counterparty and the counterparty pledges a lower-quality security as collateral, thus allowing the counterparty to exchange a lower-quality security for a higher quality security. For these transactions, the floors must be calculated according to the formula set out in CRE56.9 below.

56.3 SFTs with central banks are not subject to the haircut floors.

56.4 Cash-collateralised securities lending transactions are exempted from the haircut floors where:

(1) Securities are lent (to the bank) at long maturities and the lender of securities reinvests or employs the cash at the same or shorter maturity, therefore not giving rise to material maturity or liquidity mismatch.

(2) Securities are lent (to the bank) at call or at short maturities, giving rise to liquidity risk, only if the lender of the securities reinvests the cash collateral into a reinvestment fund or account subject to regulations or regulatory guidance meeting the minimum standards for reinvestment of cash collateral by securities lenders set out in Section 3.1 of the Policy Framework for Addressing Shadow Banking Risks in Securities Lending and Repos.[1] For this purpose, banks may rely on representations by securities lenders that their reinvestment of cash collateral meets the minimum standards.

Footnotes

[1] *Financial Stability Board, Strengthening oversight and regulation of shadow banking, Policy framework for addressing shadow banking risks in securities lending and repos, 29 August 2013, www.fsb.org/wp-content/uploads/r_130829b.pdf.*

56.5 Banks that borrow (or lend) securities are exempted from the haircut floors on collateral upgrade transactions if the recipient of the securities that the bank has delivered as collateral (or lent) is either: (i) unable to re-use the securities (for example, because the securities have been provided under a pledge arrangement); or (ii) provides representations to the bank that they do not and will not re-use the securities.

Haircut floors

56.6 These are the haircut floors for SFTs referred to above (herein referred to as "in-scope SFTs"), expressed as percentages:

Residual maturity of collateral	Haircut level	
	Corporate and other issuers	Securitised products
≤ 1 year debt securities, and floating rate notes	0.5%	1%
> 1 year, ≤ 5 years debt securities	1.5%	4%
> 5 years, ≤ 10 years debt securities	3%	6%
> 10 years debt securities	4%	7%
Main index equities	6%	
Other assets within the scope of the framework	10%	

56.7 In-scope SFTs which do not meet the haircut floors must be treated as unsecured loans to the counterparties.

56.8

To determine whether the treatment in CRE56.7 applies to an in-scope SFT (or a netting set of SFTs in the case of portfolio-level haircuts), we must compare the collateral haircut H (real or calculated as per the rules below) and a haircut floor f (from CRE56.6 above or calculated as per the below rules).

Single in-scope SFTs

56.9 For a single in-scope SFT not included in a netting set, the values of H and f are computed as:

(1) For a single cash-lent-for-collateral SFT, H and f are known since H is simply defined by the amount of collateral received and f is given in CRE56.6.[2] For the purposes of this calculation, collateral that is called by either counterparty can be treated collateral received from the moment that it is called (ie the treatment is independent of the settlement period).

(2) For a single collateral-for-collateral SFT, lending collateral A and receiving collateral B, the H is still be defined by the amount of collateral received but the effective floor of the transaction must integrate the floor of the two types of collateral and can be computed using the following formula, which will be compared to the effective haircut of the transaction, ie (C_B/C_A)-1:[3]

$$f = \left[\left(\frac{1}{1+f_A}\right)\Big/\left(\frac{1}{1+f_B}\right)\right]-1 = \frac{1+f_B}{1+f_A}-1$$

Footnotes

[2] *For example, consider an in-scope SFT where 100 cash is lent against 101 of a corporate debt security with a 12-year maturity, H is 1% [(101-100)/100] and f is 4% (per CRE56.6). Therefore, the SFT in question would be subject to the treatment in CRE56.7.*

[3] *For example, consider an in-scope SFT where 102 of a corporate debt security with a 10-year maturity is exchanged against 104 of equity, the effective haircut H of the transaction is 104/102 – 1 = 1.96% which has to be compared with the effective floor f of 1.06/1.03 – 1 =2.91%. Therefore, the SFT in question would be subject to the treatment in CRE56.7.*

Netting set of SFTs

56.10 For a netting set of SFTs an effective "portfolio" floor of the transaction must be computed using the following formula,[4] where:

(1) E_s is the net position in each security (or cash) s that is net lent;

(2) C_t the net position that is net borrowed; and

(3) f_s and f_t are the haircut floors for the securities that are net lent and net borrowed respectively.

$$f_{Portfolio} = \left[\left(\frac{\sum_s \left(\frac{E_s}{1+f_s} \right)}{\sum_s E_s} \right) \Big/ \left(\frac{\sum_t \left(\frac{C_t}{1+f_t} \right)}{\sum_t C_t} \right) \right] - 1$$

Footnotes

[4] *The formula calculates a weighted average floor of the portfolio.*

56.11 For a netting of SFTs, the portfolio does not breach the floor where:

$$\frac{\sum C_t - \sum E_s}{\sum E_s} \geq f_{Portfolio}$$

56.12 If the portfolio haircut does breach the floor, then the netting set of SFTs is subject to the treatment in CRE56.7. This treatment should be applied to all trades for which the security received appears in the table in CRE56.6 and for which, within the netting set, the bank is also a net receiver in that security. For the purposes of this calculation, collateral that is called by either counterparty can be treated collateral received from the moment that it is called (ie the treatment is independent of the settlement period).

56.13 The following portfolio of trades gives an example of how this methodology works (it shows a portfolio that does not breach the floor):

Actual trades	Cash	Sovereign debt	Collateral A	Collateral B
Floor (f_s)	*0%*	*0%*	*6%*	*10%*
Portfolio of trades	50	100	-400	250
E_s	50	100	0	250
C_t	0	0	400	0

$f_{Portfolio}$	-0.00023
$\frac{\sum C_t - \sum E_s}{\sum E_s}$	0

CRE60

Equity investments in funds

This chapter sets out the approaches that a bank can use to calculate the risk-weighted assets for equity investments in funds.

Version effective as of 01 Jan 2023

Consequential changes resulting from changes to scope of internal ratings-based approach for credit risk that come into effect due to the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020.

Introduction

60.1 Equity investments in funds that are held in the banking book must be treated in a manner consistent with one or more of the following three approaches, which vary in their risk sensitivity and conservatism: the "look-through approach" (LTA), the "mandate-based approach" (MBA), and the "fall-back approach" (FBA). The requirements set out in this chapter (CRE60) apply to banks' equity investments in all types of funds, including off-balance sheet exposures (eg unfunded commitments to subscribe to a fund's future capital calls). Exposures, including underlying exposures held by funds, that are required to be deducted under CAP30 are excluded from the risk weighting treatment outlined in this chapter (CRE60). Illustrative examples of the requirements set out in this chapter are set out in CRE99.

The look-through approach

60.2 The LTA requires a bank to risk weight the underlying exposures of a fund as if the exposures were held directly by the bank. This is the most granular and risk-sensitive approach. It must be used when:

(1) there is sufficient and frequent information provided to the bank regarding the underlying exposures of the fund; and

(2) such information is verified by an independent third party.

60.3 To satisfy condition (1) above, the frequency of financial reporting of the fund must be the same as, or more frequent than, that of the bank's and the granularity of the financial information must be sufficient to calculate the corresponding risk weights. To satisfy condition (2) above, there must be verification of the underlying exposures by an independent third party, such as the depository or the custodian bank or, where applicable, the management company.[1]

Footnotes

[1] *An external audit is not required.*

60.4 Under the LTA banks must risk weight all underlying exposures of the fund as if those exposures were directly held. This includes, for example, any underlying exposure arising from the fund's derivatives activities for situations in which the underlying receives a risk weighting treatment under the calculation of minimum risk based capital requirements (RBC 20) and the associated counterparty credit risk (CCR) exposure. Instead of determining a credit valuation adjustment (CVA) charge associated with the fund's derivatives exposures in accordance with the CVA framework (MAR50), banks must multiply the CCR exposure by a factor of 1.5 before applying the risk weight associated with the counterparty.[2] See CRE99 for an example of how to calculate risk-weighted assets using the LTA.

Footnotes

[2] *A bank is only required to apply the 1.5 factor for transactions that are within the scope of the CVA framework (see MAR50 for the scope of the CVA framework).*

60.5 Banks may rely on third-party calculations for determining the risk weights associated with their equity investments in funds (ie the underlying risk weights of the exposures of the fund) if they do not have adequate data or information to perform the calculations themselves. In such cases, the applicable risk weight shall be 1.2 times higher than the one that would be applicable if the exposure were held directly by the bank.[3]

Footnotes

[3] *For instance, any exposure that is subject to a 20% risk weight under the standardised approach would be weighted at 24% (1.2 * 20%) when the look through is performed by a third party.*

The mandate-based approach

60.6 The second approach, the MBA, provides a method for calculating regulatory capital that can be used when the conditions for applying the LTA are not met.

60.7 Under the MBA banks may use the information contained in a fund's mandate or in the national regulations governing such investment funds.[4] To ensure that all underlying risks are taken into account (including CCR) and that the MBA renders capital requirements no less than the LTA, the risk-weighted assets for the fund's exposures are calculated as the sum of the following three items (see CRE99 for an example of how to calculate risk-weighted assets using the MBA):

(1) Balance sheet exposures (ie the funds' assets) are risk weighted assuming the underlying portfolios are invested to the maximum extent allowed under the fund's mandate in those assets attracting the highest capital requirements, and then progressively in those other assets implying lower capital requirements. If more than one risk weight can be applied to a given exposure, the maximum risk weight applicable must be used.[5]

(2) Whenever the underlying risk of a derivative exposure or an off-balance-sheet item receives a risk weighting treatment under the risk-based capital requirements standard (RBC), the notional amount of the derivative position or of the off-balance sheet exposure is risk weighted accordingly.[6] [7]

(3) The CCR associated with the fund's derivative exposures is calculated using the standardised approach to counterparty credit risk (SA-CCR, see CRE52). SA-CCR calculates the counterparty credit risk exposure of a netting set of derivatives by multiplying (i) the sum of the replacement cost and potential future exposure; by (ii) an alpha factor set at 1.4. Whenever the replacement cost is unknown, the exposure measure for CCR will be calculated in a conservative manner by using the sum of the notional amounts of the derivatives in the netting set as a proxy for the replacement cost, and the multiplier used in the calculation of the potential future exposure will be equal to 1. Whenever the potential future exposure is unknown, it will be calculated as 15% of the sum of the notional values of the derivatives in the netting set.[8] The risk weight associated with the counterparty is applied to the counterparty credit risk exposure. Instead of determining a CVA charge associated with the fund's derivative exposures in accordance with the CVA framework (MAR50), banks must multiply the CCR exposure by a factor of 1.5 before applying the risk weight associated with the counterparty.[9]

Footnotes

[4] *Information used for this purpose is not strictly limited to a fund's mandate or national regulations governing like funds. It may also be drawn from other disclosures of the fund.*

[5] *For instance, for investments in corporate bonds with no ratings restrictions, a risk weight of 150% must be applied.*

[6] *If the underlying is unknown, the full notional amount of derivative positions must be used for the calculation.*

[7] *If the notional amount of derivatives mentioned in CRE60.7 is unknown, it will be estimated conservatively using the maximum notional amount of derivatives allowed under the mandate.*

[8] *For instance, if both the replacement cost and add-on components are unknown, the CCR exposure will be calculated as: 1.4 * (sum of notionals in netting set +0.15*sum of notionals in netting set).*

[9] *A bank is only required to apply the 1.5 factor for transactions that are within the scope of the CVA framework.*

The fall-back approach

60.8 Where neither the LTA nor the MBA is feasible, banks are required to apply the FBA. The FBA applies a 1250% risk weight to the bank's equity investment in the fund.

Treatment of funds that invest in other funds

60.9 When a bank has an investment in a fund (eg Fund A) that itself has an investment in another fund (eg Fund B), which the bank identified by using either the LTA or the MBA, the risk weight applied to the investment of the first fund (ie Fund A's investment in Fund B) can be determined by using one of the three approaches set out above. For all subsequent layers (eg Fund B's investments in Fund C and so forth), the risk weights applied to an investment in another fund (Fund C) can be determined by using the LTA under the condition that the LTA was also used for determining the risk weight for the investment in the fund at the previous layer (Fund B). Otherwise, the FBA must be applied.

Partial use of an approach

60.10 A bank may use a combination of the three approaches when determining the capital requirements for an equity investment in an individual fund, provided that the conditions set out in CRE60.1 to CRE60.12 are met.

Exclusions to the look-through, mandate-based and the fall-back approaches

60.11 Equity holdings in entities whose debt obligations qualify for a zero risk weight can be excluded from the LTA, MBA and FBA approaches (including those publicly sponsored entities where a zero risk weight can be applied), at the discretion of the national supervisor. If a national supervisor makes such an exclusion, this will be available to all banks.

60.12 To promote specified sectors of the economy, supervisors may exclude from the capital requirements equity holdings made under legislated programmes that provide significant subsidies or the investment to the bank and involve some form of government oversight and restrictions on the equity investments. Example of restrictions are limitations on the size and types of businesses in which the bank is investing, allowable amounts of ownership interests, geographical location and other pertinent factors that limit the potential risk of the investment to the bank. Equity holdings made under legislated programmes can only be excluded up to an aggregate of 10% of a bank's total regulatory capital.

Leverage adjustment

60.13 Leverage is defined as the ratio of total assets to total equity. National discretion may be applied to choose a more conservative leverage metric, if deemed appropriate. Leverage is taken into account in the MBA by using the maximum financial leverage permitted in the fund's mandate or in the national regulation governing the fund.

60.14 When determining the capital requirement related to its equity investment in a fund, a bank must apply a leverage adjustment to the average risk weight of the fund, as set out in CRE60.15, subject to a cap of 1250%.

60.15 After calculating the total risk-weighted assets of the fund according to the LTA or the MBA, banks will calculate the average risk weight of the fund (Avg RWfund) by dividing the total risk-weighted assets by the total assets of the fund.

Using Avg RWfund and taking into account the leverage of a fund (Lvg), the risk-weighted assets for a bank's equity investment in a fund can be represented as follows:

$$RWA_{investment} = Avg\ RWfund * Lvg * equity\ investment$$

60.16 The effect of the leverage adjustments depends on the underlying riskiness of the portfolio (ie the average risk weight) as obtained by applying the standardised approach or the IRB approaches for credit risk. The formula can therefore be re-written as:

$$RWA_{investment} = RWA_{fund} * percentage\ of\ shares$$

60.17 See CRE99 for an example of how to calculate the leverage adjustment.

Application of the LTA and MBA to banks using the IRB approach

60.18 Equity investments in funds that are held in the banking book must be treated in a consistent manner based on CRE60.1 to CRE60.17, as adjusted by CRE60.19 to CRE60.20 below.

60.19 Under the LTA:

(1) Banks using an IRB approach must calculate the IRB risk components (ie PD of the underlying exposures and, where applicable, LGD and EAD) associated with the fund's underlying exposures (except where the underlying exposures are equity exposures, in respect of which the standardised approach must be used as required by CRE30.34).

(2) Banks using an IRB approach may use the standardised approach for credit risk (CRE20 to CRE22) when applying risk weights to the underlying components of funds if they are permitted to do so under the provisions relating to the adoption of the IRB approach set out in CRE30 in the case of directly held investments. In addition, when an IRB calculation is not feasible (eg the bank cannot assign the necessary risk components to the underlying exposures in a manner consistent with its own underwriting criteria), the methods set out in CRE60.20 below must be used.

(3) Banks may rely on third-party calculations for determining the risk weights associated with their equity investments in funds (ie the underlying risk weights of the exposures of the fund) if they do not have adequate data or information to perform the calculations themselves. In this case, the third party must use the methods set out in CRE60.20 below, with the applicable risk weight set 1.2 times higher than the one that would be applicable if the exposure were held directly by the bank.

60.20 In cases when the IRB calculation is not feasible (CRE60.19(2) above), a third-party is performing the calculation of risk weights (CRE60.19(3) above) or when the bank is using the MBA the following methods must be used to determine the risk weights associated with the fund's underlying exposures:

(1) for securitisation exposures, the Securitisation External Ratings-Based Approach (SEC-ERBA) set out in CRE42 if this method is implemented by the national regulator; the Securitisation Standardised Approach (SEC-SA) set out in CRE41 if the SEC-ERBA has not been implemented by the national regulator or the bank is not able to use the SEC-ERBA; or a 1250% risk weight where the specified requirements for using the SEC-ERBA or SEC-SA are not met; and

(2) the standardised approach (CRE20 to CRE22) for all other exposures.

CRE70

Capital treatment of unsettled transactions and failed trades

This chapter sets out the capital requirements that apply to failed trades and unsettled securities, commodities, and foreign exchange transactions.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Overarching principles

70.1 Banks are exposed to the risk associated with unsettled securities, commodities, and foreign exchange transactions from trade date. Irrespective of the booking or the accounting of the transaction, unsettled transactions must be taken into account for regulatory capital requirements purposes.

70.2 Banks are encouraged to develop, implement and improve systems for tracking and monitoring the credit risk exposure arising from unsettled transactions and failed trades as appropriate so that they can produce management information that facilitates timely action. Banks must closely monitor securities, commodities, and foreign exchange transactions that have failed, starting the first day they fail.

Delivery-versus-payment transactions

70.3 Transactions settled through a delivery-versus-payment system (DvP),[1] providing simultaneous exchanges of securities for cash, expose firms to a risk of loss on the difference between the transaction valued at the agreed settlement price and the transaction valued at current market price (ie positive current exposure). Banks must calculate a capital requirement for such exposures if the payments have not yet taken place five business days after the settlement date, see CRE70.9 below.

Footnotes

[1] *For the purpose of this Framework, DvP transactions include payment-versus-payment transactions.*

Non-delivery-versus-payment transactions (free deliveries)

70.4 Transactions where cash is paid without receipt of the corresponding receivable (securities, foreign currencies, gold, or commodities) or, conversely, deliverables were delivered without receipt of the corresponding cash payment (non-DvP, or free deliveries) expose firms to a risk of loss on the full amount of cash paid or deliverables delivered. Banks that have made the first contractual payment /delivery leg must calculate a capital requirement for the exposure if the second leg has not been received by the end of the business day. The requirement increases if the second leg has not been received within five business days. See CRE70.10 to CRE70.12.

Scope of requirements

70.5 The capital treatment set out in this chapter is applicable to all transactions on securities, foreign exchange instruments, and commodities that give rise to a risk of delayed settlement or delivery. This includes transactions through recognised clearing houses and central counterparties that are subject to daily mark-to-market and payment of daily variation margins and that involve a mismatched trade. The treatment does not apply to the instruments that are subject to the counterparty credit risk requirements set out in CRE51 (ie over-the-counter derivatives, exchange-traded derivatives, long settlement transactions, securities financing transactions).

70.6 Where they do not appear on the balance sheet (ie settlement date accounting), the unsettled exposure amount will receive a 100% credit conversion factor to determine the credit equivalent amount.

70.7 In cases of a system-wide failure of a settlement, clearing system or central counterparty, a national supervisor may use its discretion to waive capital requirements until the situation is rectified.

70.8 Failure of a counterparty to settle a trade in itself will not be deemed a default for purposes of credit risk under the Basel Framework.

Capital requirements for DvP transactions

70.9 For DvP transactions, if the payments have not yet taken place five business days after the settlement date, firms must calculate a capital requirement by multiplying the positive current exposure of the transaction by the appropriate factor, according to the Table 1 below.

Table 1

Number of business days after the agreed settlement date	Corresponding risk multiplier
From 5 to 15	8%
From 16 to 30	50%
From 31 to 45	75%
46 or more	100%

Capital requirements for non-DvP transactions (free deliveries)

70.10 For non-DvP transactions (ie free deliveries), after the first contractual payment /delivery leg, the bank that has made the payment will treat its exposure as a loan if the second leg has not been received by the end of the business day.[2] This means that:

(1) For counterparties to which the bank applies the standardised approach to credit risk, the bank will use the risk weight applicable to the counterparty set out in CRE20.

(2) For counterparties to which the bank applies the internal ratings-based (IRB) approach to credit risk, the bank will apply the appropriate IRB formula (set out in CRE31) applicable to the counterparty (set out in CRE30). When applying this requirement, if the bank has no other banking book exposures to the counterparty (that are subject to the IRB approach), the bank may assign a probability of default to the counterparty on the basis of its external rating. Banks using the Advanced IRB approach may use a 45% loss-given-default (LGD) in lieu of estimating LGDs so long as they apply it to all failed trade exposures. Alternatively, banks using the IRB approach may opt to apply the standardised approach risk weights applicable to the counterparty set out in CRE20.

Footnotes

[2] *If the dates when two payment legs are made are the same according to the time zones where each payment is made, it is deemed that they are settled on the same day. For example, if a bank in Tokyo transfers Yen on day X (Japan Standard Time) and receives corresponding US Dollar via the Clearing House Interbank Payments System on day X (US Eastern Standard Time), the settlement is deemed to take place on the same value date.*

70.11 As an alternative to CRE70.10(1) and CRE70.10(2) above, when exposures are not material, banks may choose to apply a uniform 100% risk-weight to these exposures, in order to avoid the burden of a full credit assessment.

70.12 If five business days after the second contractual payment/delivery date the second leg has not yet effectively taken place, the bank that has made the first payment leg will risk weight the full amount of the value transferred plus replacement cost, if any, at 1250%. This treatment will apply until the second payment/delivery leg is effectively made.

CRE90

Transition

This chapter sets out the various transitional arrangements that apply to the credit risk standard.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework, updated to take account of the revised implementation date announced on 27 March 2020.

Phase-in for standardised approach treatment of equity exposures

90.1 The risk weight treatment described in CRE20.57, excluding equity holdings referred to in CRE20.59, will be subject to a five-year linear phase-in arrangement from 1 January 2023. For speculative unlisted equity exposures, the applicable risk weight will start at 100% and increase by 60 percentage points at the end of each year until the end of Year 5. For all other equity holdings, the applicable risk weight will start at 100% and increase by 30 percentage points at the end of each year until the end of Year 5.

Phase-in for the removal of the internal ratings-based approach for equity exposures

90.2 The requirement to use the standardised approach for equity exposures CRE30.43 will be subject to a five-year linear phase-in arrangement from 1 January 2023. During the phase-in period, the risk weight for equity exposures will be the greater of:

(1) the risk weight as calculated using the internal ratings-based approach that applied to equity exposures prior to 1 January 2023; and

(2) the risk weight set for the linear phase-in arrangement under the standardised approach for credit risk (see CRE90.1 above).

90.3 Alternatively, supervisory authorities may require banks to apply the fully phased-in standardised approach treatment from 1 January 2023.

CRE99

Application guidance

This chapter provides guidance on various aspects of the credit risk standard, including illustrative examples.

Version effective as of 01 Jan 2023

Updated cross references and illustrative examples to take account of the revised credit risk standards that come into effect due to the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020.

Introduction

99.1 The guidance set out in this chapter relates to the chapters of the credit risk standard (CRE). This chapter includes the following:

(1) Illustrative risk weights calculated under the internal ratings-based (IRB) approach to credit risk (CRE99.2 to CRE99.3).

(2) Illustrative examples for recognition of dilution risk when applying the Securitisation Internal Ratings-Based Approach (SEC-IRBA) to securitisation exposures (CRE99.4 to CRE99.19).

(3) Illustrative examples of the application of the standardised approach to counterparty credit risk (SA-CCR) to sample portfolios (CRE99.20 to CRE99.97).

(4) Illustrative examples on the effect of margin agreements on the SA-CCR formulation (CRE99.98 to CRE99.115)

(5) Equity investments in funds: illustrative example of the calculation of risk-weighted assets (RWA) under the look-through approach (LTA) CRE99.116 to CRE99.120).

(6) Equity investments in funds: illustrative example of the calculation of RWA under the mandate-based approach (MBA) CRE99.121 to CRE99.127).

(7) Equity investments in funds: illustrative examples of the leverage adjustment CRE99.128 to CRE99.133).

Illustrative risk weights calculated under the IRB approach to credit risk

99.2 Table 1 provides illustrative risk weights calculated for four exposure types under the IRB approach to credit risk. Each set of risk weights for unexpected loss (UL) was produced using the appropriate risk-weight function of the risk-weight functions set out in CRE31. The inputs used to calculate the illustrative risk weights include measures of the probability of default (PD), loss-given-default (LGD), and an assumed effective maturity (M) of 2.5 years, where applicable.

99.3 A firm-size adjustment applies to exposures made to small or medium-sized entity borrowers (defined as corporate exposures where the reported sales for the consolidated group of which the firm is a part is less than €50 million). Accordingly, the firm-size adjustment was made in determining the second set of risk weights provided in column two for corporate exposures given that the turnover of the firm receiving the exposure is assumed to be €5 million.

Illustrative IRB risk weights for UL

Table 1

Asset class	Corporate Exposures		Residential Mortgages		Other Retail Exposures		Qualifying Revolving Retail Exposures	
LGD:	40%	40%	45%	25%	45%	85%	50%	85%
Turnover (millions of €):	50	5						
Maturity:	2.5 years	2.5 years						
PD:								
0.05%	17.47%	13.69%	6.23%	3.46%	6.63%	12.52%	1.68%	2.86%
0.10%	26.36%	20.71%	10.69%	5.94%	11.16%	21.08%	3.01%	5.12%
0.25%	43.97%	34.68%	21.30%	11.83%	21.15%	39.96%	6.40%	10.88%
0.40%	55.75%	43.99%	29.94%	16.64%	28.42%	53.69%	9.34%	15.88%
0.50%	61.88%	48.81%	35.08%	19.49%	32.36%	61.13%	11.16%	18.97%
0.75%	73.58%	57.91%	46.46%	25.81%	40.10%	75.74%	15.33%	26.06%
1.00%	82.06%	64.35%	56.40%	31.33%	45.77%	86.46%	19.14%	32.53%
1.30%	89.73%	70.02%	67.00%	37.22%	50.80%	95.95%	23.35%	39.70%
1.50%	93.86%	72.99%	73.45%	40.80%	53.37%	100.81%	25.99%	44.19%

2.00%	102.09%	78.71%	87.94%	48.85%	57.99%	109.53%	32.14%	54.63%
2.50%	108.58%	83.05%	100.64%	55.91%	60.90%	115.03%	37.75%	64.18%
3.00%	114.17%	86.74%	111.99%	62.22%	62.79%	118.61%	42.96%	73.03%
4.00%	124.07%	93.37%	131.63%	73.13%	65.01%	122.80%	52.40%	89.08%
5.00%	133.20%	99.79%	148.22%	82.35%	66.42%	125.45%	60.83%	103.41%
6.00%	141.88%	106.21%	162.52%	90.29%	67.73%	127.94%	68.45%	116.37%
10.00%	171.63%	130.23%	204.41%	113.56%	75.54%	142.69%	93.21%	158.47%
15.00%	196.92%	152.81%	235.72%	130.96%	88.60%	167.36%	115.43%	196.23%
20.00%	211.76%	167.48%	253.12%	140.62%	100.28%	189.41%	131.09%	222.86%

Illustrative examples for recognition of dilution risk when applying SEC-IRBA to securitisation exposures

99.4 The following two examples are provided to illustrate the recognition of dilution risk according to CRE44.12 and CRE44.13. The first example in CRE99.5 to CRE99.8 assumes a common waterfall for default and dilution losses. The second example in CRE99.9 to CRE99.19 assumes a non-common waterfall for default and dilution losses.

99.5 Common waterfall for default and dilution losses: in the first example, it is assumed that losses resulting from either defaults or dilution within the securitised pool will be subject to a common waterfall, ie the loss allocation process does not distinguish between different sources of losses within the pool.

99.6 The pool is characterised as follows. For the sake of simplicity, it is assumed that all exposures have the same size, same PD, same LGD and same maturity.

(1) Pool of €1,000,000 of corporate receivables

(2) N = 100

(3) M = 2.5 years[1]

(4) $PD_{Dilution}$ = 0.55%

(5) $LGD_{Dilution}$ =100%

(6) $PD_{Default}$ = 0.95%

(7) $LGD_{Default}$ = 45%

Footnotes

[1] *For the sake of simplicity, the possibility described in CRE34.8 to set* $M_{Dilution} = 1$ *is not used in this example.*

99.7 The capital structure is characterised as follows:

(1) Tranche A is a senior note of €700,000

(2) Tranche B is a second-loss guarantee of €250,000

(3) Tranche C is a purchase discount of €50,000

(4) Final legal maturity of transaction / all tranches = 2.875 years, ie M_T = 2.5 years[2]

Footnotes

[2] *The rounding of the maturity calculation is shown for example purposes*

99.8 RWA calculation:

(1) Step 1: calculate $K_{IRB,Dilution}$ and $K_{IRB,Default}$ for the underlying portfolio:

(a) $K_{IRB,Dilution}$ = €1,000,000 x (161.44% x 8% + 0.55% x 100%) / €1,000,000 = 13.47%

(b) $K_{IRB,Default}$ = (€1,000,000 – €129,200)[3] x (90.62% x 8% + 0.95% x 45%) / €1,000,000 = 6.69%

(2) Step 2: calculate $K_{IRB,Pool} = K_{IRB,Dilution} + K_{IRB,Default}$ = 13.47% + 6.69% = 20.16%

(3) Step 3: apply the SEC-IRBA to the three tranches

(a) Pool parameters:

(i) N = 100

(ii) LGD_{Pool} = ($LGD_{Default}$ x $K_{IRB,Default}$ + $LGD_{Dilution}$ x $K_{IRB,Dilution}$) / $K_{IRB,Pool}$ = (45% x 6.69% + 100% x 13.47%) / 20.16% = 81.75%

(b) Tranche parameters:

(i) M_T = 2.5 years

(ii) Attachment and detachment points shown in Table 2

Attachment and detachment points for each tranche — Table 2

	Attachment point	Detachment point
Tranche A	30%	100%
Tranche B	5%	30%
Tranche C	0%	5%

(4) Resulting risk-weighted exposure amounts shown in Table 3

Risk-weighted exposure amounts for each tranche — Table 3

	SEC-IRBA risk weight	RWA
Tranche A	21.22%	€148,540
Tranche B	1013.85%	€2,534,625
Tranche C	1250%	€625,000

Footnotes

[3] *As described in CRE34.5, when calculating the default risk of exposures with non-immaterial dilution risk "EAD will be calculated as the outstanding amount minus the capital requirement for dilution prior to credit risk mitigation".*

99.9 Non-common waterfall for default and dilution losses: in the second example, it is assumed that the securitisation transaction does not have one common waterfall for losses due to defaults and dilutions, ie for the determination of the risk of a specific tranche it is not only relevant what losses might be realised within the pool but also if those losses are resulting from default or a dilution event.

99.10 As the SEC-IRBA assumes that there is one common waterfall, it cannot be applied without adjustments. The following example illustrates one possible scenario and a possible adjustment specific to this scenario.

99.11 While this example is meant as a guideline, a bank should nevertheless consult with its national supervisor as to how the capital calculation should be performed (see CRE44.13).

99.12 The pool is characterised as in CRE99.6.

99.13 The capital structure is characterised as follows:

(1) Tranche A is a senior note of €950,000

(2) Tranche C is a purchase discount of €50,000

(3) Tranches A and C will cover both default and dilution losses

(4) In addition, the structure also contains a second-loss guarantee of €250,000 (Tranche B)[4] that covers only dilution losses exceeding a threshold of €50,000 up to maximum aggregated amount of €300,000, which leads to the following two waterfalls:

(a) Default waterfall

(i) Tranche A is a senior note of €950,000

(ii) Tranche C is a purchase discount of €50,000[5]

(b) Dilution waterfall

(i) Tranche A is a senior note of €700,000

(ii) Tranche B is a second-loss guarantee of €250,000

(iii) Tranche C is a purchase discount of €50,000[6]

(5) M_T of all tranches is 2.5 years.

Footnotes

[4] *For the sake of simplicity, it is assumed that the second-loss guarantee is cash-collateralised.*

[5] *Subject to the condition that it is not already being used for realised dilution losses.*

[6] *Subject to the condition that it is not already being used for realised default losses.*

99.14 Tranche C is treated as described in CRE99.7 to CRE99.10.

99.15 Tranche B (second-loss guarantee) is exposed only to dilution risk, but not to default risk. Therefore, K_{IRB}, for the purpose of calculating a capital requirement for Tranche B, can be limited to $K_{IRB,Dilution}$. However, as the holder of Tranche B cannot be sure that Tranche C will still be available to cover the first dilution losses when they are realised – because the credit enhancement might already be depleted due to earlier default losses – to ensure a prudent treatment, it cannot recognise the purchase discount as credit enhancement for dilution risk. In the capital calculation, the bank providing Tranche B should assume that €50,000 of the securitised assets have already been defaulted and hence Tranche C is no longer available as credit enhancement and the exposure of the underlying assets has been reduced to €950,000. When calculating K_{IRB} for Tranche B, the bank can assume that K_{IRB} is not affected by the reduced portfolio size.

99.16 RWA calculation for tranche B:

(1) Step 1: calculate $K_{IRB,Pool}$.

$K_{IRB,Pool} = K_{IRB,Dilution} = 13.47\%$

(2) Step 2: apply the SEC-IRBA.

(a) Pool parameters:

(i) N = 100

(ii) $LGD_{Pool} = LGD_{Dilution} = 100\%$

(b) Tranche parameters:

(i) M_T = 2.5 years

(ii) Attachment point = 0%

(iii) Detachment point = €250,000 / €950,000 = 26.32%

(3) Resulting risk-weighted exposure amounts for Tranche B:

(a) SEC-IRBA risk weight = 886.94%

(b) RWA = €2,217,350

99.17 The holder of Tranche A (senior note) will take all default losses not covered by the purchase discount and all dilution losses not covered by the purchase discount or the second-loss guarantee. A possible treatment for Tranche A would be to add $K_{IRB,Default}$ and $K_{IRB,Dilution}$ (as in CRE99.7 to CRE99.10), but not to recognise the second-loss guarantee as credit enhancement at all because it is covering only dilution risk.

99.18 Although this is a simple approach, it is also fairly conservative. Therefore the following alternative for the senior tranche could be considered:

(1) Calculate the RWA amount for Tranche A under the assumption that it is only exposed to losses resulting from defaults. This assumption implies that Tranche A is benefiting from a credit enhancement of €50,000.

(2) Calculate the RWA amounts for Tranche C and (hypothetical) Tranche A* under the assumption that they are only exposed to dilution losses. Tranche A* should be assumed to absorb losses above €300,000 up to €1,000,000. With respect to dilution losses, this approach would recognise that the senior tranche investor cannot be sure if the purchase price discount will still be available to cover those losses when needed as it might have already been used for defaults. Consequently, from the perspective of the senior investor, the purchase price discount could only be recognised for the calculation of the capital requirement for default or dilution risk but not for both.[7]

(3) Sum up the RWA amounts under CRE99.18(1) and CRE99.18(2) and apply the relevant risk weight floor in CRE44.26 or CRE44.29 to determine the final RWA amount for the senior note investor.

Footnotes

[7] *In this example, the purchase price discount was recognised in the default risk calculation, but banks could also choose to use it for the dilution risk calculation. It is also assumed that the second-loss dilution guarantee explicitly covers dilution losses above €50,000 up to €300,000. If the guarantee instead covered €250,000 dilution losses after the purchase discount has been depleted (irrespective of whether the purchase discount has been used for dilution or default losses), then the senior note holder should assume that he is exposed to dilution losses from €250,000 up to €1,000,000 (instead of €0 to €50,000 + €300,000 to €1,000,000).*

99.19 RWA calculation for Tranche A:

(1) Step 1: calculate RWA for CRE99.18(1).

(a) Pool parameters:

(i) $K_{IRB,Pool} = K_{IRB,Default} = 6.69\%$

(ii) $LGD_{Pool} = LGD_{Default} = 45\%$

(b) Tranche parameters:

(i) $M_T = 2.5$ years

(ii) Attachment point = €50,000 / €1,000,000 = 5%

(iii) Detachment point = €1,000,000 / €1,000,000 = 100%

(c) Resulting risk-weighted exposure amounts:

(i) SEC-IRBA risk weight = 51.67%

(ii) RWA = €490,865

(2) Step 2: calculate RWA for CRE99.18(2).

(a) Pool parameters:

(i) $K_{IRB,Pool} = K_{IRB,Dilution} = 13.47\%$

(ii) $LGD_{Pool} = LGD_{Dilution} = 100\%$

(b) Tranche parameters:

(i) $M_T = 2.5$ years

(ii) Attachment and detachment points shown in Table 4

Attachment and detachment points for each tranche — Table 4

	Attachment point	Detachment point
Tranche A*	30%	100%
Tranche C	0%	5%

(c) Resulting risk-weighted exposure amounts shown in Table 5

Risk-weighted exposure amounts for each tranche — Table 5

	SEC-IRBA risk weight	RWA
Tranche A*	11.16%	€78,120
Tranche C	1250%	€625,000

(3) Step 3: Sum up the RWA of CRE99.19(1) and CRE99.19(2)[8]

(a) Final RWA amount for investor in Tranche A = €490,865 + €78,120 + €625,000 = €1,193,985

(b) Implicit risk weight for Tranche A = max (15%, €1,193,985 / €950,000) = 125.68%

Footnotes

[8] *The correct application of the overall risk weight floor is such that the intermediate results (in this case the risk weight for Tranche A*) are calculated without the floor and the floor is only enforced in the last step (ie Step 3(b)).*

Illustrative examples of the application of the SA-CCR to sample portfolios

99.20 This section (CRE99.20 to CRE99.97) sets out the calculation of exposure at default (EAD) for five sample portfolios using SA-CCR. The calculations for the sample portfolios assume that intermediate values are not rounded (ie the actual results are carried through in sequential order). However, for ease of presentation, these intermediate values as well as the final EAD are rounded.

99.21 The EAD for all netting sets in SA-CCR is given by the following formula, where alpha is assigned a value of 1.4:

$$EAD = alpha * (RC + multiplier * AddOn^{aggregate})$$

Example 1: Interest rate derivatives (unmargined netting set)

99.22 Netting set 1 consists of three interest rates derivatives: two fixed versus floating interest rate swaps and one purchased physically settled European swaption. The table below summarises the relevant contractual terms of the three derivatives. All notional amounts and market values in the table are given in USD thousands.

Trade #	Nature	Residual maturity	Base currency	Notional (USD thousands)	Pay Leg (*)	Receive Leg (*)	Market value (USD thousands)
1	Interest rate swap	10 years	USD	10,000	Fixed	Floating	30
2	Interest rate swap	4 years	USD	10,000	Floating	Fixed	-20
3	European swaption	1 into 10 years	EUR	5,000	Floating	Fixed	50

(*) For the swaption, the legs are those of the underlying swap.

99.23 The netting set is not subject to a margin agreement and there is no exchange of collateral (independent amount/initial margin, or IM) at inception. For unmargined netting sets, the replacement cost is calculated using the following formula, where:

(1) V is a simple algebraic sum of the derivatives' market values at the reference date; and

(2) C is the haircut value of the IM, which is zero in this example.

$$RC = \max\{V - C; 0\}$$

99.24 Thus, using the market values indicated in the table (expressed in USD thousands):

$$RC = \max\{30 - 20 + 50 - 0; 0\} = 60$$

99.25 Since V-C is positive (ie USD 60,000), the value of the multiplier is 1, as explained in CRE52.22.

99.26 The remaining term to be calculated in the calculation EAD is the aggregate add-on ($AddOn^{aggregate}$). All the transactions in the netting set belong to the interest rate asset class. The $AddOn^{aggregate}$ for the interest rate asset class can be calculated using the seven steps set out in CRE52.57.

99.27 Step 1: Calculate the effective notional for each trade in the netting set. This is calculated as the product of the following three terms: (i) the adjusted notional of the trade (d); (ii) the supervisory delta adjustment of the trade (δ); and (iii) the maturity factor (MF). That is, for each trade i, the effective notional D_i is calculated as $D_i = d_i * MF_i * \delta_i$.

99.28 For interest rate derivatives, the trade-level adjusted notional (d_i) is the product of the trade notional amount and the supervisory duration (SD_i), ie d_i = notional * SD_i. The supervisory duration is calculated using the following formula, where:

(1) S_i and E_i are the start and end dates, respectively, of the time period referenced by the interest rate derivative (or, where such a derivative references the value of another interest rate instrument, the time period determined on the basis of the underlying instrument). If the start date has occurred (eg an ongoing interest rate swap), S_i must be set to zero.

(2) The calculated value of SD_i is floored at 10 business days (which expressed in years, using an assumed market convention of 250 business days a year is 10 /250 years.

$$SD_i = \frac{\exp\left(-0.05 * S_i\right) - \exp\left(-0.05 * E_i\right)}{0.05}$$

99.29 Using the formula for supervisory duration above, the trade-level adjusted notional amounts for each of the trades in Example 1 are as follows:

Trade #	Notional (USD thousands)	S_i	E_i	SD_i	Adjusted notional, d_i (USD thousands)
1	10,000	0	10	7.87	78,694
2	10,000	0	4	3.63	36,254
3	5,000	1	11	7.49	37,428

99.30 CRE52.48 sets out the calculation of the maturity factor (MF_i) for unmargined trades. For trades that have a remaining maturity in excess of one year, which is the case for all trades in this example, the formula gives a maturity factor of 1.

99.31 As set out in CRE52.38 to CRE52.41, a supervisory delta is assigned to each trade. In particular:

(1) Trade 1 is long in the primary risk factor (the reference floating rate) and is not an option so the supervisory delta is equal to 1.

(2) Trade 2 is short in the primary risk factor and is not an option; thus, the supervisory delta is equal to -1.

(3) Trade 3 is an option to enter into an interest rate swap that is short in the primary risk factor and therefore is treated as a bought put option. As such, the supervisory delta is determined by applying the relevant formula in CRE52.40, using 50% as the supervisory option volatility and 1 (year) as the option exercise date. In particular, assuming that the underlying price (the appropriate forward swap rate) is 6% and the strike price (the swaption's fixed rate) is 5%, the supervisory delta is:

$$\delta_i = -\Phi\left(-\frac{\ln(0.06/0.05)+0.5\cdot 0.5^2\cdot 1}{0.5\cdot\sqrt{1}}\right) = -0.2694$$

99.32 The effective notional for each trade in the netting set (D_i) is calculated using the formula $D_i = d_i * MF_i * \delta_i$ and values for each term noted above. The results of applying the formula are as follows:

Trade #	Notional (USD thousands)	Adjusted notional, d_i (USD, thousands)	Maturity Factor, MF_i	Delta, δ_i	Effective notional, D_i (USD, thousands)
1	10,000	78,694	1	1	78,694
2	10,000	36,254	1	-1	-36,254
3	5,000	37,428	1	-0.2694	-10,083

99.33 Step 2: Allocate the trades to hedging sets. In the interest rate asset class the hedging sets consist of all the derivatives that reference the same currency. In this example, the netting set is comprised of two hedging sets, since the trades refer to interest rates denominated in two different currencies (USD and EUR).

99.34 Step 3: Within each hedging set allocate each of the trades to the following three maturity buckets: less than one year (bucket 1), between one and five years (bucket 2) and more than five years (bucket 3). For this example, within the hedging set "USD", trade 1 falls into the third maturity bucket (more than 5 years) and trade 2 falls into the second maturity bucket (between one and five years). Trade 3 falls into the third maturity bucket (more than 5 years) of the hedging set "EUR". The results of steps 1 to 3 are summarised in the table below:

Trade #	**Effective notional, D_i (USD, thousands)**	**Hedging set**	**Maturity bucket**
1	78,694	USD	3
2	-36,254	USD	2
3	-10,083	EUR	3

99.35 Step 4: Calculate the effective notional of each maturity bucket (D^{B1}, D^{B2} and D^{B3}) within each hedging set (USD and EUR) by adding together all the trade level effective notionals within each maturity bucket in the hedging set. In this example, there are no maturity buckets within a hedging set with more than one trade, and so this case the effective notional of each maturity bucket is simply equal to the effective notional of the single trade in each bucket. Specifically:

(1) For the USD hedging set: D^{B1} is zero, D^{B2} is -36,254 (thousand USD) and D^{B3} is 78,694 (thousand USD).

(2) For the EUR hedging set: D^{B1} and D^{B2} are zero and D^{B3} is -10,083 (thousand USD).

99.36 Step 5: Calculate the effective notional of the hedging set (EN_{HS}) by using either of the two following aggregation formulas (the latter is to be used if the bank chooses not to recognise offsets between long and short positions across maturity buckets):

$$Offset\ formula: EN_{hs} = \left[\left(D^{B1}\right)^2 + \left(D^{B2}\right)^2 + \left(D^{B3}\right)^2 + 1.4 * D^{B1} * D^{B2} + 1.4 * D^{B2} * D^{B3} + 0.6 * D^{B1} * D^{B3}\right]^{\frac{1}{2}}$$

$$No\ offset\ formula: EN_{hs} = \left|D^{B1}\right| + \left|D^{B2}\right| + \left|D^{B3}\right|$$

99.37 In this example, the first of the two aggregation formulas is used. Therefore, the effective notionals for the USD hedging set (EN_{USD}) and the EUR hedging (EN_{EUR}) are, respectively (expressed in USD thousands):

$$EN_{USD} = \left[\left(-36,254\right)^2 + \left(78,694\right)^2 + 1.4 * (-36,254) * 78,694 \right]^{\frac{1}{2}} = 59,270$$

$$EN_{EUR} = \left[(-10,083)^2 \right]^{\frac{1}{2}} = 10,083$$

99.38 Step 6: Calculate the hedging set level add-on ($AddOn_{hs}$) by multiplying the effective notional of the hedging set (EN_{hs}) by the prescribed supervisory factor (SF_{hs}). The prescribed supervisory factor in the interest rate asset class is set at 0.5%. Therefore, the add-on for the USD and EUR hedging sets are, respectively (expressed in USD thousands):

$$AddOn_{USD} = 59,270 * 0.005 = 296.35$$

$$AddOn_{EUR} = 10,083 * 0.005 = 50.415$$

99.39 Step 7: Calculate the asset class level add-on ($AddOn^{IR}$) by adding together all of the hedging set level add-ons calculated in step 6. Therefore, the add-on for the interest rate asset class is (expressed in USD thousands):

$$AddOn^{IR} = 296.35 + 50.415 = 347$$

99.40 For this netting set the interest rate add-on is also the aggregate add-on because there are no derivatives belonging to other asset classes. The EAD for the netting set can now be calculated using the formula set out in CRE99.21 (expressed in USD thousands):

$$EAD = alpha * (RC + multiplier * AddOn^{aggregate}) = 1.4 * \left(60 + 1 * 347\right) = 569$$

Example 2 : Credit derivatives (unmargined netting set)

99.41 Netting set 2 consists of three credit derivatives: one long single-name credit default swap (CDS) written on Firm A (rated AA), one short single-name CDS written on Firm B (rated BBB), and one long CDS index (investment grade). The table below summarises the relevant contractual terms of the three derivatives. All notional amounts and market values in the table are in USD thousands.

Trade #	Nature	Reference entity / index name	Rating reference entity	Residual maturity	Base currency	Notional (USD thousands)	Position	Market value (USD thousands)
1	Single-name CDS	Firm A	AA	3 years	USD	10,000	Protection buyer	20
2	Single-name CDS	Firm B	BBB	6 years	EUR	10,000	Protection seller	-40
3	CDS index	CDX.IG 5y	Investment grade	5 years	USD	10,000	Protection buyer	0

99.42 As in the previous example, the netting set is not subject to a margin agreement and there is no exchange of collateral (independent amount/IM) at inception. For unmargined netting sets, the replacement cost is calculated using the following formula, where:

(1) V is a simple algebraic sum of the derivatives' market values at the reference date

(2) C is the haircut value of the IM, which is zero in this example

$$RC = \max\{V - C; 0\}$$

99.43 Thus, using the market values indicated in the table (expressed in USD thousands):

$$RC = \max\{20 - 40 + 0 - 0; 0\} = 0$$

99.44 Since in this example V-C is negative (equal to V, ie -20,000), the multiplier will be activated (ie it will be less than 1). Before calculating its value, the aggregate add-on ($AddOn^{aggregate}$) needs to be determined.

99.45 All the transactions in the netting set belong to the credit derivatives asset class. The $AddOn^{aggregate}$ for the credit derivatives asset class can be calculated using the four steps set out in CRE52.61.

99.46 Step 1: Calculate the effective notional for each trade in the netting set. This is calculated as the product of the following three terms: (i) the adjusted notional of the trade (d); (ii) the supervisory delta adjustment of the trade (δ); and (iii) the maturity factor (MF). That is, for each trade i, the effective notional D_i is calculated as $D_i = d_i * MF_i * \delta_i$.

99.47 For credit derivatives, like interest rate derivatives, the trade-level adjusted notional (d_i) is the product of the trade notional amount and the supervisory duration (SD_i), ie d_i = notional * SD_i. The trade-level adjusted notional amounts for each of the trades in Example 2 are as follows:

Trade #	Notional (USD thousands)	S_i	E_i	SD_i	Adjusted notional, d_i (USD thousands)
1	10,000	0	3	2.79	27,858
2	10,000	0	6	5.18	51,836
3	10,000	0	5	4.42	44,240

99.48 CRE52.48 sets out the calculation of the maturity factor (MF_i) for unmargined trades. For trades that have a remaining maturity in excess of one year, which is the case for all trades in this example, the formula gives a maturity factor of 1.

99.49 As set out in CRE52.38 to CRE52.41, a supervisory delta is assigned to each trade. In particular:

(1) Trade 1 and Trade 3 are long in the primary risk factors (CDS spread) and are not options so the supervisory delta is equal to 1 for each trade.

(2) Trade 2 is short in the primary risk factor and is not an option; thus, the supervisory delta is equal to -1.

99.50 The effective notional for each trade in the netting set (D_i) is calculated using the formula $D_i = d_i * MF_i * \delta_i$ and values for each term noted above. The results of applying the formula are as follows:

Trade #	**Notional (USD thousands)**	**Adjusted notional, d_i (USD, thousands)**	**Maturity Factor, MF_i**	**Delta, δ_i**	**Effective notional, D_i (USD, thousands)**
1	10,000	27,858	1	1	27,858
2	10,000	51,836	1	-1	-51,836
3	10,000	44,240	1	1	44,240

99.51 Step 2: Calculate the combined effective notional for all derivatives that reference the same entity. The combined effective notional of the entity (EN_{entity}) is calculated by adding together the trade level effective notionals calculated in step 1 that reference that entity. However, since all the derivatives refer to different entities (single names/indices), the effective notional of the entity is simply equal to the trade level effective notional (D_i) for each trade.

99.52 Step 3: Calculate the add-on for each entity ($AddOn_{entity}$) by multiplying the entity level effective notional in step 2 by the supervisory factor that is specified for that entity (SF_{entity}). The supervisory factors are set out in table 2 in CRE52.72. A supervisory factor is assigned to each single-name entity based on the rating of the reference entity (0.38% for AA-rated firms and 0.54% for BBB-rated firms). For CDS indices, the SF is assigned according to whether the index is investment or speculative grade; in this example, its value is 0.38% since the index is investment grade. Thus, the entity level add-ons are the following (USD thousands):

Reference Entity	**Effective notional, D_i (USD, thousands)**	**Supervisory factor, SF_{entity}**	**Entity-level add-on, $AddOn_{entity}$ (=D_i*SF_{entity})**
Firm A	27,858	0.38%	106
Firm B	-51,836	0.54%	-280
CDX.IG	44,240	0.38%	168

99.53 Step 4: Calculate the asset class level add-on ($AddOn^{Credit}$) by using the formula that follows, where:

(1) The summations are across all entities referenced by the derivatives.

(2) $AddOn_{entity}$ is the add-on amount calculated in step 3 for each entity referenced by the derivatives.

(3) ρ_{entity} is the supervisory prescribed correlation factor corresponding to the entity. As set out in Table 2 in CRE52.72, the correlation factor is 50% for single entities (Firm A and Firm B) and 80% for indexes (CDX.IG).

$$AddOn^{Credit} = \left[\underbrace{\left(\sum_{entity} \rho_{entity} * AddOn_{entity} \right)^2}_{systematic\ component} + \underbrace{\sum_{entity} \left(1 - \left(\rho_{entity} \right)^2 \right) * \left(AddOn_{entity} \right)^2}_{idiosyncratic\ component} \right]^{\frac{1}{2}}$$

99.54 The following table shows a simple way to calculate of the systematic and idiosyncratic components in the formula:

Reference Entity	ρ_{entity}	**AddOn** $_{entity}$	ρ_{entity} * **AddOn** $_{entity}$	**1-(**ρ_{entity}**)**^{2}	**(AddOn** $_{entity}$**)**^{2}	**(1-(**ρ_{entity}**)**^{2}**)* (AddOn** $_{entity}$**)** ^{2}
Firm A	0.5	106	52.9	0.75	11,207	8,405
Firm B	0.5	-280	-140	0.75	78,353	58,765
CDX.IG	0.8	168	134.5	0.36	28,261	10,174
sum =			47.5			**77,344**
(sum)^2 **=**			**2,253**			

99.55 According to the calculations in the table, the systematic component is 2,253, while the idiosyncratic component is 77,344. Thus, the add-on for the credit asset class is calculated as follows:

$$AddOn^{Credit} = \left[2,253 + 77,344\right]^{\frac{1}{2}} = 282$$

99.56 For this netting set the credit add-on ($AddOn^{Credit}$) is also the aggregate add-on ($AddOn^{aggregate}$) because there are no derivatives belonging to other asset classes.

99.57 The value of the multiplier can now be calculated as follows, using the formula set out in CRE52.23:

$$multiplier = \min\left\{1; 0.05 + 0.95 * \exp\left(\frac{-20}{2 * 0.95 * 282}\right)\right\} = 0.965$$

99.58 Finally, aggregating the replacement cost and the potential future exposure (PFE) component and multiplying the result by the alpha factor of 1.4, the EAD is as follows (USD thousands):

$$EAD = 1.4 * (0 + 0.965 * 282) = 381$$

Example 3 : Commodity derivatives (unmargined netting set)

99.59 Netting set 3 consists of three commodity forward contracts. The table below summarises the relevant contractual terms of the three derivatives. All notional amounts and market values in the table are in USD thousands.

Trade #	Notional	Nature	Underlying	Direction	Residual maturity	Market value
1	10,000	Forward	(West Texas Intermediate, or WTI) Crude Oil	Long	9 months	-50
2	20,000	Forward	(Brent) Crude Oil	Short	2 years	-30
3	10,000	Forward	Silver	Long	5 years	100

99.60 As in the previous two examples, the netting set is not subject to a margin agreement and there is no exchange of collateral (independent amount/IM) at inception. Thus, the replacement cost is given by:

$$RC = \max\{V - C; 0\} = \max\{100 - 30 - 50 - 0; 0\} = 20$$

99.61 Since V-C is positive (ie USD 20,000), the value of the multiplier is 1, as explained in CRE52.22.

99.62 All the transactions in the netting set belong to the commodities derivatives asset class. The $AddOn^{aggregate}$ for the commodities derivatives asset class can be calculated using the six steps set out in CRE52.70.

99.63 Step 1: Calculate the effective notional for each trade in the netting set. This is calculated as the product of the following three terms: (i) the adjusted notional of the trade (d); (ii) the supervisory delta adjustment of the trade (δ); and (iii) the maturity factor (MF). That is, for each trade i, the effective notional D_i is calculated as $D_i = d_i * MF_i * \delta_i$.

99.64 For commodity derivatives, the adjusted notional is defined as the product of the current price of one unit of the commodity (eg barrel of oil) and the number of units referenced by the derivative. In this example, for the sake of simplicity, it is assumed that the adjusted notional (d_i) is equal to the notional value.

99.65 CRE52.48 sets out the calculation of the maturity factor (MF_i) for unmargined trades. For trades that have a remaining maturity in excess of one year (trades 2 and 3 in this example), the formula gives a maturity factor of 1. For trade 1 the formula gives the following maturity factor:

$$MF = \sqrt{\frac{\min\{M_i;\ 1year\}}{1year}} = \sqrt{\frac{\min\{9/12;\ 1\}}{1}} = \sqrt{9/12}$$

99.66 As set out in CRE52.38 to CRE52.41, a supervisory delta is assigned to each trade. In particular:

(1) Trade 1 and Trade 3 are long in the primary risk factors (WTI Crude Oil and Silver respectively) and are not options so the supervisory delta is equal to 1 for each trade.

(2) Trade 2 is short in the primary risk factor (Brent Crude Oil) and is not an option; thus, the supervisory delta is equal to -1.

Trade #	**Notional (USD thousands)**	**Adjusted notional, d_i (USD, thousands)**	**Maturity Factor, MF_i**	**Delta, δ_i**	**Effective notional, D_i (USD, thousands)**
1	10,000	10,000	$(9/12)^{0.5}$	1	8,660
2	20,000	20,000	1	-1	-20,000
3	10,000	10,000	1	1	10,000

99.67 Step 2: Allocate the trades in commodities asset class to hedging sets. In the commodities asset class there are four hedging sets consisting of derivatives that reference: energy (trades 1 and 2 in this example), metals (trade 3 in this example), agriculture and other commodities.

Hedging set	Commodity type	Trades
Energy	Crude oil	1 and 2
	Natural gas	None
	Coal	None
	Electricity	None
Metals	Silver	3
	Gold	None
	…	…
Agriculture	…	…
	…	…
Other	…	…

Trade #	Effective notional, D_i (USD, thousands)	Hedging set	Commodity type
1	8,660	Energy	Crude oil
2	-20,000	Energy	Crude oil
3	10,000	Metals	Silver

99.68 Step 3: Calculate the combined effective notional for all derivatives with each hedging set that reference the same commodity type. The combined effective notional of the commodity type ($EN_{ComType}$) is calculated by adding together the trade level effective notionals calculated in step 1 that reference that commodity type. For purposes of this calculation, the bank can ignore the basis difference between the WTI and Brent forward contracts since they belong to the same commodity type, "Crude Oil" (unless the national supervisor requires the bank to use a more refined definition of commodity types). This step gives the following:

(1) $EN_{CrudeOil}$ = 8,660 + (-20,000) = -11,340

(2) EN_{Silver} = 10,000

99.69 Step 4: Calculate the add-on for each commodity type ($AddOn_{ComType}$) within each hedging set by multiplying the combined effective notional for that commodity calculated in step 3 by the supervisory factor that is specified for that commodity type ($SF_{ComType}$). The supervisory factors are set out in table 2 in CRE52.72 and are set at 40% for electricity derivatives and 18% for derivatives that reference all other types of commodities. Therefore:

(1) $AddOn_{CrudeOil}$ = -11,340 * 0.18 = -2,041

(2) $AddOn_{Silver}$ = 10,000 * 0.18 = 1,800

99.70 Step 5: Calculate the add-on for each of the four commodity hedging sets ($AddOn_{HS}$) by using the formula that follows. In the formula:

(1) The summations are across all commodity types within the hedging set.

(2) $AddOn_{ComType}$ is the add-on amount calculated in step 4 for each commodity type.

(3) $\rho_{ComType}$ is the supervisory prescribed correlation factor corresponding to the commodity type. As set out in Table 2 in CRE52.72, the correlation factor is set 40% for all commodity types.

$$AddOn_{HS} = \left[\left(\sum_{ComType} \rho_{ComType} * AddOn_{ComType}\right)^2 + \sum_{ComType}\left(1-\left(\rho_{ComType}\right)^2\right) * \left(AddOn_{ComType}\right)^2\right]^{\frac{1}{2}}$$

99.71 In this example, however, there is only one commodity type within the "Energy" hedging set (ie Crude Oil). All other commodity types within the energy hedging set (eg coal, natural gas etc) have a zero add-on. Therefore, the add-on for the energy hedging set is calculated as follows:

$$AddOn_{Energy} = \left[\left(\rho_{CrudeOil} * AddOn_{CrudeOil}\right)^2 + \left(1-\left(\rho_{CrudeOil}\right)^2\right) * \left(AddOn_{CrudeOil}\right)^2\right]^{\frac{1}{2}}$$

$$AddOn_{Energy} = \left[\left(0.4 * (-2,041)\right)^2 + \left(1-\left(0.4\right)^2\right) * \left(-2,041\right)^2\right]^{\frac{1}{2}} = 2,041$$

99.72 The calculation above shows that, when there is only one commodity type within a hedging set, the hedging-set add-on is equal (in absolute value) to the commodity-type add-on.

99.73 Similarly, "Silver" is the only commodity type in the "Metals" hedging set, and so the add-on for the metals hedging set is:

$$AddOn_{Metals} = \left|AddOn_{Silver}\right| = 1,800$$

99.74 Step 6: Calculate the asset class level add-on ($AddOn^{Commodity}$) by adding together all of the hedging set level add-ons calculated in step 5:

$$AddOn^{Commodity} = \sum_{HS} AddOn_{HS} = AddOn_{Energy} + AddOn_{Metals} = 2,041 + 1,800 = 3841$$

99.75 For this netting set the commodity add-on ($AddOn^{Commodity}$) is also the aggregate add-on ($AddOn^{aggregate}$) because there are no derivatives belonging to other asset classes.

99.76 Finally, aggregating the replacement cost and the PFE component and multiplying the result by the alpha factor of 1.4, the EAD is as follows (USD thousands):

$$EAD = 1.4 * (20 + 1 * 3,841) = 5,406$$

Example 4 : Interest rate and credit derivatives (unmargined netting set)

99.77 Netting set 4 consists of the combined trades of Examples 1 and 2. There is no margin agreement and no collateral. The replacement cost of the combined netting set is:

$$RC = \max\{V - C; 0\} = \max\{30 - 20 + 50 + 20 - 40 + 0; 0\} = 40$$

99.78 The aggregate add-on for the combined netting set is the sum of add-ons for each asset class. In this case, there are two asset classes, interest rates and credit, and the add-ons for these asset classes have been copied from Examples 1 and 2:

$$AddOn^{aggregate} = AddOn^{IR} + AddOn^{Credit} = 347 + 282 = 629$$

99.79 Because V-C is positive, the multiplier is equal to 1. Finally, the EAD can be calculated as:

$$EAD = 1.4 * (40 + 1 * 629) = 936$$

Example 5 : Interest rate and commodities derivatives (margined netting set)

99.80 Netting set 5 consists of the combined trades of Examples 1 and 3. However, instead of being unmargined (as assumed in those examples), the trades are subject to a margin agreement with the following specifications:

Margin frequency	Threshold, TH	Minimum Transfer Amount, MTA (USD thousands)	Independent Amount, IA (USD thousands)	Total net collateral held by bank (USD thousands)
Weekly	0	5	150	200

99.81 The above table depicts a situation in which the bank received from the counterparty a net independent amount of 150 (taking into account the net amount of initial margin posted by the counterparty and any unsegregated initial margin posted by the bank). The total net collateral (after the application of haircuts) currently held by the bank is 200, which includes 50 for variation margin (VM) received and 150 for the net independent amount.

99.82 First, we determine the replacement cost. The net collateral currently held is 200 and the net independent collateral amount (NICA) is equal to the independent amount (that is, 150). The current market value of the trades in the netting set (V) is 80, it is calculated as the sum of the market value of the trades, ie 30 – 20 + 50 – 50 – 30 + 100 = 80. The replacement cost for margined netting sets is calculated using the formula set out in CRE52.18. Using this formula the replacement cost for the netting set in this example is:

$$RC = \max\{V - C; TH + MTA - NICA; 0\} = \max\{80 - 200; 0 + 5 - 150; 0\} = 0$$

99.83 Second, it is necessary to recalculate the interest rate and commodity add-ons, based on the value of the maturity factor for margined transactions, which depends on the margin period of risk. For daily re-margining, the margin period of risk (MPOR) would be 10 days. In accordance with CRE52.50, for netting sets that are not subject to daily margin agreements the MPOR is the sum of nine business days plus the re-margining period (which is five business days in this example). Thus the MPOR is 14 (= 9 + 5) in this example.

99.84 The re-scaled maturity factor for the trades in the netting set is calculated using the formula set out in CRE52.52. Using the MPOR calculated above, the maturity factor for all trades in the netting set in this example it is calculated as follows (a market convention of 250 business days in the financial year is used):

$$MF_i^{(\text{margined})} = \frac{3}{2}\sqrt{\frac{MPOR_i}{1year}} = 1.5 * \sqrt{14/250}$$

99.85

For the interest rate add-on, the effective notional for each trade ($D_i = d_i * MF_i * \delta_i$) calculated in CRE99.32 must be recalculated using the maturity factor for the margined netting set calculated above. That is:

IR Trade #	Notional (USD thousands)	Base currency (hedging set)	Maturity bucket	Adjusted notional, d_i (USD, thousands)	Maturity Factor, MF_i	Delta, δ_i	Effe notio (US thous
1	10,000	USD	3	78,694	$1.5 * \sqrt{14/250}$	1	27,
2	10,000	USD	2	36,254	$1.5 * \sqrt{14/250}$	-1	-12
3	5,000	EUR	3	37,428	$1.5 * \sqrt{14/250}$	-0.2694	-3,

99.86 Next, the effective notional of each of the three maturity buckets within each hedging set must now be calculated. However, as set out in CRE99.35, given that in this example there are no maturity buckets within a hedging set with more than a single trade, the effective maturity of each maturity bucket is simply equal to the effective notional of the single trade in each bucket. Specifically:

(1) For the USD hedging set: D^{B1} is zero, D^{B2} is -12,869 (thousand USD) and D^{B3} is 27,934 (thousand USD).

(2) For the EUR hedging set: D^{B1} and D^{B2} are zero and D^{B3} is -3,579 (thousand USD).

99.87 Next, the effective notional of each of the two hedging sets (USD and EUR) must be recalculated using formula set out in CRE99.37 and the updated values of the effective notionals of each maturity bucket. The calculation is as follows:

$$EN_{USD} = \left[\left(-12,869\right)^2 + \left(27,934\right)^2 + 1.4 * (-12,869) * 27,934 \right]^{\frac{1}{2}} = 21,039$$

$$EN_{EUR} = \left[(-3,579)^2 \right]^{\frac{1}{2}} = 3,579$$

99.88 Next, the hedging set level add-ons ($AddOn_{hs}$) must be recalculated by multiplying the recalculated effective notionals of each hedging set (EN_{hs}) by the prescribed supervisory factor of the hedging set (SF_{hs}). As set out in CRE99.35,

the prescribed supervisory factor in this case is 0.5%. Therefore, the add-on for the USD and EUR hedging sets are, respectively (expressed in USD thousands):

$$AddOn_{USD} = 21,039 * 0.005 = 105$$

$$AddOn_{EUR} = 3,579 * 0.005 = 18$$

99.89 Finally, the interest rate asset class level add-on (AddOnIR) can be recalculated by adding together the USD and EUR hedging set level add-ons as follows (expressed in USD thousands):

$$AddOn^{IR} = 105 + 18 = 123$$

99.90 The add-on for the commodity asset class must also be recalculated using the maturity factor for the margined netting. The effective notional for each trade (Di = di * MFi * δi) is set out in the table below:

Commodity Trade #	**Notional (USD thousands)**	**Hedging set**	**Commodity type**	**Adjusted notional, d_i (USD, thousands)**	**Maturity Factor, MF_i**	**Delta, δ_i**
1	10,000	Energy	Crude Oil	10,000	$1.5 * \sqrt{14/250}$	1
2	20,000	Energy	Crude Oil	20,000	$1.5 * \sqrt{14/250}$	-1
3	10,000	Metals	Silver	10,000	$1.5 * \sqrt{14/250}$	1

99.91 The combined effective notional for all derivatives with each hedging set that reference the same commodity type ($EN_{ComType}$) must be recalculated by adding together the trade-level effective notionals above for each commodity type. This gives the following:

(1) $EN_{CrudeOil}$ = 3,550 + (-7,100) = -3,550

(2) EN_{Silver} = 3,550

99.92

The add-on for each commodity type ($AddOn_{CrudeOil}$ and $AddOn_{Silver}$) within each hedging set calculated in CRE99.69 must now be recalculated by multiplying the recalculated combined effective notional for that commodity by the relevant supervisory factor (ie 18%). Therefore:

(1) $AddOn_{CrudeOil}$ = -3,550 * 0.18 = -639

(2) $AddOn_{Silver}$ = 3550 * 0.18 = 639

99.93 Next, recalculate the add-on for energy and metals hedging sets using the recalculated add-ons for each commodity type above. As noted in CRE99.72, given that there is only one commodity type with each hedging set, the hedging set level add on is simply equal to the absolute value of the commodity type add-on. That is:

$$AddOn_{Energy} = \left|AddOn_{CrudeOil}\right| = 639$$

$$AddOn_{Metals} = \left|AddOn_{Silver}\right| = 639$$

99.94 Finally, calculate the commodity asset class level add-on ($AddOn^{Commodity}$) by adding together the hedging set level add-ons:

$$AddOn^{Commodity} = \sum_{HS} AddOn_{HS} = 639 + 639 = 1,278$$

99.95 The aggregate netting set level add-on can now be calculated. As set out in CRE52.25, it is calculated as the sum of the asset class level add-ons. That is for this example:

$$AddOn^{aggregate} = \sum_{assetclass} AddOn^{(assetclass)} = AddOn^{IR} + AddOn^{Commodity} = 123 + 1,278 = 1,401$$

99.96 As can be seen from CRE99.82, the value of V-C is negative (ie -120) and so the multiplier will be less than 1. The multiplier is calculated using the formula set out in CRE52.23, which for this example gives:

$$multiplier = \min\left(1; 0.05 + 0.95 * \exp\left(\frac{80 - 200}{2 * 0.95 * 1,401}\right)\right) = 0.958$$

99.97 Finally, aggregating the replacement cost and the PFE component and multiplying the result by the alpha factor of 1.4, the EAD is as follows (USD thousands):

$$EAD = 1.4 * (0 + 0.958 * 1,401) = 1,879$$

Effect of standard margin agreements on the calculation of replacement cost with SA-CCR

99.98 In this section (CRE99.98 to CRE99.115), five examples are used to illustrate the operation of the SA-CCR in the context of standard margin agreements. In particular, they relate to the formulation of replacement cost for margined trades, as set out in CRE52.18:

$$RC = \max\{V - C; TH + MTA - NICA; 0\}$$

Example 1

99.99 The bank currently has met all past VM calls so that the value of trades with its counterparty (€80 million) is offset by cumulative VM in the form of cash collateral received. There is a small "Minimum Transfer Amount" (MTA) of €1 million and a €0 "Threshold" (TH). Furthermore, an "Independent Amount" (IA) of €10 million is agreed in favour of the bank and none in favour of its counterparty (ie the NICA is €10 million. This leads to a credit support amount of €90 million, which is assumed to have been fully received as of the reporting date.

99.100 In this example, the three terms in the replacement cost formula are:

(1) V - C =€80 million – €90 million = negative €10 million.

(2) TH + MTA – NICA = €0 + €1 million - €10 million = negative €9 million.

(3) The third term in the RC formula is always zero, which ensures that replacement cost is not negative.

99.101 The highest of the three terms (-€10 million, -€9 million, 0) is zero, so the replacement cost is zero. This is due to the large amount of collateral posted by the bank's counterparty.

Example 2

99.102 The counterparty has met all VM calls but the bank has some residual exposure due to the MTA of €1 million in its master agreement, and has a €0 TH. The value of the bank's trades with the counterparty is €80 million and the bank holds €79.5 million in VM in the form of cash collateral. In addition, the bank holds €10 million in independent collateral (here being an initial margin independent of VM, the latter of which is driven by mark-to-market (MTM) changes) from the

counterparty. The counterparty holds €10 million in independent collateral from the bank, which is held by the counterparty in a non-segregated manner. The NICA is therefore €0 (= €10 million independent collateral held less €10 million independent collateral posted).

99.103 In this example, the three terms in the replacement formula are:

(1) V – C = €80 million – (€79.5 million + €10 million - €10 million)= €0.5 million.

(2) TH + MTA – NICA = €0 + €1 million – €0 = €1 million.

(3) The third term is zero.

99.104 The replacement cost is the highest of the three terms (€0.5 million, €1 million, 0) which is €1 million. This represents the largest exposure before collateral must be exchanged.

Bank as a clearing member

99.105 The case of central clearing can be viewed from a number of perspectives. One example in which the replacement cost formula for margined trades can be applied is when the bank is a clearing member and is calculating replacement cost for its own trades with a central counterparty (CCP). In this case, the MTA and TH are generally zero. VM is usually exchanged at least daily and the independent collateral amount (ICA) in the form of a performance bond or IM is held by the CCP.

Example 3

99.106 The bank, in its capacity as clearing member of a CCP, has posted VM to the CCP in an amount equal to the value of the trades it has with the CCP. The bank has posted cash as initial margin and the CCP holds the IM in a bankruptcy-remote fashion. Assume that the value of trades with the CCP are negative €50 million, the bank has posted €50 million in VM and €10 million in IM to the CCP.

99.107 Given that the IM is held by the CCP in a bankruptcy remote fashion, CRE52.17 permits this amount to be excluded in the calculation NICA. Therefore, the NICA is €0 because the bankruptcy-remote IM posted to the CCP can be exclude and

the bank has not received any IM from the CCP. The value of C is calculated as the value of NICA plus any VM received less any VM posted. The value of C is thus negative €50 million (= €0 million + €0 million - €50 million).

99.108 In this example, the three terms in the replacement formula are:

(1) V – C = (-€50 million) – (-€50 million) = €0. That is, the negative value of the trades has been fully offset by the VM posted by the bank.

(2) TH + MTA – NICA = €0 + €0 - €0 = €0.

(3) The third term is zero.

99.109 The replacement cost is therefore €0.

Example 4

99.110 Example 4 is the same as Example 3, except that the IM posted to the CCP is not bankruptcy-remote. As a consequence, the €10 million of IM must be included in the calculation of NICA. Thus, NICA is negative €10 million (= ICA received of €0 minus unsegregated ICA posted of €10 million). Also, the value of C is negative €60 million (=NICA + VM received - VM posted = -€10 million + €0 - €50 million).

99.111 In this example, the three terms in the replacement formula are:

(1) V – C = (-€50 million) – (-€60 million) = €10 million. That is, the negative value of the trades is more than fully offset by collateral posted by the bank.

(2) TH + MTA – NICA = €0 + €0 – (-€10 million)= €10 million.

(3) The third term is zero.

99.112 The replacement cost is therefore €10 million. This represents the IM posted to the CCP which risks being lost upon default and bankruptcy of the CCP.

Example 5 : Maintenance Margin Agreement

99.113 Some margin agreements specify that a counterparty (in this case, a bank) must maintain a level of collateral that is a fixed percentage of the MTM of the transactions in a netting set. For this type of margining agreement, ICA is the amount of collateral that the counterparty must maintain above the net MTM of the transactions.

99.114 For example, suppose the agreement states that a counterparty must maintain a collateral balance of at least 140% of the MTM of its transactions and that the MtM of the derivatives transactions is €50 in the bank's favour. ICA in this case is €20 (= 140% * €50 – €50). Further, suppose there is no TH, no MTA, the bank has posted no collateral and the counterparty has posted €80 in cash collateral. In this example, the three terms of the replacement cost formula are:

(1) V – C = €50 - €80 = -€30.

(2) MTA + TH - NICA = €0 + €0 - €20 = -€20.

(3) The third term is zero.

99.115 Thus, the replacement cost is zero in this example.

Equity investments in funds: calculation of risk-weighted assets using the look-through approach

99.116 Consider a fund that replicates an equity index. Moreover, assume the following:

(1) The bank uses the standardised approach (SA) for credit risk when calculating its capital requirements for credit risk and for determining counterparty credit risk exposures it uses the SA-CCR.

(2) The bank owns 20% of the shares of the fund.

(3) The fund holds forward contracts on listed equities that are cleared through a qualifying central counterparty (with a notional amount of USD 100); and

(4) The fund presents the following balance sheet:

Assets	
Cash	USD 20
Government bonds (AAA-rated)	USD 30
Variation margin receivable (ie collateral posted by the bank to the CCP in respect of the forward contracts)	USD 50
Liabilities	
Notes payable	USD 5
Equity	
Shares, retained earnings and other reserves	USD 95

99.117 The funds exposures will be risk weighted as follows:

(1) The RWA for the cash (RWA_{cash}) are calculated as the exposure of USD 20 multiplied by the applicable SA risk weight of 0%. Thus, RWA_{cash} = USD 0.

(2) The RWA for the government bonds (RWA_{bonds}) are calculated as the exposure of USD 30 multiplied by the applicable SA risk weight of 0%. Thus, RWA_{bonds} = USD 0.

(3) The RWA for the exposures to the listed equities underlying the forward contracts ($RWA_{underlying}$) are calculated by multiplying the following three amounts: (1) the SA credit conversion factor of 100% that is applicable to forward purchases; (2) the exposure to the notional of USD 100; and (3) the applicable risk weight for listed equities under the SA which is 250%. Thus, $RWA_{underlying}$ = 100% * USD100 * 250% = USD 250.

(4) The forward purchase equities expose the bank to counterparty credit risk in respect of the market value of the forwards and the collateral posted that is not held by the CCP on a bankruptcy remote basis. For the sake of simplicity, this example assumes the application of SA-CCR results in an exposure value of USD 56. The RWA for counterparty credit risk (RWA_{CCR}) are determined by multiplying the exposure amount by the relevant risk weight for trade exposures to CCPs, which 2% in this case (see CRE54 for the capital requirements for bank exposures to CCPs). Thus, RWA_{CCR} = USD 56 * 2% = USD 1.12. (Note: There is no credit valuation adjustment, or CVA, charge assessed since the forward contracts are cleared through a CCP.)

99.118 The total RWA of the fund are therefore USD 251.12 = (0 + 0 +250 + 1.12).

99.119 The leverage of a fund under the LTA is calculated as the ratio of the fund's total assets to its total equity, which in this examples is 100/95.

99.120 Therefore, the RWA for the bank's equity investment in the fund is calculated as the product of the average risk weight of the fund, the fund's leverage and the size of the banks equity investment. That is:

$$RWA = \frac{RWA_{fund}}{Total\ Assets_{fund}} * Leverage * Equity\ investment = \frac{251.12}{100} * \frac{100}{95} * (95 * 20\%) = USD\,50.2$$

Calculation of risk-weighted assets using the MBA

99.121 Consider a fund with assets of USD 100, where it is stated in the mandate that the fund replicates an equity index. In addition to being permitted to invest its assets in either cash or listed equities, the mandate allows the fund to take long positions in equity index futures up to a maximum nominal amount equivalent to the size of the fund's balance sheet (USD 100). This means that the total on balance sheet and off balance sheet exposures of the fund can reach USD 200. Consider also that a maximum financial leverage (fund assets/fund equity) of 1.1 applies according to the mandate. The bank holds 20% of the shares of the fund, which represents an investment of USD 18.18.

99.122 First, the on-balance sheet exposures of USD 100 will be risk weighted according to the risk weights applied to listed equity exposures (RW=250%), ie $RWA_{on\text{-}BS}$ = USD 100 * 250% = USD 250.

99.123 Second, we assume that the fund has exhausted its limit on derivative positions, ie USD 100 notional amount. The RWA for the maximum notional amount of underlying the derivatives positions calculated by multiplying the following three amounts: (1) the SA credit conversion factor of 100% that is applicable to forward purchases; (2) the maximum exposure to the notional of USD 100; and (3) the applicable risk weight for listed equities under the SA which is 250%. Thus, $RWA_{underlying}$ = 100% * USD100 * 250% = USD 250.

99.124 Third, we would calculate the counterparty credit risk associated with the derivative contract. As set out in CRE60.7(3):

(1) If we do not know the replacement cost related to the futures contract, we would approximate it by the maximum notional amount, ie USD 100.

(2) If we do not know the aggregate add-on for potential future exposure, we would approximate this by 15% of the maximum notional amount (ie 15% of USD 100=USD 15).

(3) The CCR exposure is calculated by multiplying (i) the sum of the replacement cost and aggregate add-on for potential future exposure; by (ii) 1.4, which is the prescribed value of alpha.

99.125 The counterparty credit risk exposure in this example, assuming the replacement cost and aggregate add-on amounts are unknown, is therefore USD 161 (= 1.4 * (100+15)). Assuming the futures contract is cleared through a qualifying CCP, a risk weight of 2% applies, so that RWA_{CCR} = USD 161 * 2% = USD 3.2. There is no CVA charge assessed since the futures contract is cleared through a CCP.

99.126 The RWA of the fund is hence obtained by adding $RWA_{on\text{-}BS}$, $RWA_{underlying}$ and RWA_{CCR}, ie USD 503.2 (=250 + 250 + 3.2).

99.127 The RWA (USD 503.2) will be divided by the total assets of the fund (USD 100) resulting in an average risk-weight of 503.2%. The bank's total RWA associated with its equity investment is calculated as the product of the average risk weight of the fund, the fund's maximum leverage and the size of the bank's equity investment. That is the bank's total associated RWA are 503.2% * 1.1 * USD 18.18 = USD 100.6.

Calculation of the leverage adjustment

99.128 Consider a fund with assets of USD 100 that invests in corporate debt. Assume that the fund is highly levered with equity of USD 5 and debt of USD 95. Such a fund would have financial leverage of 100/5=20. Consider the two cases below.

99.129 In Case 1 the fund specialises in low-rated corporate debt, it has the following balance sheet:

Assets	
Cash	USD 10
A+ to A- bonds	USD 20
BBB+ to BBB- bonds	USD 30
BB+ to BB- bonds	USD 40
Liabilities	
Debt	USD 95
Equity	
Shares, retained earnings and other reserves	USD 5

99.130 The average risk weight of the fund is (USD10*0% + USD20*50% + USD30*75% + USD40*100%)/USD100 = 72.5%. The financial leverage of 20 would result in an effective risk weight of 1,450% for banks' investments in this highly levered fund, however, this is capped at a conservative risk weight of 1,250%.

99.131 In Case 2 the fund specialises in high-rated corporate debt, it has the following balance sheet:

Assets	
Cash	USD 5
AAA to AA- bonds	USD 75
A+ to A- bonds	USD 20
Liabilities	
Debt	USD 95
Equity	
Shares, retained earnings and other reserves	USD 5

99.132 The average risk weight of the fund is (USD5*0% + USD75*20% + USD20*50%) /USD100 = 25%. The financial leverage of 20 results in an effective risk weight of 500%.

99.133 The above examples illustrate that the rate at which the 1,250% cap is reached depends on the underlying riskiness of the portfolio (as judged by the average risk weight) as captured by SA risk weights or the IRB approach. For example, for a "risky" portfolio (72.5% average risk weight), the 1,250% limit is reached fairly quickly with a leverage of 17.2x, while for a "low risk" portfolio (25% average risk weight) this limit is reached at a leverage of 50x.

MAR

Calculation of RWA for market risk

This standard describes how to calculate capital requirements for market risk and credit valuation adjustment risk.

MAR10

Market risk terminology

This chapter provides a high-level description of terminologies used in the market risk and credit valuation adjustment risk frameworks

Version effective as of 01 Jan 2023

Reflects revisions in the standardised and internal models approach for market risk, including the shift to an expected shortfall measure. Also reflects the revised implementation date announced on 27 March 2020.

General terminology

10.1 Market risk: the risk of losses in on- and off-balance sheet risk positions arising from movements in market prices.

10.2 Notional value: the notional value of a derivative instrument is equal to the number of units underlying the instrument multiplied by the current market value of each unit of the underlying.

10.3 Trading desk: a group of traders or trading accounts in a business line within a bank that follows defined trading strategies with the goal of generating revenues or maintaining market presence from assuming and managing risk.

10.4 Pricing model: a model that is used to determine the value of an instrument (mark-to-market or mark-to-model) as a function of pricing parameters or to determine the change in the value of an instrument as a function of risk factors. A pricing model may be the combination of several calculations; eg a first valuation technique to compute a price, followed by valuation adjustments for risks that are not incorporated in the first step.

Terminology for financial instruments

10.5 Financial instrument: any contract that gives rise to both a financial asset of one entity and a financial liability or equity instrument of another entity. Financial instruments include both primary financial instruments (or cash instruments) and derivative financial instruments.

10.6 Instrument: the term used to describe financial instruments, instruments on foreign exchange (FX) and commodities.

10.7 Embedded derivative: a component of a financial instrument that includes a non-derivative host contract. For example, the conversion option in a convertible bond is an embedded derivative.

10.8 Look-through approach: an approach in which a bank determines the relevant capital requirements for a position that has underlyings (such as an index instrument, multi-underlying option, or an equity investment in a fund) as if the underlying positions were held directly by the bank.

Terminology for market risk capital requirement calculations

10.9 Risk factor: a principal determinant of the change in value of an instrument (eg an exchange rate or interest rate).

10.10 Risk position: the portion of the current value of an instrument that may be subject to losses due to movements in a risk factor. For example, a bond denominated in a currency different to a bank's reporting currency has risk positions in general interest rate risk, credit spread risk (non-securitisation) and FX risk, where the risk positions are the potential losses to the current value of the instrument that could occur due to a change in the relevant underlying risk factors (interest rates, credit spreads, or exchange rates).

10.11 Risk bucket: a defined group of risk factors with similar characteristics.

10.12 Risk class: a defined list of risks that are used as the basis for calculating market risk capital requirements: general interest rate risk, credit spread risk (non-securitisation), credit spread risk (securitisation: non-correlation trading portfolio), credit spread risk (securitisation: correlation trading portfolio), FX risk, equity risk and commodity risk.

Terminology for risk metrics

10.13 Sensitivity: a bank's estimate of the change in value of an instrument due to a small change in one of its underlying risk factors. Delta and vega risks are sensitivities.

10.14 Delta risk: the linear estimate of the change in value of a financial instrument due to a movement in the value of a risk factor. The risk factor could be the price of an equity or commodity, or a change in an interest rate, credit spread or FX rate.

10.15 Vega risk: the potential loss resulting from the change in value of a derivative due to a change in the implied volatility of its underlying.

10.16 Curvature risk: the additional potential loss beyond delta risk due to a change in a risk factor for financial instruments with optionality. In the standardised approach in the market risk framework, it is based on two stress scenarios involving an upward shock and a downward shock to each regulatory risk factor.

10.17 Value at risk (VaR): a measure of the worst expected loss on a portfolio of instruments resulting from market movements over a given time horizon and a pre-defined confidence level.

10.18 Expected shortfall (ES): a measure of the average of all potential losses exceeding the VaR at a given confidence level.

10.19 Jump-to-default (JTD): the risk of a sudden default. JTD exposure refers to the loss that could be incurred from a JTD event.

10.20

Liquidity horizon: the time assumed to be required to exit or hedge a risk position without materially affecting market prices in stressed market conditions.

Terminology for hedging and diversification

10.21 Basis risk: the risk that prices of financial instruments in a hedging strategy are imperfectly correlated, reducing the effectiveness of the hedging strategy.

10.22 Diversification: the reduction in risk at a portfolio level due to holding risk positions in different instruments that are not perfectly correlated with one another.

10.23 Hedge: the process of counterbalancing risks from exposures to long and short risk positions in correlated instruments.

10.24 Offset: the process of netting exposures to long and short risk positions in the same risk factor.

10.25 Standalone: being capitalised on a stand-alone basis means that risk positions are booked in a discrete, non-diversifiable trading book portfolio so that the risk associated with those risk positions cannot diversify, hedge or offset risk arising from other risk positions, nor be diversified, hedged or offset by them.

Terminology for risk factor eligibility and modellability

10.26 Real prices: a term used for assessing whether risk factors pass the risk factor eligibility test. A price will be considered real if it is (i) a price from an actual transaction conducted by the bank, (ii) a price from an actual transaction between other arm's length parties (eg at an exchange), or (iii) a price taken from a firm quote (ie a price at which the bank could transact with an arm's length party).

10.27 Modellable risk factor: risk factors that are deemed modellable, based on the number of representative real price observations and additional qualitative principles related to the data used for the calibration of the ES model. Risk factors that do not meet the requirements for the risk factor eligibility test are deemed as non-modellable risk factors (NMRF).

Terminology for internal model validation

10.28 Backtesting: the process of comparing daily actual and hypothetical profits and losses with model-generated VaR measures to assess the conservatism of risk measurement systems.

10.29 Profit and loss (P&L) attribution (PLA): a method for assessing the robustness of banks' risk management models by comparing the risk-theoretical P&L predicted by trading desk risk management models with the hypothetical P&L.

10.30 Trading desk risk management model: the trading desk risk management model (pertaining to in-scope desks) includes all risk factors that are included in the bank's ES model with supervisory parameters and any risk factors deemed not modellable, which are therefore not included in the ES model for calculating the respective regulatory capital requirement, but are included in NMRFs.

10.31 Actual P&L (APL): the actual P&L derived from the daily P&L process. It includes intraday trading as well as time effects and new and modified deals, but excludes fees and commissions as well as valuation adjustments for which separate regulatory capital approaches have been otherwise specified as part of the rules or which are deducted from Common Equity Tier 1. Any other valuation adjustments that are market risk-related must be included in the APL. As is the case for the hypothetical P&L, the APL should include FX and commodity risks from positions held in the banking book.

10.32 Hypothetical P&L (HPL): the daily P&L produced by revaluing the positions held at the end of the previous day using the market data at the end of the current day. Commissions, fees, intraday trading and new/modified deals, valuation adjustments for which separate regulatory capital approaches have been otherwise specified as part of the rules and valuation adjustments which are deducted from CET1 are excluded from the HPL. Valuation adjustments updated daily should usually be included in the HPL. Time effects should be treated in a consistent manner in the HPL and risk-theoretical P&L.

10.33 Risk-theoretical P&L (RTPL): the daily desk-level P&L that is predicted by the valuation engines in the trading desk risk management model using all risk factors used in the trading desk risk management model (ie including the NMRFs).

Terminology for credit valuation adjustment risk

10.34 Credit valuation adjustment (CVA): an adjustment to the valuation of a derivative transaction to account for the credit risk of contracting parties.

10.35

CVA risk: the risk of changes to CVA arising from changes in credit spreads of the contracting parties, compounded by changes to the value or variability in the value of the underlying of the derivative transaction.

MAR11

Definitions and application of market risk

This chapter defines the methods available for calculating and the scope of application of market risk capital requirements.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework, updated to take account of the revised implementation date announced on 27 March 2020.

Definition and scope of application

11.1 Market risk is defined as the risk of losses arising from movements in market prices. The risks subject to market risk capital requirements include but are not limited to:

(1) default risk, interest rate risk, credit spread risk, equity risk, foreign exchange (FX) risk and commodities risk for trading book instruments; and

(2) FX risk and commodities risk for banking book instruments.

11.2 All transactions, including forward sales and purchases, shall be included in the calculation of capital requirements as of the date on which they were entered into. Although regular reporting will in principle take place only at intervals (quarterly in most countries), banks are expected to manage their market risk in such a way that the capital requirements are being met on a continuous basis, including at the close of each business day. Supervisory authorities have at their disposal a number of effective measures to ensure that banks do not window-dress by showing significantly lower market risk positions on reporting dates. Banks will also be expected to maintain strict risk management systems to ensure that intraday exposures are not excessive. If a bank fails to meet the capital requirements at any time, the national authority shall ensure that the bank takes immediate measures to rectify the situation.

11.3 A matched currency risk position will protect a bank against loss from movements in exchange rates, but will not necessarily protect its capital adequacy ratio. If a bank has its capital denominated in its domestic currency and has a portfolio of foreign currency assets and liabilities that is completely matched, its capital/asset ratio will fall if the domestic currency depreciates. By running a short risk position in the domestic currency, the bank can protect its capital adequacy ratio, although the risk position would lead to a loss if the domestic currency were to appreciate. Supervisory authorities are free to allow banks to protect their capital adequacy ratio in this way and exclude certain currency risk positions from the calculation of net open currency risk positions, subject to meeting each of the following conditions:

(1) The risk position is taken or maintained for the purpose of hedging partially or totally against the potential that changes in exchange rates could have an adverse effect on its capital ratio.

(2) The risk position is of a structural (ie non-dealing) nature such as positions stemming from:

(a) investments in affiliated but not consolidated entities denominated in foreign currencies; or

(b) investments in consolidated subsidiaries or branches denominated in foreign currencies.

(3) The exclusion is limited to the amount of the risk position that neutralises the sensitivity of the capital ratio to movements in exchange rates.

(4) The exclusion from the calculation is made for at least six months.

(5) The establishment of a structural FX position and any changes in its position must follow the bank's risk management policy for structural FX positions. This policy must be pre-approved by the national supervisor.

(6) Any exclusion of the risk position needs to be applied consistently, with the exclusionary treatment of the hedge remaining in place for the life of the assets or other items.

(7) The bank is subject to a requirement by the national supervisor to document and have available for supervisory review the positions and amounts to be excluded from market risk capital requirements.

11.4 No FX risk capital requirement need apply to positions related to items that are deducted from a bank's capital when calculating its capital base.

11.5 Holdings of capital instruments that are deducted from a bank's capital or risk weighted at 1250% are not allowed to be included in the market risk framework. This includes:

(1) holdings of the bank's own eligible regulatory capital instruments; and

(2) holdings of other banks', securities firms' and other financial entities' eligible regulatory capital instruments, as well as intangible assets, where the national supervisor requires that such assets are deducted from capital.

(3) Where a bank demonstrates that it is an active market-maker, then a national supervisor may establish a dealer exception for holdings of other banks', securities firms', and other financial entities' capital instruments in the trading book. In order to qualify for the dealer exception, the bank must have adequate systems and controls surrounding the trading of financial institutions' eligible regulatory capital instruments.

11.6

In the same way as for credit risk and operational risk, the capital requirements for market risk apply on a worldwide consolidated basis.

(1) Supervisory authorities may permit banking and financial entities in a group which is running a global consolidated trading book and whose capital is being assessed on a global basis to include just the net short and net long risk positions no matter where they are booked.[1]

(2) Supervisory authorities may grant this treatment only when the standardised approach in MAR20 to MAR23 permits a full offset of the risk position (ie risk positions of the opposite sign do not attract a capital requirement).

(3) Nonetheless, there will be circumstances in which supervisory authorities demand that the individual risk positions be taken into the measurement system without any offsetting or netting against risk positions in the remainder of the group. This may be needed, for example, where there are obstacles to the quick repatriation of profits from a foreign subsidiary or where there are legal and procedural difficulties in carrying out the timely management of risks on a consolidated basis.

(4) Moreover, all supervisory authorities will retain the right to continue to monitor the market risks of individual entities on a non-consolidated basis to ensure that significant imbalances within a group do not escape supervision. Supervisory authorities will be especially vigilant in ensuring that banks do not conceal risk positions on reporting dates in such a way as to escape measurement.

Footnotes

[1] *The positions of less than wholly owned subsidiaries would be subject to the generally accepted accounting principles in the country where the parent company is supervised.*

Methods of measuring market risk

11.7 In determining its market risk for regulatory capital requirements, a bank may choose between two broad methodologies: the standardised approach and internal models approach (IMA) for market risk, described in MAR20 to MAR23 and MAR30 to MAR33, respectively, subject to the approval of the national authorities. Supervisors may allow banks that maintain smaller or simpler trading books to use the simplified alternative to the standardised approach as set out in MAR40.

(1) To determine the appropriateness of the simplified alternative for use by a bank for the purpose of its market risk capital requirements, supervisors may wish to consider the following indicative criteria:

(a) The bank should not be a global systemically important bank (G-SIB).

(b) The bank should not use the IMA for any of its trading desks.

(c) The bank should not hold any correlation trading positions.

(2) The use of the simplified alternative is subject to supervisory approval and oversight. Supervisors can mandate that banks with relatively complex or sizeable risks in particular risk classes apply the full standardised approach instead of the simplified alternative, even if those banks meet the indicative eligibility criteria referred to above.

11.8 All banks, except for those that are allowed to use the simplified alternative as set out in MAR11.7, must calculate the capital requirements using the standardised approach. Banks that are approved by the supervisor to use the IMA for market risk capital requirements must also calculate and report the capital requirement values calculated as set out below.

(1) A bank that uses the IMA for any of its trading desks must also calculate the capital requirement under the standardised approach for all instruments across all trading desks, regardless of whether those trading desks are eligible for the IMA.

(2) In addition, a bank that uses the IMA for any of its trading desks must calculate the standardised approach capital requirement for each trading desk that is eligible for the IMA as if that trading desk were a standalone regulatory portfolio (ie with no offsetting across trading desks). This will:

(a) serve as an indication of the fallback capital requirement for those desks that fail the eligibility criteria for inclusion in the bank's internal model as outlined in MAR30, MAR32 and MAR33;

(b) generate information on the capital outcomes of the internal models relative to a consistent benchmark and facilitate comparison in implementation between banks and/or across jurisdictions;

(c) monitor over time the relative calibration of standardised and modelled approaches, facilitating adjustments as needed; and

(d) provide macroprudential insight in an ex ante consistent format.

11.9 All banks must calculate the market risk capital requirement using the standardised approach for the following:

(1) securitisation exposures; and

(2) equity investments in funds that cannot be looked through but are assigned to the trading book in accordance to the conditions set out in RBC25.8(5)(b).

MAR12

Definition of trading desk

This chapter defines a trading desk, which is the level at which model approval is granted.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework updated to take account of the revised implementation date announced on 27 March 2020.

12.1 For the purposes of market risk capital calculations, a trading desk is a group of traders or trading accounts that implements a well defined business strategy operating within a clear risk management structure.

12.2 Trading desks are defined by the bank but subject to the regulatory approval of the supervisor for capital purposes.

(1) A bank should be allowed to propose the trading desk structure per their organisational structure, consistent with the requirements set out in MAR12.4.

(2) A bank must prepare a policy document for each trading desk it defines, documenting how the bank satisfies the key elements in MAR12.4.

(3) Supervisors will treat the definition of the trading desk as part of the initial model approval for the trading desk, as well as ongoing approval:

(a) Supervisors may determine, based on the size of the bank's overall trading operations, whether the proposed trading desk definitions are sufficiently granular.

(b) Supervisors should check that the bank's proposed definition of trading desk meets the criteria listed in key elements set out in MAR12.4.

12.3 Within this supervisory approved trading desk structure, banks may further define operational subdesks without the need for supervisory approval. These subdesks would be for internal operational purposes only and would not be used in the market risk capital framework.

12.4 The key attributes of a trading desk are as follows:

(1) A trading desk for the purposes of the regulatory capital charge is an unambiguously defined group of traders or trading accounts.

(a) A trading account is an indisputable and unambiguous unit of observation in accounting for trading activity.

(b) The trading desk must have one head trader and can have up to two head traders provided their roles, responsibilities and authorities are either clearly separated or one has ultimate oversight over the other.

(i) The head trader must have direct oversight of the group of traders or trading accounts.

(ii) Each trader or each trading account in the trading desk must have a clearly defined specialty (or specialities).

(c) Each trading account must only be assigned to a single trading desk. The desk must have a clearly defined risk scope consistent with its pre-established objectives. The scope should include specification of the desk's overall risk class and permitted risk factors.

(d) There is a presumption that traders (as well as head traders) are allocated to one trading desk. A bank can deviate from this presumption and may assign an individual trader to work across several trading desks provided it can be justified to the supervisor on the basis of sound management, business and/or resource allocation reasons. Such assignments must not be made for the only purpose of avoiding other trading desk requirements (eg to optimise the likelihood of success in the backtesting and profit and loss attribution tests).

(e) The trading desk must have a clear reporting line to bank senior management, and should have a clear and formal compensation policy clearly linked to the pre-established objectives of the trading desk.

(2) A trading desk must have a well defined and documented business strategy, including an annual budget and regular management information reports (including revenue, costs and risk-weighted assets).

(a) There must be a clear description of the economics of the business strategy for the trading desk, its primary activities and trading/hedging strategies.

(i) Economics: what is the economics behind the strategy (eg trading on the shape of the yield curve)? How much of the activities are customer driven? Does it entail trade origination and structuring, or execution services, or both?

(ii) Primary activities: what is the list of permissible instruments and, out of this list, which are the instruments most frequently traded?

(iii) Trading/hedging strategies: how would these instruments be hedged, what are the expected slippages and mismatches of hedges, and what is the expected holding period for positions?

(b) The management team at the trading desk (starting from the head trader) must have a clear annual plan for the budgeting and staffing of the trading desk.

(c) A trading desk's documented business strategy must include regular Management Information reports, covering revenue, costs and risk-weighted assets for the trading desk.

(3) A trading desk must have a clear risk management structure.

(a) Risk management responsibilities: the bank must identify key groups and personnel responsible for overseeing the risk-taking activities at the trading desk.

(b) A trading desk must clearly define trading limits based on the business strategy of the trading desk and these limits must be reviewed at least annually by senior management at the bank. In setting limits, the trading desk must have:

(i) well defined trading limits or directional exposures at the trading desk level that are based on the appropriate market risk metric (eg sensitivity of credit spread risk and/or jump-to-default for a credit trading desk), or just overall notional limits; and

(ii) well defined trader mandates.

(c) A trading desk must produce, at least weekly, appropriate risk management reports. This would include, at a minimum:

profit and loss reports, which would be periodically reviewed, validated and modified (if necessary) by Product Control; and

internal and regulatory risk measure reports, including trading desk value-at-risk (VaR) / expected shortfall (ES), trading desk VaR/ES sensitivities to risk factors, backtesting and p-value.

12.5 The bank must prepare, evaluate, and have available for supervisors the following for all trading desks:

(1) inventory ageing reports;

(2) daily limit reports including exposures, limit breaches, and follow-up action;

(3) reports on intraday limits and respective utilisation and breaches for banks with active intraday trading; and

(4) reports on the assessment of market liquidity.

12.6 Any foreign exchange or commodity positions held in the banking book must be included in the market risk capital requirement as set out in MAR11.1. For regulatory capital calculation purposes, these positions will be treated as if they were held on notional trading desks within the trading book.

FAQ

FAQ1 *How should the requirement for a "notional trading desk" be interpreted for banking book FX and commodities positions?*

A "notional trading desk" is a trading desk that need not have traders or trading accounts assigned to it, and need not meet the qualitative trading desk requirements set out in MAR12.

Banks that wish to use the internal models approach (IMA) to measure the FX or commodity risk of such "notional trading desks" must take either or both of the following actions:

- *transfer all or part of banking book FX and commodity risks to another trading desk via intra-trading book internal risk transfers (IRTs) (where trading desk requirements would continue to apply as appropriate for that desk), and/or*

- *apply for IMA approval for the notional trading desk. In this case, the notional desk only needs to meet the quantitative trading desk requirements.*

FAQ2 *Does the standard permit certain traders (ie global treasury desk heads or department heads) to have ownership and responsibilities in both trading book and banking book portfolios?*

Yes.

MAR20

Standardised approach: general provisions and structure

This chapter sets out the general provisions and the structure of the standardised approach for calculating risk-weighted assets for market risk.

Version effective as of 01 Jan 2023

Introduces a revised approach based on expanded use of sensitivities as set out in the January 2019 market risk publication and updated to take account of the revised implementation date announced on 27 March 2020.

General provisions

20.1 The risk-weighted assets for market risk under the standardised approach are determined by multiplying the capital requirements calculated as set out in MAR20 to MAR23 by 12.5.

20.2 The standardised approach must be calculated and reported to the relevant supervisor on a monthly basis. Subject to supervisory approval, the standardised approach for market risks arising from non-banking subsidiaries of a bank may be calculated and reported to the relevant supervisor on a quarterly basis.

20.3 A bank must also determine its regulatory capital requirements for market risk according to the standardised approach for market risk at the demand of its supervisor.

Structure of the standardised approach

20.4 The standardised approach capital requirement is the simple sum of three components: the capital requirement under the sensitivities-based method, the default risk capital (DRC) requirement and the residual risk add-on (RRAO).

(1) The capital requirement under the sensitivities-based method must be calculated by aggregating three risk measures - delta, vega and curvature, as set out in MAR21:

(a) *Delta*: a risk measure based on sensitivities of an instrument to regulatory delta risk factors.

(b) *Vega*: a risk measure based on sensitivities to regulatory vega risk factors.

(c) *Curvature*: a risk measure which captures the incremental risk not captured by the delta risk measure for price changes in an option. Curvature risk is based on two stress scenarios involving an upward shock and a downward shock to each regulatory risk factor.

(d) The above three risk measures specify risk weights to be applied to the regulatory risk factor sensitivities. To calculate the overall capital requirement, the risk-weighted sensitivities are aggregated using specified correlation parameters to recognise diversification benefits between risk factors. In order to address the risk that correlations may increase or decrease in periods of financial stress, a bank must calculate three sensitivities-based method capital requirement values, based on three different scenarios on the specified values for the correlation parameters as set out in MAR21.6 and MAR21.7.

(2) The DRC requirement captures the jump-to-default risk for instruments subject to credit risk as set out in MAR22.2. It is calibrated based on the credit risk treatment in the banking book in order to reduce the potential discrepancy in capital requirements for similar risk exposures across the bank. Some hedging recognition is allowed for similar types of exposures (corporates, sovereigns, and local governments/municipalities).

(3) Additionally, the Committee acknowledges that not all market risks can be captured in the standardised approach, as this might necessitate an unduly complex regime. An RRAO is thus introduced to ensure sufficient coverage of market risks for instruments specified in MAR23.2. The calculation method for the RRAO is set out in MAR23.8.

Definition of correlation trading portfolio

20.5 For the purpose of calculating the credit spread risk capital requirement under the sensitivities based method and the DRC requirement, the correlation trading portfolio is defined as the set of instruments that meet the requirements of (1) or (2) below.

(1) The instrument is a securitisation position that meets the following requirements:

(a) The instrument is not a re-securitisation position, nor a derivative of securitisation exposures that does not provide a pro rata share in the proceeds of a securitisation tranche, where the definition of securitisation positon is identical to that used in the credit risk framework.

(b) All reference entities are single-name products, including single-name credit derivatives, for which a liquid two-way market exists,[1] including traded indices on these reference entities.

(c) The instrument does not reference an underlying that is treated as a retail exposure, a residential mortgage exposure, or a commercial mortgage exposure under the standardised approach to credit risk.

(d) The instrument does not reference a claim on a special purpose entity.

(2) The instrument is a non-securitisation hedge to a position described above.

Footnotes

[1] *A two-way market is deemed to exist where there are independent bona fide offers to buy and sell so that a price reasonably related to the last sales price or current bona fide competitive bid-ask quotes can be determined within one day and the transaction settled at such price within a relatively short time frame in conformity with trade custom.*

MAR21

Standardised approach: sensitivities-based method

This chapter sets out the calculation of the sensitivities-based method under the standardised approach for market risk.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework, updated to take account of the revised implementation date announced on 27 March 2020.

Main concepts of the sensitivities-based method

21.1 The sensitivities of financial instruments to a prescribed list of risk factors are used to calculate the delta, vega and curvature risk capital requirements. These sensitivities are risk-weighted and then aggregated, first within risk buckets (risk factors with common characteristics) and then across buckets within the same risk class as set out in MAR21.8 to MAR21.14. The following terminology is used in the sensitivities-based method:

(1) Risk class: seven risk classes are defined (in MAR21.39 to MAR21.89).

(a) General interest rate risk (GIRR)

(b) Credit spread risk (CSR): non-securitisations

(c) CSR: securitisations (non-correlation trading portfolio, or non-CTP)

(d) CSR: securitisations (correlation trading portfolio, or CTP)

(e) Equity risk

(f) Commodity risk

(g) Foreign exchange (FX) risk

(2) Risk factor: variables (eg an equity price or a tenor of an interest rate curve) that affect the value of an instrument as defined in MAR21.8 to MAR21.14.

(3) Bucket: a set of risk factors that are grouped together by common characteristics (eg all tenors of interest rate curves for the same currency), as defined in MAR21.39 to MAR21.89.

(4) Risk position: the portion of the risk of an instrument that relates to a risk factor. Methodologies to calculate risk positions for delta, vega and curvature risks are set out in MAR21.3 to MAR21.5 and MAR21.15 to MAR21.26.

(a) For delta and vega risks, the risk position is a sensitivity to a risk factor.

(b) For curvature risk, the risk position is based on losses from two stress scenarios.

(5) Risk capital requirement: the amount of capital that a bank should hold as a consequence of the risks it takes; it is computed as an aggregation of risk positions first at the bucket level, and then across buckets within a risk class defined for the sensitivities-based method as set out in MAR21.3 to MAR21.7.

Instruments subject to each component of the sensitivities-based method

21.2 In applying the sensitivities-based method, all instruments held in trading desks as set out in MAR12 and subject to the sensitivities-based method (ie excluding instruments where the value at any point in time is purely driven by an exotic underlying as set out in MAR23.3), are subject to delta risk capital requirements. Additionally, the instruments specified in (1) to (4) are subject to vega and curvature risk capital requirements:

(1) Any instrument with optionality.[1]

(2) Any instrument with an embedded prepayment option[2] – this is considered an instrument with optionality according to above (1). The embedded option is subject to vega and curvature risk with respect to interest rate risk and CSR (non-securitisation and securitisation) risk classes. When the prepayment option is a behavioural option the instrument may also be subject to the residual risk add-on (RRAO) as per MAR23. The pricing model of the bank must reflect such behavioural patterns where relevant. For securitisation tranches, instruments in the securitised portfolio may have embedded prepayment options as well. In this case the securitisation tranche may be subject to the RRAO.

(3) Instruments whose cash flows cannot be written as a linear function of underlying notional. For example, the cash flows generated by a plain-vanilla option cannot be written as a linear function (as they are the maximum of the spot and the strike). Therefore, all options are subject to vega risk and curvature risk. Instruments whose cash flows can be written as a linear function of underlying notional are instruments without optionality (eg cash flows generated by a coupon bearing bond can be written as a linear function) and are not subject to vega risk nor curvature risk capital requirements.

(4) Curvature risks may be calculated for all instruments subject to delta risk, not limited to those subject to vega risk as specified in (1) to (3) above. For example, where a bank manages the non-linear risk of instruments with optionality and other instruments holistically, the bank may choose to include instruments without optionality in the calculation of curvature risk. This treatment is allowed subject to all of the following restrictions:

(a) Use of this approach shall be applied consistently through time.

(b) Curvature risk must be calculated for all instruments subject to the sensitivities-based method.

Footnotes

[1] *For example, each instrument that is an option or that includes an option (eg an embedded option such as convertibility or rate dependent prepayment and that is subject to the capital requirements for market risk). A non-exhaustive list of example instruments with optionality includes: calls, puts, caps, floors, swaptions, barrier options and exotic options.*

[2] *An instrument with a prepayment option is a debt instrument which grants the debtor the right to repay part of or the entire principal amount before the contractual maturity without having to compensate for any foregone interest. The debtor can exercise this option with a financial gain to obtain funding over the remaining maturity of the instrument at a lower rate in other ways in the market.*

Process to calculate the capital requirement under the sensitivities-based method

21.3 As set out in MAR21.1, the capital requirement under the sensitivities-based method is calculated by aggregating delta, vega and curvature capital requirements. The relevant paragraphs that describe this process are as follows:

(1) The risk factors for delta, vega and curvature risks for each risk class are defined in MAR21.8 to MAR21.14.

(2) The methods to risk weight sensitivities to risk factors and aggregate them to calculate delta and vega risk positions for each risk class are set out in MAR21.4 and MAR21.15 to MAR21.95, which include the definition of delta and vega sensitivities, definition of buckets, risk weights to apply to risk factors, and correlation parameters.

(3) The methods to calculate curvature risk are set out in MAR21.5 and MAR21.96 to MAR21.101, which include the definition of buckets, risk weights and correlation parameters.

(4) The risk class level capital requirement calculated above must be aggregated to obtain the capital requirement at the entire portfolio level as set out in MAR21.6 and MAR21.7.

Calculation of the delta and vega risk capital requirement for each risk class

21.4

For each risk class, a bank must determine its instruments' sensitivity to a set of prescribed risk factors, risk weight those sensitivities, and aggregate the resulting risk-weighted sensitivities separately for delta and vega risk using the following step-by-step approach:

(1) For each risk factor (as defined in MAR21.8 to MAR21.14), a sensitivity is determined as set out in MAR21.15 to MAR21.38.

(2) Sensitivities to the same risk factor must be netted to give a net sensitivity s_k across all instruments in the portfolio to each risk factor k. In calculating the net sensitivity, all sensitivities to the same given risk factor (eg all sensitivities to the one-year tenor point of the three-month Euribor swap curve) from instruments of opposite direction should offset, irrespective of the instrument from which they derive. For instance, if a bank's portfolio is made of two interest rate swaps on three-month Euribor with the same fixed rate and same notional but of opposite direction, the GIRR on that portfolio would be zero.

(3) The weighted sensitivity WS_k is the product of the net sensitivity s_k and the corresponding risk weight RW_k as defined in MAR21.39 to MAR21.95.

$$WS_k = RW_k s_k$$

(4) Within bucket aggregation: the risk position for delta (respectively vega) bucket b, K_b, must be determined by aggregating the weighted sensitivities to risk factors within the same bucket using the prescribed correlation ρ_{kl} set out in the following formula, where the quantity within the square root function is floored at zero:

$$K_b = \sqrt{\max(0, \sum_k WS_k^2 + \sum_k \sum_{k \neq l} \rho_{kl} WS_k WS_l)}$$

(5) Across bucket aggregation: The delta (respectively vega) risk capital requirement is calculated by aggregating the risk positions across the delta (respectively vega) buckets within each risk class, using the corresponding prescribed correlations γ_{bc} as set out in the following formula, where:

(a) $S_b = \sum_k WS_k$ for all risk factors in bucket b, and $S_c = \sum_k WS_k$ in bucket c.

(b) If these values for S_b and S_c described in above MAR21.4(5)(a) produce a negative number for the overall sum of $\sum_b K_b^2 + \sum_b \sum_{c \neq b} \gamma_{bc} S_b S_c$, the bank is to calculate the delta (respectively vega) risk capital requirement using an alternative specification whereby:

(i) $S_b = \max[\min(\sum_k WS_k, K_b), -K_b]$ for all risk factors in bucket b; and

(ii) $S_c = \max[\min(\sum_k WS_k, K_c), -K_c]$ for all risk factors in bucket c.

$$Delta\left(respectively\ vega\right) = \sqrt{\sum_b K_b^2 + \sum_b \sum_{c \neq b} \gamma_{bc} S_b S_c}$$

Calculation of the curvature risk capital requirement for each risk class

21.5 For each risk class, to calculate curvature risk capital requirements a bank must apply an upward shock and a downward shock to each prescribed risk factor and calculate the incremental loss for instruments sensitive to that risk factor above that already captured by the delta risk capital requirement using the following step-by-step approach:

(1) For each instrument sensitive to curvature risk factor k, an upward shock and a downward shock must be applied to k. The size of shock (ie risk weight) is set out in MAR21.98 and MAR21.99.

(a) For example for GIRR, all tenors of all the risk free interest rate curves within a given currency (eg three-month Euribor, six-month Euribor, one year Euribor, etc for the euro) must be shifted upward applying the risk weight as set out in MAR21.99. The resulting potential loss for each instrument, after the deduction of the delta risk positions, is the outcome of the upward scenario. The same approach must be followed on a downward scenario.

(b) If the price of an instrument depends on several risk factors, the curvature risk must be determined separately for each risk factor.

(2) The net curvature risk capital requirement, determined by the values CVR_k^+ and CVR_k^- for a bank's portfolio for risk factor k described in above MAR21.5 (1) is calculated by the formula below. It calculates the aggregate incremental loss beyond the delta capital requirement for the prescribed shocks, where

(a) i is an instrument subject to curvature risks associated with risk factor k;

(b) x_k is the current level of risk factor k;

(c) $V_i\left(x_k\right)$ is the price of instrument i at the current level of risk factor k;

(d) $V_i\left(x_k^{\left(RW^{(curvature)}+\right)}\right)$ and $V_i\left(x_k^{\left(RW^{(curvature)}-\right)}\right)$ denote the price of instrument i after x_k is shifted (ie "shocked") upward and downward respectively;

(e) $RW_k^{(curvature)}$ is the risk weight for curvature risk factor k for instrument i; and

(f) s_{ik} is the delta sensitivity of instrument i with respect to the delta risk factor that corresponds to curvature risk factor k, where:

(i) for the FX and equity risk classes, s_{ik} is the delta sensitivity of instrument i; and

(ii) for the GIRR, CSR and commodity risk classes, s_{ik} is the sum of delta sensitivities to all tenors of the relevant curve of instrument i with respect to curvature risk factor k.

$$CVR_k^+ = -\sum_i \left\{ V_i\left(x_k^{RW(Curvature)^+}\right) - V_i\left(x_k\right) - RW_k^{Curvature} \times s_{ik} \right\}$$

$$CVR_k^- = -\sum_i \left\{ V_i\left(x_k^{RW(Curvature)^-}\right) - V_i\left(x_k\right) + RW_k^{Curvature} \times s_{ik} \right\}$$

(3) Within bucket aggregation: the curvature risk exposure must be aggregated within each bucket using the corresponding prescribed correlation ρ_{kl} as set out in the following formula, where:

(a) The bucket level capital requirement (K_b) is determined as the greater of the capital requirement under the upward scenario (K_b^+) and the capital requirement under the downward scenario (K_b^-). Notably, the selection of upward and downward scenarios is not necessarily the same across the high, medium and low correlations scenarios specified in MAR21.6.

(i) Where $K_b = K_b^+$, this shall be termed "selecting the upward scenario".

(ii) Where $K_b = K_b^-$, this shall be termed "selecting the downward scenario".

(iii) In the specific case where $K_b^+ = K_b^-$, if $\sum_k CVR_k^+ > \sum_k CVR_k^-$, it is deemed that the upward scenario is selected; otherwise the downward scenario is selected.

(b) $\psi\left(CVR_k, CVR_l\right)$ takes the value 0 if CVR_k and CVR_l both have negative signs and the value 1 otherwise.

$$K_b = \max\left(K_b^+, K_b^-\right),$$

$$where \begin{cases} K_b^+ = \sqrt{\max\left(0, \sum_k \max\left(CVR_k^+, 0\right)^2 + \sum_{l \neq k} \sum_k \rho_{kl} CVR_k^+ CVR_l^+ \psi\left(CVR_k^+, CVR_l^+\right)\right)} \\ K_b^- = \sqrt{\max\left(0, \sum_k \max\left(CVR_k^-, 0\right)^2 + \sum_{l \neq k} \sum_k \rho_{kl} CVR_k^- CVR_l^- \psi\left(CVR_k^-, CVR_l^-\right)\right)} \end{cases}$$

(4) Across bucket aggregation: curvature risk positions must then be aggregated across buckets within each risk class, using the corresponding prescribed correlations γ_{bc} , where:

(a) $S_b = \sum_k CVR_k^+$ for all risk factors in bucket b, when the upward scenario has been selected for bucket b in above (3)(a). $S_b = \sum_k CVR_k^-$ otherwise; and

(b) $\psi\left(S_b, S_c\right)$ takes the value 0 if S_b and S_c both have negative signs and 1 otherwise.

$$Curvature\,risk = \sqrt{\max\left(0, \sum_b K_b^2 + \sum_{c \neq b}\sum_b \gamma_{bc} S_b S_c \psi\left(S_b, S_c\right)\right)}$$

FAQ

FAQ1 *When the delta effect is removed in the calculation of the curvature risk capital requirement, should the delta used in that calculation be the same as the delta used in the delta risk capital requirement? Should the same assumptions that go into the calculation of the delta (ie sticky delta for normal or log-normal volatilities) go into the calculation of the shifted or shocked price of the instrument?*

The delta used for the calculation of the curvature risk capital requirement should be the same as that used for calculating the delta risk capital requirement. The assumptions that are used for the calculation of the delta (ie sticky delta for normal or log-normal volatilities) should also be used for calculating the shifted or shocked price of the instrument.

FAQ2 *Are banks permitted to choose between zero rate and market rate sensitivities for GIRR delta and curvature capital requirements?*

MAR21.17 states that banks must determine each delta sensitivity, vega sensitivity and curvature scenario based on instrument prices or pricing models that an independent risk control unit within a bank uses to report market risks or actual profits and losses to senior management. Banks should use zero rate or market rate sensitivities consistent with the pricing models referenced in that paragraph.

Calculation of aggregate sensitivities-based method capital requirement

21.6 In order to address the risk that correlations increase or decrease in periods of financial stress, the aggregation of bucket level capital requirements and risk class level capital requirements per each risk class for delta, vega, and curvature risks as specified in MAR21.4 to MAR21.5 must be repeated, corresponding to three different scenarios on the specified values for the correlation parameter ρ_{kl} (correlation between risk factors within a bucket) and γ_{bc} (correlation across buckets within a risk class).

(1) Under the "medium correlations" scenario, the correlation parameters ρ_{kl} and γ_{bc} as specified in MAR21.39 to MAR21.101 apply.

(2) Under the "high correlations" scenario, the correlation parameters ρ_{kl} and γ_{bc} that are specified in MAR21.39 to MAR21.101 are uniformly multiplied by 1.25, with ρ_{kl} and γ_{bc} subject to a cap at 100%.

(3) Under the "low correlations" scenario, the correlation parameters ρ_{kl} and γ_{bc} that are specified in MAR21.39 to MAR21.101 are replaced by $\rho_{kl}^{low} = \max\left(2 \times \rho_{kl} - 100\%; 75\% \times \rho_{kl}\right)$ and $\gamma_{bc}^{low} = \max\left(2 \times \gamma_{bc} - 100\%; 75\% \times \gamma_{bc}\right)$.

21.7 The total capital requirement under the sensitivities-based method is aggregated as follows:

(1) For each of three correlation scenarios, the bank must simply sum up the separately calculated delta, vega and curvature capital requirements for all risk classes to determine the overall capital requirement for that scenario.

(2) The sensitivities-based method capital requirement is the largest capital requirement from the three scenarios.

(a) For the calculation of capital requirements for all instruments in all trading desks using the standardised approach as set out in MAR11.8(1) and MAR20.2 and MAR33.40, the capital requirement is calculated for all instruments in all trading desks.

(b) For the calculation of capital requirements for each trading desk using the standardised approach as if that desk were a standalone regulatory portfolio as set out in MAR11.8(2), the capital requirements under each correlation scenario are calculated and compared at each trading desk level, and the maximum for each trading desk is taken as the capital requirement.

Sensitivities-based method: risk factor and sensitivity definitions

Risk factor definitions for delta, vega and curvature risks

21.8 GIRR factors

(1) Delta GIRR: the GIRR delta risk factors are defined along two dimensions: (i) a risk-free yield curve for each currency in which interest rate-sensitive instruments are denominated and (ii) the following tenors: 0.25 years, 0.5 years, 1 year, 2 years, 3 years, 5 years, 10 years, 15 years, 20 years and 30 years, to which delta risk factors are assigned.[3]

(a) The risk-free yield curve per currency should be constructed using money market instruments held in the trading book that have the lowest credit risk, such as overnight index swaps (OIS). Alternatively, the risk-free yield curve should be based on one or more market-implied swap curves used by the bank to mark positions to market. For example, interbank offered rate (BOR) swap curves.

(b) When data on market-implied swap curves described in above (1)(a) are insufficient, the risk-free yield curve may be derived from the most appropriate sovereign bond curve for a given currency. In such cases the sensitivities related to sovereign bonds are not exempt from the CSR capital requirement: when a bank cannot perform the decomposition y=r+cs, any sensitivity to y is allocated both to the GIRR and to CSR classes as appropriate with the risk factor and sensitivity definitions in the standardised approach. Applying swap curves to bond-derived sensitivities for GIRR will not change the requirement for basis risk to be captured between bond and credit default swap (CDS) curves in the CSR class.

(c) For the purpose of constructing the risk-free yield curve per currency, an OIS curve (such as Eonia or a new benchmark rate) and a BOR swap curve (such as three-month Euribor or other benchmark rates) must be considered two different curves. Two BOR curves at different maturities (eg three-month Euribor and six-month Euribor) must be considered two different curves. An onshore and an offshore currency curve (eg onshore Indian rupee and offshore Indian rupee) must be considered two different curves.

(2) The GIRR delta risk factors also include a flat curve of market-implied inflation rates for each currency with term structure not recognised as a risk factor.

(a) The sensitivity to the inflation rate from the exposure to implied coupons in an inflation instrument gives rise to a specific capital requirement. All inflation risks for a currency must be aggregated to one number via simple sum.

(b) This risk factor is only relevant for an instrument when a cash flow is functionally dependent on a measure of inflation (eg the notional amount or an interest payment depending on a consumer price index). GIRR risk factors other than for inflation risk will apply to such an instrument notwithstanding.

(c) Inflation rate risk is considered in addition to the sensitivity to interest rates from the same instrument, which must be allocated, according to the GIRR framework, in the term structure of the relevant risk-free yield curve in the same currency.

(3) The GIRR delta risk factors also include one of two possible cross-currency basis risk factors[4] for each currency (ie each GIRR bucket) with the term structure not recognised as a risk factor (ie both cross-currency basis curves are flat).

(a) The two cross-currency basis risk factors are basis of each currency over USD or basis of each currency over EUR. For instance, an AUD-denominated bank trading a JPY/USD cross-currency basis swap would have a sensitivity to the JPY/USD basis but not to the JPY/EUR basis.

(b) Cross-currency bases that do not relate to either basis over USD or basis over EUR must be computed either on “basis over USD” or “basis over EUR” but not both. GIRR risk factors other than for cross-currency basis risk will apply to such an instrument notwithstanding.

(c) Cross-currency basis risk is considered in addition to the sensitivity to interest rates from the same instrument, which must be allocated, according to the GIRR framework, in the term structure of the relevant risk-free yield curve in the same currency.

(4) Vega GIRR: within each currency, the GIRR vega risk factors are the implied volatilities of options that reference GIRR-sensitive underlyings; as defined along two dimensions:[5]

(a) The maturity of the option: the implied volatility of the option as mapped to one or several of the following maturity tenors: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(b) The residual maturity of the underlying of the option at the expiry date of the option: the implied volatility of the option as mapped to two (or one) of the following residual maturity tenors: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(5) Curvature GIRR:

(a) The GIRR curvature risk factors are defined along only one dimension: the constructed risk-free yield curve per currency with no term structure decomposition. For example, the euro, Eonia, three-month Euribor and six-month Euribor curves must be shifted at the same time in order to compute the euro-relevant risk-free yield curve curvature risk capital requirement. For the calculation of sensitivities, all tenors (as defined for delta GIRR) are to be shifted in parallel.

(b) There is no curvature risk capital requirement for inflation and cross-currency basis risks.

(6) The treatment described in above (1)(b) for delta GIRR also applies to vega GIRR and curvature GIRR risk factors.

Footnotes

[3] *The assignment of risk factors to the specified tenors should be performed by linear interpolation or a method that is most consistent with the pricing functions used by the independent risk control function of a bank to report market risks or P&L to senior management.*

[4] *Cross-currency basis are basis added to a yield curve in order to evaluate a swap for which the two legs are paid in two different currencies. They are in particular used by market participants to price cross-currency interest rate swaps paying a fixed or a floating leg in one currency, receiving a fixed or a floating leg in a second currency, and including an exchange of the notional in the two currencies at the start date and at the end date of the swap.*

[5] *For example, an option with a forward starting cap, lasting 12 months, consists of four consecutive caplets on USD three-month Libor. There are four (independent) options, with option expiry dates in 12, 15, 18 and 21 months. These options are all on underlying USD three-month Libor; the underlying always matures three months after the option expiry date (its residual maturity being three months). Therefore, the implied volatilities for a regular forward starting cap, which would start in one year and last for 12 months should be defined along the following two dimensions: (i) the maturity of the option's individual components (caplets) – 12, 15, 18 and 21 months; and (ii) the residual maturity of the underlying of the option – three months.*

FAQ

FAQ1 *Different results can be produced depending on the bank's curve methodology as diversification will be different for different methodologies. For example, if three-month Euribor is constructed as a "spread to EONIA", this curve will be a spread curve and can be considered a different yield curve for the purpose of computing risk-weighted PV01 and subsequent diversification. In this example, should three-month Euribor and EONIA be considered two distinct yield curves for the purpose of computing the risk capital requirement?*

MAR21.8(1)(c)states that for the purpose of constructing the risk-free yield curve per currency, an overnight index swap curve (such as EONIA) and an interbank offered rate curve (such as three-month Euribor) must be considered two different curves, with distinct risk factors in each tenor bucket, for the purpose of computing the risk capital requirement.

FAQ2 *For GIRR, CSR, equity risk, commodity risk or FX risk, risk factors need to be assigned to prescribed tenors. How should this assignment be performed if the internally used tenors do not match the prescribed ones?*

Banks are not permitted to perform capital computations based on internally used tenors. Risk factors and sensitivities must be assigned to the prescribed tenors. As stated in footnote 3 to MAR21.8 and footnote 8 to MAR21.25, the assignment of risk factors and sensitivities to the specified tenors should be performed by linear interpolation or a method that is most consistent with the pricing functions used by the independent risk control function of the bank to report market risks or profits and losses to senior management.

FAQ3 *When calculating the cross-currency basis spread (CCBS) capital requirement: since pricing models use a term structure-based CCBS curve, is it acceptable to use sensitivities to individual tenors aggregated by simple sum rather than explicitly modelling the CCBS curve as flat in the pricing model?*

Yes. Banks may use a term structure-based CCBS curve and aggregate sensitivities to individual tenors by simple sum.

FAQ4 *Should inflation and cross-currency bases be included as a risk factor in the vega GIRR capital requirement?*

Yes. Inflation and cross-currency bases are included in the GIRR vega risk capital requirement. As no maturity dimension is specified for the delta capital requirement for inflation or cross-currency bases (ie the possible underlying of the option), the vega risk for inflation and cross-currency bases should be considered only along the single dimension of the maturity of the option.

FAQ5 *Should a bank compute delta, vega and curvature risk for callable bonds, options on sovereign bond futures and bond options?*

For the specified instruments, delta, vega and curvature capital requirements must be computed for both GIRR and CSR.

FAQ6 *The sensitivities-based approach defines the repo risk factor only in the context of equities and not for fixed income funding instruments (to the extent that these instruments fall within the trading book definition as trading-related repo-style transactions). Is it the intention that fixed income funding instruments be excluded from the equity repo treatment? If so, should such funding instruments be subject to the*

GIRR capital requirement – for example, by considering the repo curve for a given currency as a yield curve subject to interest rate shocks?

Repo rate risk factors for fixed income funding instruments are subject to the GIRR capital requirement. A relevant repo curve should be considered by currency.

FAQ7 *May risk weights be floored for interest rate and credit instruments when applying the risk weights for GIRR or for CSR, given that there is a possibility of the interest rates being negative (eg for JPY and EUR curves)?*

No such floor is permitted in the market risk standard.

21.9 CSR non-securitisation risk factors

(1) Delta CSR non-securitisation: the CSR non-securitisation delta risk factors are defined along two dimensions:

(a) the relevant issuer credit spread curves (bond and CDS); and

(b) the following tenors: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(2) Vega CSR non-securitisation: the vega risk factors are the implied volatilities of options that reference the relevant credit issuer names as underlyings (bond and CDS); further defined along one dimension - the maturity of the option. This is defined as the implied volatility of the option as mapped to one or several of the following maturity tenors: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(3) Curvature CSR non-securitisation: the CSR non-securitisation curvature risk factors are defined along one dimension: the relevant issuer credit spread curves (bond and CDS). For instance, the bond-inferred spread curve of an issuer and the CDS-inferred spread curve of that same issuer should be considered a single spread curve. For the calculation of sensitivities, all tenors (as defined for CSR) are to be shifted in parallel.

FAQ

FAQ1 *The second FAQ under MAR21.8 is also relevant to this paragraph.*

FAQ2 *Should a bank compute delta, vega and curvature risk for callable bonds, options on sovereign bond futures and bond options?*

For the specified instruments, delta, vega and curvature capital requirements must be computed for both GIRR and CSR.

FAQ3 *MAR21.9(3) explicitly states that, for CSR curvature, the bond-CDS basis is ignored. Is it correct that, under MAR21.9(1), bond and CDS curves are considered distinct risk factors and the only "basis" taken into account in* $\rho_{kl}^{(basis)}$ *in MAR21.54 and MAR21.55 is the bond-CDS basis?*

Yes. Bond and CDS credit spreads are considered distinct risk factors under MAR21.9(1), and $\rho_{kl}^{(basis)}$ *referenced in MAR21.54 and MAR21.55 is meant to capture only the bond-CDS basis.*

FAQ4 *May risk weights be floored for interest rate and credit instruments when applying the risk weights for GIRR or for CSR, given that there is a possibility of the interest rates being negative (eg for JPY and EUR curves)?*

No such floor is permitted in the market risk standard.

21.10 CSR securitisation: non-CTP risk factors

(1) For securitisation instruments that do not meet the definition of CTP as set out in MAR20.5 (ie, non-CTP), the sensitivities of delta risk factors (ie CS01) must be calculated with respect to the spread of the tranche rather than the spread of the underlying of the instruments.

(2) Delta CSR securitisation (non-CTP): the CSR securitisation delta risk factors are defined along two dimensions:

(a) Tranche credit spread curves; and

(b) The following tenors: 0.5 years, 1 year, 3 years, 5 years and 10 years to which delta risk factors are assigned.

(3) Vega CSR securitisation (non-CTP): Vega risk factors are the implied volatilities of options that reference non-CTP credit spreads as underlyings (bond and CDS); further defined along one dimension - the maturity of the option. This is defined as the implied volatility of the option as mapped to one or several of the following maturity tenors: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(4) Curvature CSR securitisation (non-CTP): the CSR securitisation curvature risk factors are defined along one dimension, the relevant tranche credit spread curves (bond and CDS). For instance, the bond-inferred spread curve of a given Spanish residential mortgage-backed security (RMBS) tranche and the CDS-inferred spread curve of that given Spanish RMBS tranche would be considered a single spread curve. For the calculation of sensitivities, all the tenors are to be shifted in parallel.

FAQ

FAQ1 *The second FAQ under MAR21.8 is also relevant to this paragraph.*

FAQ2 *May risk weights be floored for interest rate and credit instruments when applying the risk weights for GIRR or for CSR, given that there is a possibility of the interest rates being negative (eg for JPY and EUR curves)?*

No such floor is permitted in the market risk standard.

21.11 CSR securitisation: CTP risk factors

(1) For securitisation instruments that meet the definition of a CTP as set out in MAR20.5, the sensitivities of delta risk factors (ie CS01) must be computed with respect to the names underlying the securitisation or nth-to-default instrument.

(2) Delta CSR securitisation (CTP): the CSR correlation trading delta risk factors are defined along two dimensions:

(a) the relevant underlying credit spread curves (bond and CDS); and

(b) the following tenors: 0.5 years, 1 year, 3 years, 5 years and 10 years, to which delta risk factors are assigned.

(3) Vega CSR securitisation (CTP): the vega risk factors are the implied volatilities of options that reference CTP credit spreads as underlyings (bond and CDS), as defined along one dimension, the maturity of the option. This is defined as the implied volatility of the option as mapped to one or several of the following maturity tenors: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(4) Curvature CSR securitisation (CTP): the CSR correlation trading curvature risk factors are defined along one dimension, the relevant underlying credit spread curves (bond and CDS). For instance, the bond-inferred spread curve of a given name within an iTraxx series and the CDS-inferred spread curve of that given underlying would be considered a single spread curve. For the calculation of sensitivities, all the tenors are to be shifted in parallel.

FAQ

FAQ1 *The second FAQ under MAR21.8 is also relevant to this paragraph.*

FAQ2 *May risk weights be floored for interest rate and credit instruments when applying the risk weights for GIRR or for CSR, given that there is a possibility of the interest rates being negative (eg for JPY and EUR curves)?*

No such floor is permitted in the market risk standard.

21.12 Equity risk factors

(1) Delta equity: the equity delta risk factors are:

(a) all the equity spot prices; and

(b) all the equity repurchase agreement rates (equity repo rates).

(2) Vega equity:

(a) The equity vega risk factors are the implied volatilities of options that reference the equity spot prices as underlyings as defined along one dimension, the maturity of the option. This is defined as the implied volatility of the option as mapped to one or several of the following maturity tenors: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(b) There is no vega risk capital requirement for equity repo rates.

(3) Curvature equity:

(a) The equity curvature risk factors are all the equity spot prices.

(b) There is no curvature risk capital requirement for equity repo rates.

FAQ

FAQ1 *The second FAQ under MAR21.8 is also relevant to this paragraph.*

FAQ2 *The sensitivities-based approach defines the repo risk factor only in the context of equities and not for fixed income funding instruments (to the extent that these instruments fall within the trading book definition as trading-related repo-style transactions). Is it the intention that fixed income funding instruments be excluded from the equity repo treatment? If so, should such funding instruments be subject to the GIRR capital requirement – for example, by considering the repo curve for a given currency as a yield curve subject to interest rate shocks?*

Repo rate risk factors for fixed income funding instruments are subject to the GIRR capital requirement. A relevant repo curve should be considered by currency.

21.13 Commodity risk factors

(1) Delta commodity: the commodity delta risk factors are all the commodity spot prices. However for some commodities such as electricity (which is defined to fall within bucket 3 (energy – electricity and carbon trading) in MAR21.82 the relevant risk factor can either be the spot or the forward price, as transactions relating to commodities such as electricity are more frequent on the forward price than transactions on the spot price. Commodity delta risk factors are defined along two dimensions:

(a) legal terms with respect to the delivery location[6] of the commodity; and

(b) time to maturity of the traded instrument at the following tenors: 0 years, 0.25 years, 0.5 years, 1 year, 2 years, 3 years, 5 years, 10 years, 15 years, 20 years and 30 years.

(2) Vega commodity: the commodity vega risk factors are the implied volatilities of options that reference commodity spot prices as underlyings. No differentiation between commodity spot prices by the maturity of the underlying or delivery location is required. The commodity vega risk factors are further defined along one dimension, the maturity of the option. This is defined as the implied volatility of the option as mapped to one or several of the following maturity tenors: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(3) Curvature commodity: the commodity curvature risk factors are defined along only one dimension, the constructed curve (ie no term structure decomposition) per commodity spot prices. For the calculation of sensitivities, all tenors (as defined for delta commodity) are to be shifted in parallel.

Footnotes

[6] *For example, a contract that can be delivered in five ports can be considered having the same delivery location as another contract if and only if it can be delivered in the same five ports. However, it cannot be considered having the same delivery location as another contract that can be delivered in only four (or less) of those five ports.*

FAQ

FAQ1 *The second FAQ under MAR21.8 is also relevant to this paragraph.*

FAQ2 *How are commodity delta risk factors computed for futures and forward contracts?*

The current prices for futures and forward contracts should be used to compute the commodity delta risk factors. Commodity delta should be allocated to the relevant tenor based on the tenor of the futures and forward contract and given that spot commodity price positions should be slotted into the first tenor (0 years).

21.14 FX risk factors

(1) Delta FX: the FX delta risk factors are defined below.

(a) The FX delta risk factors are all the exchange rates between the currency in which an instrument is denominated and the reporting currency. For transactions that reference an exchange rate between a pair of non-reporting currencies, the FX delta risk factors are all the exchange rates between:

(i) the reporting currency; and

(ii) both the currency in which an instrument is denominated and any other currencies referenced by the instrument.[7]

(b) Subject to supervisory approval, FX risk may alternatively be calculated relative to a base currency instead of the reporting currency. In such case the bank must account for not only:

(i) the FX risk against the base currency; but also

(ii) the FX risk between the reporting currency and the base currency (ie translation risk).

(c) The resulting FX risk calculated relative to the base currency as set out in (b) is converted to the capital requirements in the reporting currency using the spot reporting/base exchange rate reflecting the FX risk between the base currency and the reporting currency.

(d) The FX base currency approach may be allowed under the following conditions:

(i) To use this alternative, a bank may only consider a single currency as its base currency; and

(ii) The bank shall demonstrate to the relevant supervisor that calculating FX risk relative to their proposed base currency provides an appropriate risk representation for their portfolio (for example, by demonstrating that it does not inappropriately reduce capital requirements relative to those that would be calculated without the base currency approach) and that the translation risk between the base currency and the reporting currency is taken into account.

(2) Vega FX: the FX vega risk factors are the implied volatilities of options that reference exchange rates between currency pairs; as defined along one dimension, the maturity of the option. This is defined as the implied volatility of the option as mapped to one or several of the following maturity tenors: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(3) Curvature FX: the FX curvature risk factors are defined below.

(a) The FX curvature risk factors are all the exchange rates between the currency in which an instrument is denominated and the reporting currency. For transactions that reference an exchange rate between a pair of non-reporting currencies, the FX risk factors are all the exchange rates between:

(i) the reporting currency; and

(ii) both the currency in which an instrument is denominated and any other currencies referenced by the instrument.

(b) Where supervisory approval for the base currency approach has been granted for delta risks, FX curvature risks shall also be calculated relative to a base currency instead of the reporting currency, and then converted to the capital requirements in the reporting currency using the spot reporting/base exchange rate.

(4) No distinction is required between onshore and offshore variants of a currency for all FX delta, vega and curvature risk factors.

Footnotes

[7] For example, for an FX forward referencing USD/JPY, the relevant risk factors for a CAD-reporting bank to consider are the exchange rates USD/CAD and JPY/CAD. If that CAD-reporting bank calculates FX risk relative to a USD base currency, it would consider separate deltas for the exchange rate JPY/USD risk and CAD/USD FX translation risk and then translate the resulting capital requirement to CAD at the USD /CAD spot exchange rate.

FAQ

FAQ1 The second FAQ under MAR21.8 is also relevant to this paragraph.

FAQ2

MAR21.14(4) states: "No distinction is required between onshore and offshore variants of a currency for all FX delta, vega and curvature risk factors." Does this also apply for deliverable/non-deliverable variants (eg KRO vs KRW, BRO vs BRL, INO vs INR)?

Yes. No distinction is required between deliverable and non-deliverable variants of a currency.

Sensitivities-based method: definition of sensitivities

21.15 Sensitivities for each risk class must be expressed in the reporting currency of the bank.

21.16 For each risk factor defined in MAR21.8 to MAR21.14, sensitivities are calculated as the change in the market value of the instrument as a result of applying a specified shift to each risk factor, assuming all the other relevant risk factors are held at the current level as defined in MAR21.17 to MAR21.38.

FAQ

FAQ1 *In the context of delta sensitivity calculations, is it acceptable to use alternative formulations of sensitivities calculations that yield results very close to the prescribed formulation of sensitivities calculations?*

Yes, as per MAR21.17, a bank may make use of alternative formulations of sensitivities based on pricing models that the bank's independent risk control unit uses to report market risks or actual profits and losses to senior management. In doing so, the bank is to demonstrate to its supervisor that the alternative formulations of sensitivities yield results very close to the prescribed formulations.

Requirements on instrument price or pricing models for sensitivity calculation

21.17 In calculating the risk capital requirement under the sensitivities-based method in MAR21, the bank must determine each delta and vega sensitivity and curvature scenario based on instrument prices or pricing models that an independent risk control unit within a bank uses to report market risks or actual profits and losses to senior management.

FAQ

FAQ1 *In the context of delta sensitivity calculations, is it acceptable to use alternative formulations of sensitivities calculations that yield results very close to the prescribed formulation of sensitivities calculations?*

Yes, as per MAR21.17, a bank may make use of alternative formulations of sensitivities based on pricing models that the bank's independent risk control unit uses to report market risks or actual profits and losses to senior management. In doing so, the bank is to demonstrate to its supervisor that the alternative formulations of sensitivities yield results very close to the prescribed formulations.

FAQ2 *Are banks permitted to choose between zero rate and market rate sensitivities for GIRR delta and curvature capital requirements?*

MAR21.17 states that banks must determine each delta sensitivity, vega sensitivity and curvature scenario based on instrument prices or pricing models that an independent risk control unit within a bank uses to report market risks or actual profits and losses to senior management. Banks should use zero rate or market rate sensitivities consistent with the pricing models referenced in that paragraph.

21.18 A key assumption of the standardised approach for market risk is that a bank's pricing models used in actual profit and loss reporting provide an appropriate basis for the determination of regulatory capital requirements for all market risks. To ensure such adequacy, banks must at a minimum establish a framework for prudent valuation practices that include the requirements of CAP50.

Sensitivity definitions for delta risk

21.19 Delta GIRR: the sensitivity is defined as the PV01. PV01 is measured by changing the interest rate r at tenor t (r_t) of the risk-free yield curve in a given currency by 1 basis point (ie 0.0001 in absolute terms) and dividing the resulting change in the market value of the instrument (V_i) by 0.0001 (ie 0.01%) as follows, where:

(1) r_t is the risk-free yield curve at tenor t;

(2) cs_t is the credit spread curve at tenor t; and

(3) V_i is the market value of the instrument i as a function of the risk-free interest rate curve and credit spread curve:

$$s_{k,r_t} = \frac{V_i\left(r_t + 0.0001, cs_t\right) - V_i\left(r_t, cs_t\right)}{0.0001}$$

FAQ

FAQ1 *Are banks permitted to choose between zero rate and market rate sensitivities for GIRR delta and curvature capital requirements?*

MAR21.17 states that banks must determine each delta sensitivity, vega sensitivity and curvature scenario based on instrument prices or pricing models that an independent risk control unit within a bank uses to report market risks or actual profits and losses to senior management. Banks should use zero rate or market rate sensitivities consistent with the pricing models referenced in that paragraph.

21.20 Delta CSR non-securitisation, securitisation (non-CTP) and securitisation (CTP): the sensitivity is defined as CS01. The CS01 (sensitivity) of an instrument i is measured by changing a credit spread cs at tenor t (cs_t) by 1 basis point (ie 0.0001 in absolute terms) and dividing the resulting change in the market value of the instrument (V_i) by 0.0001 (ie 0.01%) as follows:

$$s_{k,cs_t} = \frac{V_i\left(r_t, cs_t + 0.0001\right) - V_i\left(r_t, cs_t\right)}{0.0001}$$

FAQ

FAQ1 *In cases where the bank does not have counterparty-specific money market curves, can the bank proxy PV01 to CS01?*

Yes. Proxying PV01 to CS01 is permitted for such money market instruments.

21.21 Delta equity spot: the sensitivity is measured by changing the equity spot price by 1 percentage point (ie 0.01 in relative terms) and dividing the resulting change in the market value of the instrument (V_i) by 0.01 (ie 1%) as follows, where:

(1) k is a given equity;

(2) EQ_k is the market value of equity k; and

(3) V_i is the market value of instrument i as a function of the price of equity k.

$$s_k = \frac{V_i\left(1.01EQ_k\right) - V_i\left(EQ_k\right)}{0.01}$$

21.22 Delta equity repo rates: the sensitivity is measured by applying a parallel shift to the equity repo rate term structure by 1 basis point (ie 0.0001 in absolute terms) and dividing the resulting change in the market value of the instrument V_i by 0.0001 (ie 0.01%) as follows, where:

(1) k is a given equity;

(2) RTS_k is the repo term structure of equity k; and

(3) V_i is the market value of instrument i as a function of the repo term structure of equity k.

$$s_k = \frac{V_i\left(RTS_k + 0.0001\right) - V_i\left(RTS_k\right)}{0.0001}$$

21.23 Delta commodity: the sensitivity is measured by changing the commodity spot price by 1 percentage point (ie 0.01 in relative terms) and dividing the resulting change in the market value of the instrument V_i by 0.01 (ie 1%) as follows, where:

(1) k is a given commodity;

(2) CTY_k is the market value of commodity k; and

(3) V_i is the market value of instrument i as a function of the spot price of commodity k:

$$s_k = \frac{V_i\left(1.01CTY_k\right) - V_i\left(CTY_k\right)}{0.01}$$

21.24 Delta FX: the sensitivity is measured by changing the exchange rate by 1 percentage point (ie 0.01 in relative terms) and dividing the resulting change in the market value of the instrument V_i by 0.01 (ie 1%), where:

(1) k is a given currency;

(2) FX_k is the exchange rate between a given currency and a bank's reporting currency or base currency, where the FX spot rate is the current market price of one unit of another currency expressed in the units of the bank's reporting currency or base currency; and

(3) V_i is the market value of instrument i as a function of the exchange rate k:

$$s_k = \frac{V_i\left(1.01FX_k\right) - V_i\left(FX_k\right)}{0.01}$$

Sensitivity definitions for vega risk

21.25 The option-level vega risk sensitivity to a given risk factor[8] is measured by multiplying vega by the implied volatility of the option as follows, where:

(1) vega, $\frac{\partial V_i}{\partial \sigma_i}$, is defined as the change in the market value of the option V_i as a result of a small amount of change to the implied volatility σ_i ; and

(2) the instrument's vega and implied volatility used in the calculation of vega sensitivities must be sourced from pricing models used by the independent risk control unit of the bank.

$$s_k = vega \times implied\ volatility$$

Footnotes

[8] *As specified in the vega risk factor definitions in MAR21.8 to MAR21.14, the implied volatility of the option must be mapped to one or more maturity tenors.*

21.26 The following sets out how to derive vega risk sensitivities in specific cases:

(1) Options that do not have a maturity, are assigned to the longest prescribed maturity tenor, and these options are also assigned to the RRAO.

(2) Options that do not have a strike or barrier and options that have multiple strikes or barriers, are mapped to strikes and maturity used internally to price the option, and these options are also assigned to the RRAO.

(3) CTP securitisation tranches that do not have an implied volatility, are not subject to vega risk capital requirement. Such instruments may not, however, be exempt from delta and curvature risk capital requirements.

FAQ

FAQ1 *Under the sensitivities-based method, would a bank need to compute vega risk over the longest maturity for a cancellable swap? Would a bank also be required to compute residual risk for cancellable swaps?*

In the case where options do not have a specified maturity (eg cancellable swaps), the bank must assign those options to the longest prescribed maturity tenor for vega risk sensitivities and also assign such options to the RRAO.

In the case of the bank viewing the optionality of the cancellable swap as a swaption, the bank must assign the swaption to the longest prescribed maturity tenor for vega risk sensitivities (as it does not have a specified maturity) and derive the residual maturity of the underlying of the option accordingly.

Requirements on sensitivity computations

21.27 When computing a first-order sensitivity for instruments subject to optionality, banks should assume that the implied volatility either:

(1) remains constant, consistent with a "sticky strike" approach; or

(2) follows a "sticky delta" approach, such that implied volatility does not vary with respect to a given level of delta.

21.28 For the calculation of vega sensitivities, the distribution assumptions (ie log-normal assumptions or normal assumptions) for pricing models are applied as follows:

(1) For the computation of a vega GIRR or CSR sensitivity, banks may use either the log-normal or normal assumptions.

(2) For the computation of a vega equity, commodity or FX sensitivity, banks must use the log-normal assumption.[9]

Footnotes

[9] *Since vega ($\frac{\partial V}{\partial \sigma_i}$) of an instrument is multiplied by its implied volatility (σ_i), the vega risk sensitivity for that instrument will be the same under the log-normal assumption and the normal assumption. As a consequence, banks may use a log-normal or normal assumption for GIRR and CSR (in recognition of the trade-offs between constrained specification and computational burden for a standardised approach). For the other risk classes, banks must only use a log-normal assumption (in recognition that this is aligned with common practices across jurisdictions).*

FAQ

FAQ1 *If banks may use either a log-normal or normal assumption for vega GIRR, does this mean that the same log-normal or normal assumption should be applied to all currencies, or can the application be different for different currencies? For example, is a bank permitted to adopt a normal assumption for EUR and a log-normal assumption for USD?*

To compute vega GIRR, banks may choose a mix of log-normal and normal assumptions for different currencies.

21.29 If, for internal risk management, a bank computes vega sensitivities using different definitions than the definitions set out in this standard, the bank may transform the sensitivities computed for internal risk management purposes to deduce the sensitivities to be used for the calculation of the vega risk measure.

21.30 All vega sensitivities must be computed ignoring the impact of credit valuation adjustments (CVA).

Treatment of index instruments and multi-underlying options

21.31 In the delta and curvature risk context: for index instruments and multi-underlying options, a look-through approach should be used. However, a bank may opt not to apply the look-through approach for instruments referencing any listed and widely recognised and accepted equity or credit index, where:

(1) it is possible to look-through the index (ie the constituents and their respective weightings are known);

(2) the index contains at least 20 constituents;

(3) no single constituent contained within the index represents more than 25% of the total index;

(4) the largest 10% of constituents represents less than 60% of the total index; and

(5) the total market capitalisation of all the constituents of the index is no less than USD 40 billion.

FAQ

FAQ1 *When certain conditions set out in MAR21.31 are satisfied for instruments referencing any listed and widely recognised equity or credit index, a bank may opt not to apply the look-through approach. It is common for funds with diversified constituents to satisfy the conditions set out in MAR21.31. Are positions in funds and instruments that reference them permitted to apply the no look-through approach using index buckets?*

No. Capital requirements for equity investments in funds generally must be calculated in accordance with one of the three ways set out in MAR21.36 – the no look-through approach for equity and credit indices cannot be applied to funds that do not track a listed and widely recognised index even if their holdings meet the criteria set out in MAR21.31 (1) to (5).

Subject to the criteria in MAR21.35, however, equity investment funds that invest purely in either equity or debt instruments to replicate a listed and widely-recognised index may be treated as if they were investments in the those equity or credit indices and apply the no look-through approach available for credit and equity indices on those funds if those investments in funds meet the requirements set out in MAR21.31 to MAR21.34.

21.32 For a given instrument, irrespective of whether a look-through approach is adopted or not, the sensitivity inputs used for the delta and curvature risk calculation must be consistent.

21.33 Where a bank opts not to apply the look-through approach in accordance with MAR21.31, a single sensitivity shall be calculated to each widely recognised and accepted index that an instrument references. The sensitivity to the index should be assigned to the relevant delta risk bucket defined in MAR21.53 and MAR21.72 as follows:

(1) Where more than 75% of constituents in that index (taking into account the weightings of that index) would be mapped to a specific sector bucket (ie bucket 1 to bucket 11 for equity risk, or bucket 1 to bucket 16 for CSR), the sensitivity to the index shall be mapped to that single specific sector bucket and treated like any other single-name sensitivity in that bucket.

(2) In all other cases, the sensitivity may be mapped to an "index" bucket (ie bucket 12 or bucket 13 for equity risk; or bucket 17 or bucket 18 for CSR). The same principle as above (1) applies when allocating sensitivities to a specific index bucket.

(a) For equity risk, an equity index should be mapped to the large market cap and advanced economy indices bucket (ie bucket 12) if at least 75% of the constituents in that index (taking into account the weightings of that index) are both large cap and advanced economy equities. Otherwise, it should be mapped to the other equity indices bucket (ie bucket 13).

(b) For CSR, a credit index should be mapped to the investment grade indices bucket (ie bucket 17) if at least 75% of the constituents in that index (taking into account the weightings of that index) are investment grade. Otherwise, it should be mapped to the high yield indices bucket (ie bucket 18).

21.34 A look-through approach must always be used for indices that do not meet the criteria set out in MAR21.31(2) to MAR21.31(5), and for any multi-underlying instruments that reference a bespoke set of equities or credit positions.

(1) Where a look-through approach is adopted, for index instruments and multi-underlying options other than the CTP, the sensitivities to constituent risk factors from those instruments or options are allowed to net with sensitivities to single-name instruments without restriction.

(2) Index CTP instruments cannot be broken down into its constituents (ie the index CTP should be considered a risk factor as a whole) and the above-mentioned netting at the issuer level does not apply either.

(3) Where a look-through approach is adopted, it shall be applied consistently through time[10], and shall be used for all identical instruments that reference the same index.

Footnotes

[10] *In other words, a bank can initially not apply a look-through approach, and later decide to apply it. However once applied (for a certain type of instrument referencing a particular index), the bank will require supervisory approval to revert to a "no look-through" approach.*

Treatment of equity investments in funds

21.35 For equity investments in funds that can be looked through as set out in RBC25.8 (5)(a), banks must apply a look-through approach and treat the underlying positions of the fund as if the positions were held directly by the bank (taking into account the bank's share of the equity of the fund, and any leverage in the fund structure), except for the funds that meet the following conditions:

(1) For funds that hold an index instrument that meets the criteria set out under MAR21.31, banks must still apply a look-through and treat the underlying positions of the fund as if the positions were held directly by the bank, but the bank may then choose to apply the "no look-through" approach for the index holdings of the fund as set out in MAR21.33.

(2) For funds that track an index benchmark, a bank may opt not to apply the look-through approach and opt to measure the risk assuming the fund is a position in the tracked index only where:

(a) the fund has an absolute value of a tracking difference (ignoring fees and commissions) of less than 1%; and

(b) the tracking difference is checked at least annually and is defined as the annualised return difference between the fund and its tracked benchmark over the last 12 months of available data (or a shorter period in the absence of a full 12 months of data).

21.36 For equity investments in funds that cannot be looked through (ie do not meet the criterion set out in RBC25.8(5)(a)), but that the bank has access to daily price quotes and knowledge of the mandate of the fund (ie meet both the criteria set out in RBC25.8(5)(b)), banks may calculate capital requirements for the fund in one of three ways:

(1) If the fund tracks an index benchmark and meets the requirement set out in MAR21.35(2)(a) and (b), the bank may assume that the fund is a position in the tracked index, and may assign the sensitivity to the fund to relevant sector specific buckets or index buckets as set out in MAR21.33.

(2) Subject to supervisory approval, the bank may consider the fund as a hypothetical portfolio in which the fund invests to the maximum extent allowed under the fund's mandate in those assets attracting the highest capital requirements under the sensitivities-based method, and then progressively in those other assets implying lower capital requirements. If more than one risk weight can be applied to a given exposure under the sensitivities-based method, the maximum risk weight applicable must be used.

(a) This hypothetical portfolio must be subject to market risk capital requirements on a stand-alone basis for all positions in that fund, separate from any other positions subject to market risk capital requirements.

(b) The counterparty credit and CVA risks of the derivatives of this hypothetical portfolio must be calculated using the simplified methodology set out in accordance with CRE60.7(c) of the banking book equity investment in funds treatment.

(3) A bank may treat their equity investment in the fund as an unrated equity exposure to be allocated to the "other sector" bucket (bucket 11). In applying this treatment, banks must also consider whether, given the mandate of the fund, the default risk capital (DRC) requirement risk weight prescribed to the fund is sufficiently prudent (as set out in MAR22.8), and whether the RRAO should apply (as set out in MAR23.6).

21.37 As per the requirement in RBC25.8(5), net long equity investments in a given fund in which the bank cannot look through or does not meet the requirements of RBC25.8(5) for the fund must be assigned to the banking book. Net short positions in funds, where the bank cannot look through or does not meet the requirements of RBC25.8(5), must be excluded from any trading book capital requirements under the market risk framework, with the net position instead subjected to a 100% capital requirement.

Treatment of vega risk for multi-underlying instruments

21.38 In the vega risk context:

(1) Multi-underlying options (including index options) are usually priced based on the implied volatility of the option, rather than the implied volatility of its underlying constituents and a look-through approach may not need to be applied, regardless of the approach applied to the delta and curvature risk calculation as set out in MAR21.31 through MAR21.34.[11]

(2) For indices, the vega risk with respect to the implied volatility of the multi-underlying options will be calculated using a sector specific bucket or an index bucket defined in MAR21.53 and MAR21.72 as follows:

(a) Where more than 75% of constituents in that index (taking into account the weightings of that index) would be mapped to a single specific sector bucket (ie bucket 1 to bucket 11 for equity risk; or bucket 1 to bucket 16 for CSR), the sensitivity to the index shall be mapped to that single specific sector bucket and treated like any other single-name sensitivity in that bucket.

(b) In all other cases, the sensitivity may be mapped to an "index" bucket (ie bucket 12 or bucket 13 for equity risk or bucket 17 or bucket 18 for CSR).

Footnotes

[11] *As specified in the vega risk factor definitions in MAR21.8 to MAR21.14, the implied volatility of an option must be mapped to one or more maturity tenors.*

Sensitivities-based method: definition of delta risk buckets, risk weights and correlations

21.39 MAR21.41 to MAR21.89 set out buckets, risk weights and correlation parameters for each risk class to calculate delta risk capital requirement as set out in MAR21.4.

21.40 The prescribed risk weights and correlations in MAR21.41 to MAR21.89 have been calibrated to the liquidity adjusted time horizon related to each risk class.

Delta GIRR buckets, risk weights and correlations

21.41 Each currency is a separate delta GIRR bucket, so all risk factors in risk-free yield curves for the same currency in which interest rate-sensitive instruments are denominated are grouped into the same bucket.

21.42 For calculating weighted sensitivities, the risk weights for each tenor in risk-free yield curves are set in Table 1 as follows:

Delta GIRR buckets and risk weights — Table 1

Tenor	0.25 year	0.5 year	1 year	2 year	3 year
Risk weight	1.7%	1.7%	1.6%	1.3%	1.2%
Tenor	5 year	10 year	15 year	20 year	30 year
Risk weight (percentage points)	1.1%	1.1%	1.1%	1.1%	1.1%

21.43 The risk weight for the inflation risk factor and the cross-currency basis risk factors, respectively, is set at 1.6%.

21.44 For specified currencies by the Basel Committee,[12] the above risk weights may, at the discretion of the bank, be divided by the square root of 2.

Footnotes

[12] *Specified currencies by the Basel Committee are: EUR, USD, GBP, AUD, JPY, SEK, CAD as well as the domestic reporting currency of a bank.*

21.45 For aggregating GIRR risk positions within a bucket, the correlation parameter ρ_{kl} between weighted sensitivities WS_k and WS_l within the same bucket (ie same currency), same assigned tenor, but different curves is set at 99.90%. In aggregating delta risk positions for cross-currency basis risk for onshore and offshore curves, which must be considered two different curves as set out in MAR21.8, a bank may choose to aggregate all cross-currency basis risk for a currency (ie "Curr/USD" or "Curr/EUR") for both onshore and offshore curves by a simple sum of weighted sensitivities.

21.46 The delta risk correlation ρ_{kl} between weighted sensitivities WS_k and WS_l within the same bucket with different tenor and same curve is set in the following Table 2[13]:

Delta GIRR correlations (ρ_{kl}) within the same bucket, with different tenor and same curve

	0.25 year	0.5 year	1 year	2 year	3 year	5 year	10 year	15 year	20 year
0.25 year	100.0%	97.0%	91.4%	81.1%	71.9%	56.6%	40.0%	40.0%	40.0%
0.5 year	97.0%	100.0%	97.0%	91.4%	86.1%	76.3%	56.6%	41.9%	40.0%
1 year	91.4%	97.0%	100.0%	97.0%	94.2%	88.7%	76.3%	65.7%	56.6%
2 year	81.1%	91.4%	97.0%	100.0%	98.5%	95.6%	88.7%	82.3%	76.3%
3 year	71.9%	86.1%	94.2%	98.5%	100.0%	98.0%	93.2%	88.7%	84.4%
5 year	56.6%	76.3%	88.7%	95.6%	98.0%	100.0%	97.0%	94.2%	91.4%
10 year	40.0%	56.6%	76.3%	88.7%	93.2%	97.0%	100.0%	98.5%	97.0%
15 year	40.0%	41.9%	65.7%	82.3%	88.7%	94.2%	98.5%	100.0%	99.0%
20 year	40.0%	40.0%	56.6%	76.3%	84.4%	91.4%	97.0%	99.0%	100.0%
30 year	40.0%	40.0%	41.9%	65.7%	76.3%	86.1%	94.2%	97.0%	98.5%

Footnotes

[13] *The delta GIRR correlation parameters (ρ_{kl}) set out in Table 2 is determined by $max\left[e^{\left(-\theta\cdot\frac{|T_k-T_l|}{min\{T_k;T_l\}}\right)};40\%\right]$, where T_k (respectively T_l) is the tenor that relates to WS_k (respectively WS_l); and θ is set at 3%. For example, the correlation between a sensitivity to the one-year tenor of the Eonia swap curve and the a sensitivity to the five-year tenor of the Eonia swap curve in the same currency is $max\left[e^{\left(-3\%\cdot\frac{|1-5|}{min\{1;5\}}\right)};40\%\right]=88.69\%$.*

21.47 Between two weighted sensitivities WS_k and WS_l within the same bucket with different tenor and different curves, the correlation ρ_{kl} is equal to the correlation parameter specified in MAR21.46 multiplied by 99.90%.[14]

Footnotes

[14] *For example, the correlation between a sensitivity to the one-year tenor of the Eonia swap curve and a sensitivity to the five-year tenor of the three-month Euribor swap curve in the same currency is $\left(88.69\%\right)\cdot\left(0.999\right)=88.60\%$.*

FAQ

FAQ1 *What should the correlation between two inflation curves in the same currency (eg German vs French, in Euro) be for GIRR?*

Per MAR21.47, a 99.90% correlation should apply to different inflation curves in the same currency.

21.48 The delta risk correlation ρ_{kl} between a weighted sensitivity WS_k to the inflation curve and a weighted sensitivity WS_l to a given tenor of the relevant yield curve is 40%.

21.49 The delta risk correlation ρ_{kl} between a weighted sensitivity WS_k to a cross-currency basis curve and a weighted sensitivity WS_l to each of the following curves is 0%:

(1) a given tenor of the relevant yield curve;

(2) the inflation curve; or

(3) another cross-currency basis curve (if relevant).

21.50 For aggregating GIRR risk positions across different buckets (ie different currencies), the parameter γ_{bc} is set at 50%.

Delta CSR non-securitisations buckets, risk weights and correlations

21.51 For delta CSR non-securitisations, buckets are set along two dimensions - credit quality and sector - as set out in Table 3. The CSR non-securitisation sensitivities or risk exposures should first be assigned to a bucket defined before calculating weighted sensitivities by applying a risk weight.

Buckets for delta CSR non-securitisations — Table 3

Bucket number	Credit quality	Sector
1	Investment grade (IG)	Sovereigns including central banks, multilateral development banks
2		Local government, government-backed non-financials, education, public administration
3		Financials including government-backed financials
4		Basic materials, energy, industrials, agriculture, manufacturing, mining and quarrying
5		Consumer goods and services, transportation and storage, administrative and support service activities
6		Technology, telecommunications
7		Health care, utilities, professional and technical activities
8		Covered bonds[15]
9	High yield (HY) & non-rated (NR)	Sovereigns including central banks, multilateral development banks
10		Local government, government-backed non-financials, education, public administration
11		Financials including government-backed financials
12		Basic materials, energy, industrials, agriculture, manufacturing, mining and quarrying
13		Consumer goods and services, transportation and storage, administrative and support service activities
14		Technology, telecommunications
15		Health care, utilities, professional and technical activities
16	Other sector[16]	
17	IG indices	
18	HY indices	

Footnotes

15 *Covered bonds must meet the definition provided in LEX30.37, LEX30.39 and LEX30.40.*

16 *Credit quality is not a differentiating consideration for this bucket.*

FAQ

FAQ1 *How are risk weights to be determined when external ratings assigned by credit rating agencies differ and when there are no external ratings available?*

Consistent with the treatment of external ratings under the standardised approach to credit risk (see CRE21.10 and CRE21.11), if there are two ratings which map into different risk weights, the higher risk weight should be applied. If there are three or more ratings with different risk weights, the ratings corresponding to the two lowest risk weights should be referred to and the higher of those two risk weights will be applied.

Consistent with the treatment where there are no external ratings under the CVA risk chapter (see MAR50.16), where there are no external ratings or where external ratings are not recognised within a jurisdiction, banks may, subject to supervisory approval:

- *for the purpose of assigning delta CSR non-securitisation risk weights, map the internal rating to an external rating, and assign a risk weight corresponding to either "investment grade" or "high yield" in MAR21.51;*
- *for the purpose of assigning default risk weights under the DRC requirement, map the internal rating to an external rating, and assign a risk weight corresponding to one of the seven external ratings in the table included MAR22.24; or*
- *apply the risk weights specified in MAR21.51 and MAR22.24 for unrated/non-rated categories.*

FAQ2 *For the purpose of market risk capital requirements, what are the CSR capital requirements for Fannie Mae and Freddie Mac mortgage-backed security (MBS) bonds? What is the loss-given-default (LGD) for Fannie and Freddie MBS?*

Non-tranched MBS issued by government sponsored-entities (GSEs), such as Fannie and Freddie, are assigned to bucket 2 (local government, government-backed non-financials, education, public administration) for CSR with a risk weight of 1.0%.

In accordance with MAR22.12, the LGD for non-tranched MBS issued by GSEs is 75% (ie the LGD assigned to senior debt instruments) unless the GSE security satisfies the requirements of footnote 15 to MAR21.51 for treatment of the security as a covered bond.

21.52 To assign a risk exposure to a sector, banks must rely on a classification that is commonly used in the market for grouping issuers by industry sector.

(1) The bank must assign each issuer to one and only one of the sector buckets in the table under MAR21.51.

(2) Risk positions from any issuer that a bank cannot assign to a sector in this fashion must be assigned to the other sector (ie bucket 16).

21.53 For calculating weighted sensitivities, the risk weights for buckets 1 to 18 are set out in Table 4. Risk weights are the same for all tenors (ie 0.5 years, 1 year, 3 years, 5 years, 10 years) within each bucket:

Risk weights for buckets for delta CSR non-securitisations — Table 4

Bucket number	Risk weight
1	0.5%
2	1.0%
3	5.0%
4	3.0%
5	3.0%
6	2.0%
7	1.5%
8	2.5%[17]
9	2.0%
10	4.0%
11	12.0%
12	7.0%
13	8.5%
14	5.5%
15	5.0%
16	12.0%
17	1.5%
18	5.0%

Footnotes

[17] *For covered bonds that are rated AA- or higher, the applicable risk weight may at the discretion of the bank be 1.5%.*

21.54 For buckets 1 to 15, for aggregating delta CSR non-securitisations risk positions within a bucket, the correlation parameter ρ_{kl} between two weighted sensitivities WS_k and WS_l within the same bucket, is set as follows, where:[18]

(1) $\rho_{kl}^{(name)}$ is equal to 1 where the two names of sensitivities k and l are identical, and 35% otherwise;

(2) $\rho_{kl}^{(tenor)}$ is equal to 1 if the two tenors of the sensitivities k and l are identical, and to 65% otherwise; and

(3) $\rho_{kl}^{(basis)}$ is equal to 1 if the two sensitivities are related to same curves, and 99.90% otherwise.

$$\rho_{kl} = \rho_{kl}^{(name)} \cdot \rho_{kl}^{(tenor)} \cdot \rho_{kl}^{(basis)}$$

Footnotes

[18] *For example, a sensitivity to the five-year Apple bond curve and a sensitivity to the 10-year Google CDS curve would be:* $35\% \cdot 65\% \cdot 99.90\% = 22.73\%$

FAQ

FAQ1 *MAR21.9(3) explicitly states that, for CSR curvature, the bond-CDS basis is ignored. Is it correct that, under MAR21.9(1), bond and CDS curves are considered distinct risk factors and the only "basis" taken into account in* $\rho_{kl}^{(basis)}$ *in MAR21.54 and MAR21.55 is the bond-CDS basis?*

Yes. Bond and CDS credit spreads are considered distinct risk factors under MAR21.9(1), and $\rho_{kl}^{(basis)}$ *referenced in MAR21.54 and MAR21.55 is meant to capture only the bond-CDS basis.*

21.55

For buckets 17 and 18, for aggregating delta CSR non-securitisations risk positions within a bucket, the correlation parameter ρ_{kl} between two weighted sensitivities WS_k and WS_l within the same bucket is set as follows, where:

(1) $\rho_{kl}^{(name)}$ is equal to 1 where the two names of sensitivities k and l are identical, and 80% otherwise;

(2) $\rho_{kl}^{(tenor)}$ is equal to 1 if the two tenors of the sensitivities k and l are identical, and to 65% otherwise; and

(3) $\rho_{kl}^{(basis)}$ is equal to 1 if the two sensitivities are related to same curves, and 99.90% otherwise.

$$\rho_{kl} = \rho_{kl}^{(name)} \cdot \rho_{kl}^{(tenor)} \cdot \rho_{kl}^{(basis)}$$

21.56 The correlations above do not apply to the other sector bucket (ie bucket 16).

(1) The aggregation of delta CSR non-securitisation risk positions within the other sector bucket (ie bucket 16) would be equal to the simple sum of the absolute values of the net weighted sensitivities allocated to this bucket. The same method applies to the aggregation of vega risk positions.

$$K_{b(other\ bucket)} = \sum_k \left| WS_k \right|$$

(2) The aggregation of curvature CSR non-securitisation risk positions within the other sector bucket (ie bucket 16) would be calculated by the formula below.

$$K_{b(other\ bucket)} = \max\left(\sum_k \max\left(CVR_k^+, 0\right), \sum_k \max\left(CVR_k^-, 0\right) \right)$$

21.57 For aggregating delta CSR non-securitisation risk positions across buckets 1 to 18, the correlation parameter γ_{bc} is set as follows, where:

(1) $\gamma_{bc}^{(rating)}$ is equal to 50% where the two buckets b and c are both in buckets 1 to 15 and have a different rating category (either IG or HY/NR). $\gamma_{bc}^{(rating)}$ is equal to 1 otherwise; and

(2) $\gamma_{bc}^{(sector)}$ is equal to 1 if the two buckets belong to the same sector, and to the specified numbers in Table 5 otherwise.

$$\gamma_{bc} = \gamma_{bc}^{(rating)} \cdot \gamma_{bc}^{(sector)}$$

Table 5

Values of $\gamma_{bc}^{(sector)}$ where the buckets do not belong to the same sector

Bucket	1 / 9	2 / 10	3 / 11	4 / 12	5 / 13	6 / 14	7 / 15	8	16	17	18
1 / 9		75%	10%	20%	25%	20%	15%	10%	0%	45%	45%
2 / 10			5%	15%	20%	15%	10%	10%	0%	45%	45%
3 / 11				5%	15%	20%	5%	20%	0%	45%	45%
4 / 12					20%	25%	5%	5%	0%	45%	45%
5 / 13						25%	5%	15%	0%	45%	45%
6 / 14							5%	20%	0%	45%	45%
7 / 15								5%	0%	45%	45%
8									0%	45%	45%
16										0%	0%
17											75%
18											

Delta CSR securitisation (CTP) buckets, risk weights and correlations

21.58 Sensitivities to CSR arising from the CTP and its hedges are treated as a separate risk class as set out in MAR21.1. The buckets, risk weights and correlations for the CSR securitisations (CTP) apply as follows:

(1) The same bucket structure and correlation structure apply to the CSR securitisations (CTP) as those for the CSR non-securitisation framework as set out in MAR21.51 to MAR21.57 with an exception of index buckets (ie buckets 17 and 18).

(2) The risk weights and correlation parameters of the delta CSR non-securitisations are modified to reflect longer liquidity horizons and larger basis risk as specified in MAR21.59 to MAR21.61.

21.59 For calculating weighted sensitivities, the risk weights for buckets 1 to 16 are set out in Table 6. Risk weights are the same for all tenors (ie 0.5 years, 1 year, 3 years, 5 years, 10 years) within each bucket:

Risk weights for sensitivities to CSR arising from the CTP — Table 6

Bucket number	Risk weight
1	4.0%
2	4.0%
3	8.0%
4	5.0%
5	4.0%
6	3.0%
7	2.0%
8	6.0%
9	13.0%
10	13.0%
11	16.0%
12	10.0%
13	12.0%
14	12.0%
15	12.0%
16	13.0%

21.60 For aggregating delta CSR securitisations (CTP) risk positions within a bucket, the delta risk correlation ρ_{kl} is derived the same way as in MAR21.54 and MAR21.55, except that the correlation parameter applying when the sensitivities are not related to same curves, $\rho_{kl}^{(basis)}$, is modified.

(1) $\rho_{kl}^{(basis)}$ is now equal to 1 if the two sensitivities are related to same curves, and 99.00% otherwise.

(2) The identical correlation parameters for $\rho_{kl}^{(name)}$ and $\rho_{kl}^{(tenor)}$ to CSR non-securitisation as set out in MAR21.54 and MAR21.55 apply.

21.61 For aggregating delta CSR securitisations (CTP) risk positions across buckets, the correlation parameters for γ_{bc} are identical to CSR non-securitisation as set out in MAR21.57.

Delta CSR securitisation (non-CTP) buckets, risk weights and correlations

21.62 For delta CSR securitisations not in the CTP, buckets are set along two dimensions – credit quality and sector – as set out in Table 7. The delta CSR securitisation (non-CTP) sensitivities or risk exposures must first be assigned to a bucket before calculating weighted sensitivities by applying a risk weight.

Buckets for delta CSR securitisations (non-CTP) Table 7

Bucket number	Credit quality	Sector
1	Senior investment grade (IG)	RMBS – Prime
2		RMBS – Mid-prime
3		RMBS – Sub-prime
4		CMBS
5		Asset-backed securities (ABS) – Student loans
6		ABS – Credit cards
7		ABS – Auto
8		Collateralised loan obligation (CLO) non-CTP
9	Non-senior IG	RMBS – Prime
10		RMBS – Mid-prime
11		RMBS – Sub-prime
12		Commercial mortgage-backed securities (CMBS)
13		ABS – Student loans
14		ABS – Credit cards
15		ABS – Auto
16		CLO non-CTP
17	High yield & non-rated	RMBS – Prime
18		RMBS – Mid-prime
19		RMBS – Sub-prime
20		CMBS
21		ABS – Student loans

22		ABS – Credit cards
23		ABS – Auto
24		CLO non-CTP
25	Other sector[19]	

Footnotes

[19] *Credit quality is not a differentiating consideration for this bucket.*

21.63 To assign a risk exposure to a sector, banks must rely on a classification that is commonly used in the market for grouping tranches by type.

(1) The bank must assign each tranche to one of the sector buckets in above Table 7.

(2) Risk positions from any tranche that a bank cannot assign to a sector in this fashion must be assigned to the other sector (ie bucket 25).

21.64 For calculating weighted sensitivities, the risk weights for buckets 1 to 8 (senior IG) are set out in Table 8:

Risk weights for buckets 1 to 8 for delta CSR securitisations (non-CTP) Table 8

Bucket number	Risk weight (in percentage points)
1	0.9%
2	1.5%
3	2.0%
4	2.0%
5	0.8%
6	1.2%
7	1.2%
8	1.4%

21.65 The risk weights for buckets 9 to 16 (non-senior investment grade) are then equal to the corresponding risk weights for buckets 1 to 8 scaled up by a multiplication by 1.25. For instance, the risk weight for bucket 9 is equal to $1.25 \times 0.9\% = 1.125\%$.

21.66 The risk weights for buckets 17 to 24 (high yield and non-rated) are then equal to the corresponding risk weights for buckets 1 to 8 scaled up by a multiplication by 1.75. For instance, the risk weight for bucket 17 is equal to $1.75 \times 0.9\% = 1.575\%$.

21.67 The risk weight for bucket 25 is set at 3.5%.

21.68 For aggregating delta CSR securitisations (non-CTP) risk positions within a bucket, the correlation parameter ρ_{kl} between two sensitivities WS_k and WS_l within the same bucket, is set as follows, where:

(1) $\rho_{kl}^{(tranche)}$ is equal to 1 where the two names of sensitivities k and l are within the same bucket and related to the same securitisation tranche (more than 80% overlap in notional terms), and 40% otherwise;

(2) $\rho_{kl}^{(tenor)}$ is equal to 1 if the two tenors of the sensitivities k and l are identical, and to 80% otherwise; and

(3) $\rho_{kl}^{(basis)}$ is equal to 1 if the two sensitivities are related to same curves, and 99.90% otherwise.

$$\rho_{kl} = \rho_{kl}^{(tranche)} \cdot \rho_{kl}^{(tenor)} \cdot \rho_{kl}^{(basis)}$$

FAQ

FAQ1 *MAR21.68 includes $\rho_{kl}^{(tranche)}$, which equals 1 where the two sensitivities within the same bucket are related to the same securitisation tranche, or 40% otherwise. There is no issuer factor. Does this mean that two sensitivities relating to the same issuer but different tranches require 40% correlation?*

Yes. There is no granularity for issuers in the delta CSR securitisation part as set out in MAR21.10. Where two tranches have exactly the same issuer, same tenor and same basis, but different tranches (ie different credit quality), the correlation must be 40%.

21.69 The correlations above do not apply to the other sector bucket (ie bucket 25).

(1) The aggregation of delta CSR securitisations (non-CTP) risk positions within the other sector bucket would be equal to the simple sum of the absolute values of the net weighted sensitivities allocated to this bucket. The same method applies to the aggregation of vega risk positions.

$$K_{b(other\ bucket)} = \sum_k \left| WS_k \right|$$

(2) The aggregation of curvature CSR risk positions within the other sector bucket (ie bucket 16) would be calculated by the formula below.

$$K_{b(other\ bucket)} = \max\left(\sum_k \max\left(CVR_k^+, 0\right), \sum_k \max\left(CVR_k^-, 0\right) \right)$$

21.70 For aggregating delta CSR securitisations (non-CTP) risk positions across buckets 1 to 24, the correlation parameter γ_{bc} is set as 0%.

21.71 For aggregating delta CSR securitisations (non-CTP) risk positions between the other sector bucket (ie bucket 25) and buckets 1 to 24, (i) the capital requirements for bucket 25 and (ii) the aggregated capital requirements for

buckets 1 to 24 will be simply summed up to the overall risk class level capital requirements. There should be no diversification or hedging effects recognised in aggregating the capital requirements for the other sector bucket (ie bucket 25) with those for buckets 1 to 24.

Equity risk buckets, risk weights and correlations

21.72 For delta equity risk, buckets are set along three dimensions – market capitalisation, economy and sector – as set out in Table 9. The equity risk sensitivities or exposures must first be assigned to a bucket before calculating weighted sensitivities by applying a risk weight.

Buckets for delta sensitivities to equity risk — Table 9

Bucket number	Market cap	Economy	Sector
1	Large	Emerging market economy	Consumer goods and services, transportation and storage, administrative and support service activities, healthcare, utilities
2			Telecommunications, industrials
3			Basic materials, energy, agriculture, manufacturing, mining and quarrying
4			Financials including government-backed financials, real estate activities, technology
5		Advanced economy	Consumer goods and services, transportation and storage, administrative and support service activities, healthcare, utilities
6			Telecommunications, industrials
7			Basic materials, energy, agriculture, manufacturing, mining and quarrying
8			Financials including government-backed financials, real estate activities, technology
9	Small	Emerging market economy	All sectors described under bucket numbers 1, 2, 3 and 4
10		Advanced economy	All sectors described under bucket numbers 5, 6, 7 and 8
11	Other sector[20]		
12	Large market cap, advanced economy equity indices (non-sector specific)		
13	Other equity indices (non-sector specific)		

Footnotes

[20] *Market capitalisation or economy (ie advanced or emerging market) is not a differentiating consideration for this bucket.*

21.73 Market capitalisation (market cap) is defined as the sum of the market capitalisations based on the market value of the total outstanding shares issued by the same listed legal entity or a group of legal entities across all stock markets globally, where the total outstanding shares issued by the group of legal entities refer to cases where the listed entity is a parent company of a group of legal entities. Under no circumstances should the sum of the market capitalisations of multiple related listed entities be used to determine whether a listed entity is "large market cap" or "small market cap".

21.74 Large market cap is defined as a market capitalisation equal to or greater than USD 2 billion and small market cap is defined as a market capitalisation of less than USD 2 billion.

21.75 The advanced economies are Canada, the United States, Mexico, the euro area, the non-euro area western European countries (the United Kingdom, Norway, Sweden, Denmark and Switzerland), Japan, Oceania (Australia and New Zealand), Singapore and Hong Kong SAR.

FAQ

FAQ1 *Are the countries referenced in MAR21.75 to be understood as country of incorporation?*

An equity issuer must be allocated to a particular bucket according to the most material country or region in which the issuer operates. As stated in MAR21.76: "For multinational multi-sector equity issuers, the allocation to a particular bucket must be done according to the most material region and sector in which the issuer operates.

21.76 To assign a risk exposure to a sector, banks must rely on a classification that is commonly used in the market for grouping issuers by industry sector.

(1) The bank must assign each issuer to one of the sector buckets in the table under MAR21.72 and it must assign all issuers from the same industry to the same sector.

(2) Risk positions from any issuer that a bank cannot assign to a sector in this fashion must be assigned to the other sector (ie bucket 11).

(3) For multinational multi-sector equity issuers, the allocation to a particular bucket must be done according to the most material region and sector in which the issuer operates.

21.77 For calculating weighted sensitivities, the risk weights for the sensitivities to each of equity spot price and equity repo rates for buckets 1 to 13 are set out in Table 10:

Risk weights for buckets 1 to 13 for sensitivities to equity risk — Table 10

Bucket number	Risk weight for equity spot price	Risk weight for equity repo rate
1	55%	0.55%
2	60%	0.60%
3	45%	0.45%
4	55%	0.55%
5	30%	0.30%
6	35%	0.35%
7	40%	0.40%
8	50%	0.50%
9	70%	0.70%
10	50%	0.50%
11	70%	0.70%
12	15%	0.15%
13	25%	0.25%

21.78 For aggregating delta equity risk positions within a bucket, the correlation parameter ρ_{kl} between two sensitivities WS_k and WS_l within the same bucket is set at as follows

(1) The correlation parameter ρ_{kl} is set at 99.90%, where:

(a) one is a sensitivity to an equity spot price and the other a sensitivity to an equity repo rates; and

(b) both are related to the same equity issuer name.

(2) The correlation parameter ρ_{kl} is set out in (a) to (e) below, where both sensitivities are to equity spot price, and where:

(a) 15% between two sensitivities within the same bucket that fall under large market cap, emerging market economy (bucket number 1, 2, 3 or 4).

(b) 25% between two sensitivities within the same bucket that fall under large market cap, advanced economy (bucket number 5, 6, 7 or 8).

(c) 7.5% between two sensitivities within the same bucket that fall under small market cap, emerging market economy (bucket number 9).

(d) 12.5% between two sensitivities within the same bucket that fall under small market cap, advanced economy (bucket number 10).

(e) 80% between two sensitivities within the same bucket that fall under either index bucket (bucket number 12 or 13).

(3) The same correlation parameter ρ_{kl} as set out in above (2)(a) to (e) apply, where both sensitivities are to equity repo rates.

(4) The correlation parameter ρ_{kl} is set as each parameter specified in above (2)(a) to (e) multiplied by 99.90%, where:

(a) One is a sensitivity to an equity spot price and the other a sensitivity to an equity repo rate; and

(b) Each sensitivity is related to a different equity issuer name.

21.79 The correlations set out above do not apply to the other sector bucket (ie bucket 11).

(1) The aggregation of equity risk positions within the other sector bucket capital requirement would be equal to the simple sum of the absolute values of the net weighted sensitivities allocated to this bucket. The same method applies to the aggregation of vega risk positions.

$$K_{b(other\ bucket)} = \sum_k \left| WS_k \right|$$

(2) The aggregation of curvature equity risk positions within the other sector bucket (ie bucket 11) would be calculated by the formula:

$$K_{b(other\ bucket)} = \max\left(\sum_k \max\left(CVR_k^+, 0 \right), \sum_k \max\left(CVR_k^-, 0 \right) \right)$$

21.80 For aggregating delta equity risk positions across buckets 1 to 13, the correlation parameter γ_{bc} is set at:

(1) 15% if bucket b and bucket c fall within bucket numbers 1 to 10;

(2) 0% if either of bucket b and bucket c is bucket 11;

(3) 75% if bucket b and bucket c are bucket numbers 12 and 13 (i.e. one is bucket 12, one is bucket 13); and

(4) 45% otherwise.

Commodity risk buckets, risk weights and correlations

21.81 For delta commodity risk, 11 buckets that group commodities by common characteristics are set out in Table 11.

21.82 For calculating weighted sensitivities, the risk weights for each bucket are set out in Table 11:

Delta commodity buckets and risk weights Table 11

Bucket number	Commodity bucket	Examples of commodities allocated to each commodity bucket (non-exhaustive)	Risk weight
1	Energy - solid combustibles	Coal, charcoal, wood pellets , uranium	30%
2	Energy - liquid combustibles	Light-sweet crude oil; heavy crude oil; West Texas Intermediate (WTI) crude; Brent crude; etc (ie various types of crude oil) Bioethanol; biodiesel ; etc (ie various biofuels) Propane; ethane; gasoline; methanol; butane; etc (ie various petrochemicals) Jet fuel; kerosene; gasoil; fuel oil; naphtha; heating oil; diesel etc (ie various refined fuels)	35%
3	Energy - electricity and carbon trading	Spot electricity; day-ahead electricity; peak electricity; off-peak electricity (ie various electricity types) Certified emissions reductions; in-delivery month EU allowance; Regional Greenhouse Gas Initiative CO2 allowance; renewable energy certificates; etc (ie various carbon trading emissions)	60%
4	Freight	Capesize; Panamax; Handysize; Supramax (ie various types of dry-bulk route) Suezmax; Aframax; very large crude carriers (ie various liquid-bulk/gas shipping route)	80%
5	Metals – non-precious	Aluminium; copper; lead; nickel; tin; zinc (ie various base metals) Steel billet ; steel wire; steel coil ; steel scrap; steel rebar; iron ore; tungsten; vanadium; titanium; tantalum (ie steel raw materials)	40%

		Cobalt; manganese; molybdenum (ie various minor metals)	
6	Gaseous combustibles	Natural gas; liquefied natural gas	45%
7	Precious metals (including gold)	Gold; silver; platinum; palladium	20%
8	Grains and oilseed	Corn; wheat; soybean seed; soybean oil; soybean meal; oats; palm oil; canola; barley; rapeseed seed; rapeseed oil; rapeseed meal; red bean; sorghum; coconut oil; olive oil; peanut oil; sunflower oil; rice	35%
9	Livestock and dairy	Live cattle; feeder cattle; hog; poultry; lamb; fish; shrimp; milk; whey; eggs; butter; cheese	25%
10	Softs and other agriculturals	Cocoa; arabica coffee; robusta coffee; tea; citrus juice; orange juice; potatoes; sugar; cotton; wool; lumber; pulp; rubber	35%
11	Other commodity	Potash; fertilizer; phosphate rocks (ie various industrial materials) Rare earths; terephthalic acid; flat glass	50%

21.83 For the purpose of aggregating commodity risk positions within a bucket using a correlation parameter, the correlation parameter ρ_{kl} between two sensitivities WS_k and WS_l within the same bucket, is set as follows, where:[21]

(1) $\rho_{kl}^{(cty)}$ is equal to 1 where the two commodities of sensitivities k and l are identical, and to the intra-bucket correlations in Table 12 otherwise, where, any two commodities are considered distinct commodities if in the market two contracts are considered distinct when the only difference between each other is the underlying commodity to be delivered. For example, WTI and Brent in bucket 2 (ie energy - liquid combustibles) would typically be treated as distinct commodities;

(2) $\rho_{kl}^{(tenor)}$ is equal to 1 if the two tenors of the sensitivities k and l are identical, and to 99.00% otherwise; and

(3) $\rho_{kl}^{(basis)}$ is equal to 1 if the two sensitivities are identical in the delivery location of a commodity, and 99.90% otherwise.

$$\rho_{kl} = \rho_{kl}^{(cty)} \cdot \rho_{kl}^{(tenor)} \cdot \rho_{kl}^{(basis)}$$

Values of $\rho_{kl}^{(cty)}$ for intra-bucket correlations

Table 12

Bucket number	Commodity bucket	Correlation ($\rho_{kl}^{(cty)}$)
1	Energy - Solid combustibles	55%
2	Energy - Liquid combustibles	95%
3	Energy - Electricity and carbon trading	40%
4	Freight	80%
5	Metals - non-precious	60%
6	Gaseous combustibles	65%
7	Precious metals (including gold)	55%
8	Grains and oilseed	45%
9	Livestock and dairy	15%
10	Softs and other agriculturals	40%
11	Other commodity	15%

Footnotes

[21] *For example, the correlation between the sensitivity to Brent, one-year tenor, for delivery in Le Havre and the sensitivity to WTI, five-year tenor, for delivery in Oklahoma is* $95\% \cdot 99.00\% \cdot 99.90\% = 93.96\%$.

FAQ

FAQ1 *For instruments with commodity spreads as underlying, are the spreads considered a risk factor, or does the instrument have to be decomposed? For example, if there is a swap on the spread between WTI and Brent, will delta on the spread be reported, or will delta of WTI and delta of Brent be reported individually?*

Instruments with a spread as their underlying are considered sensitive to different risk factors. In the example cited, the swap will be sensitive to both WTI and Brent, each of which require a capital charge at the risk factor level (ie delta of WTI and delta of Brent). The correlation to aggregate capital charges is specified in MAR21.83.

21.84 For determining whether the commodity correlation parameter ($(\rho_{kl}^{(cty)})$) as set out in Table 12 in MAR21.83(1)(a) should apply, this paragraph provides non-exhaustive examples of further definitions of distinct commodities as follows:

(1) For bucket 3 (energy – electricity and carbon trading):

(a) Each time interval (i) at which the electricity can be delivered and (ii) that is specified in a contract that is made on a financial market is considered a distinct electricity commodity (eg peak and off-peak).

(b) Electricity produced in a specific region (eg Electricity NE, Electricity SE or Electricity North) is considered a distinct electricity commodity.

(2) For bucket 4 (freight):

(a) Each combination of freight type and route is considered a distinct commodity.

(b) Each week at which a good has to be delivered is considered a distinct commodity.

FAQ

FAQ1 *For instruments with commodity spreads as underlying, are the spreads considered a risk factor, or does the instrument have to be decomposed? For example, if there is a swap on the spread between WTI and Brent, will delta on the spread be reported, or will delta of WTI and delta of Brent be reported individually?*

Instruments with a spread as their underlying are considered sensitive to different risk factors. In the example cited, the swap will be sensitive to both WTI and Brent, each of which require a capital charge at the risk factor level (ie delta of WTI and delta of Brent). The correlation to aggregate capital charges is specified in MAR21.83.

21.85 For aggregating delta commodity risk positions across buckets, the correlation parameter is set as follows:

(1) 20% if bucket b and bucket c fall within bucket numbers 1 to 10; and

(2) 0% if either bucket b or bucket c is bucket number 11.

Foreign exchange risk buckets, risk weights and correlations

21.86 An FX risk bucket is set for each exchange rate between the currency in which an instrument is denominated and the reporting currency.

21.87 A unique relative risk weight equal to 15% applies to all the FX sensitivities.

21.88 For the specified currency pairs by the Basel Committee,[22] and for currency pairs forming first-order crosses across these specified currency pairs,[23] the above risk weight may at the discretion of the bank be divided by the square root of 2.

Footnotes

[22] *Specified currency pairs by the Basel Committee are: USD/EUR, USD /JPY, USD/GBP, USD/AUD, USD/CAD, USD/CHF, USD/MXN, USD/CNY, USD/NZD, USD/RUB, USD/HKD, USD/SGD, USD/TRY, USD/KRW, USD /SEK, USD/ZAR, USD/INR, USD/NOK, USD/BRL.*

[23] *For example, EUR/AUD is not among the selected currency pairs specified by the Basel Committee, but is a first-order cross of USD/EUR and USD/AUD.*

21.89

For aggregating delta FX risk positions across buckets, the correlation parameter γ_{bc} is uniformly set to 60%.

Sensitivities-based method: definition of vega risk buckets, risk weights and correlations

21.90 MAR21.91 to MAR21.95 set out buckets, risk weights and correlation parameters to calculate vega risk capital requirement as set out in MAR21.4.

21.91 The same bucket definitions for each risk class are used for vega risk as for delta risk.

21.92 For calculating weighted sensitivities for vega risk, the risk of market illiquidity is incorporated into the determination of vega risk, by assigning different liquidity horizons for each risk class as set out in Table 13. The risk weight for each risk class[24] is also set out in Table 13.

Regulatory liquidity horizon, $LH_{risk\ class}$, and risk weights per risk class — Table 13

Risk class	$LH_{risk\ class}$	Risk weights
GIRR	60	100%
CSR non-securitisations	120	100%
CSR securitisations (CTP)	120	100%
CSR securitisations (non-CTP)	120	100%
Equity (large cap and indices)	20	77.78%
Equity (small cap and other sector)	60	100%
Commodity	120	100%
FX	40	100%

Footnotes

[24] *The risk weight for a given vega risk factor k* (RW_k) *is determined by* $RW_k = min\left[RW_\sigma \cdot \frac{\sqrt{LH_{risk\ class}}}{\sqrt{10}}; 100\%\right]$ *,where* RW_σ *is set at 55%; and is specified per risk class in Table 13.*

FAQ

FAQ1 *When applying risk weights for equity vega risk factors, does the 20 days liquidity horizon apply to equities that are both large market cap and indices, or does it apply to equities that are either large market cap or indices? Similarly, does the 60 days liquidity horizon apply to equities that are both small market cap and other sector, or does it apply to equities that are either small market cap or other sector?*

The 20-day liquidity horizon applies to vega risk factors that would be allocated to large market cap buckets (ie buckets 1 to 8) or to index buckets (ie buckets 12 and 13) as set out in MAR21.72. The 60-day liquidity horizon applies to vega risk factors that would be allocated to small market cap buckets (ie buckets 9 and 10) or to the other sector bucket (ie bucket 11) as set out in MAR21.72.

21.93 For aggregating vega GIRR risk positions within a bucket, the correlation parameter ρ_{kl} is set as follows, where:

(1) $\rho_{kl}^{(option\ maturity)}$ is equal to $e^{-\alpha \cdot \frac{|T_k - T_l|}{min\{T_k; T_l\}}}$, where:

(a) α is set at 1%;

(b) T_k (respectively T_l) is the maturity of the option from which the vega sensitivity VR_k (VR_l) is derived, expressed as a number of years; and

(2) $\rho_{kl}^{(underlying\ maturity)}$ is equal to $e^{-\alpha \cdot \frac{\left|T_k^U - T_l^U\right|}{min\left\{T_k^U; T_l^U\right\}}}$, where:

(a) α is set at 1%; and

(b) T_k^U (respectively T_l^U) is the maturity of the underlying of the option from which the sensitivity VR_k (VR_l) is derived, expressed as a number of years after the maturity of the option.

$$\rho_{kl} = min\left[\rho_{kl}^{(option\ maturity)} \cdot \rho_{kl}^{(underlying\ maturity)}; 1\right]$$

21.94 For aggregating vega risk positions within a bucket of the other risk classes (ie non-GIRR), the correlation parameter ρ_{kl} is set as follows, where:

(1) $\rho_{kl}^{(DELTA)}$ is equal to the correlation that applies between the delta risk factors that correspond to vega risk factors k and l. For instance, if k is the vega risk factor from equity option X and l is the vega risk factor from equity option Y then $\rho_{kl}^{(DELTA)}$ is the delta correlation applicable between X and Y; and

(2) $\rho_{kl}^{(option\ maturity)}$ is defined as in MAR21.93:

$$\rho_{kl} = min\left[\rho_{kl}^{(DELTA)} \cdot \rho_{kl}^{(option\ maturity)}; 1\right]$$

FAQ

FAQ1 *MAR21.94 defines the vega correlation between risk factors k and l as the product of the option maturity correlation ($\rho_{kl}^{(option\ maturity)}$) and the delta correlation ($\rho_{kl}^{(DELTA)}$) that applies between the delta risk factors that correspond to vega risk factors k and l. Please clarify the meaning of "delta risk factors that correspond to vega risk factors k and l". In particular, besides the option maturity, should banks consider for CSR and commodity risk (i) the correlation across vega risk factors for the dimensions defined for vega for a given risk class only, or (ii) all dimensions of delta risk factors?*

For CSR and commodity risks in MAR21.9 to MAR21.11 and MAR21.13, if the vega risk factors are defined for a smaller number of dimensions than are defined for delta risk factors, only the dimensions that are defined both as a vega risk factor dimension and as a delta risk factor dimension for the relevant risk class need to be considered as a correlation based on delta risk factors ($\rho_{kl}^{(DELTA)}$) in the calculation of vega risk per MAR21.94. This means that the following dimensions are considered:

- *for CSR non-securitisation risk: option maturity ($\rho_{kl}^{(option\ maturity)}$) and underlying name ($\rho_{kl}^{(name)}$);*
- *for CSR securitisations (CTP) risk: option maturity ($\rho_{kl}^{(option\ maturity)}$) and underlying name ($\rho_{kl}^{(name)}$);*
- *for CSR securitisation (non-CTP): option maturity ($\rho_{kl}^{(option\ maturity)}$) and securitisation tranche ($\rho_{kl}^{(tranche)}$); and*
- *for commodity risk: option maturity ($\rho_{kl}^{(option\ maturity)}$) and commodity ($\rho_{kl}^{(cty)}$).*

21.95 For aggregating vega risk positions across different buckets within a risk class (GIRR and non-GIRR), the same correlation parameters for γ_{bc} , as specified for delta correlations for each risk class in MAR21.39 to MAR21.89 are to be used for the aggregation of vega risk (eg γ_{bc} = 50% is to be used for the aggregation of vega risk sensitivities across different GIRR buckets).

Sensitivities-based method: definition of curvature risk buckets, risk weights and correlations

21.96 MAR21.97 to MAR21.101 set out buckets, risk weights and correlation parameters to calculate curvature risk capital requirement as set out in MAR21.5.

21.97 The delta buckets are replicated for the calculation of curvature risk capital requirement, unless specified otherwise in the preceding paragraphs within MAR21.8 to MAR21.89.

21.98 For calculating the net curvature risk capital requirement CVR_k for risk factor k for FX and equity risk classes, the curvature risk weight, which is the size of a shock to the given risk factor, is a relative shift equal to the respective delta risk weight. For FX curvature, for options that do not reference a bank's reporting currency (or base currency as set out in MAR21.14(b)) as an underlying, net curvature risk charges (CVR_k^+ and CVR_k^-) may be divided by a scalar of 1.5. Alternatively, and subject to supervisory approval, a bank may apply the scalar of 1.5 consistently to all FX instruments provided curvature sensitivities are calculated for all currencies, including sensitivities determined by shocking the reporting currency (or base currency where used) relative to all other currencies.

21.99 For calculating the net curvature risk capital requirement CVR_k for curvature risk factor k for GIRR, CSR and commodity risk classes, the curvature risk weight is the parallel shift of all the tenors for each curve based on the highest prescribed delta risk weight for each bucket. For example, in the case of GIRR for a given currency (ie bucket), the risk weight assigned to 0.25-year tenor (ie the most punitive tenor risk weight) is applied to all the tenors simultaneously for each risk-free yield curve (consistent with a "translation", or "parallel shift" risk calculation).

21.100 For aggregating curvature risk positions within a bucket, the curvature risk correlations ρ_{kl} are determined by squaring the corresponding delta correlation parameters ρ_{kl}. In a case where a curvature risk factor is defined differently than the corresponding delta risk factor for a given risk class (ie for CSR non-securitisations, CSR securitisations (CTP), CSR securitisations (non-CTP) and commodities as defined in MAR21.9 to MAR21.13), banks do not need to consider this delta risk factor dimension. For example, for CSR non-securitisations and CSR securitisations (CTP), consistent with MAR21.9 which defines a bucket along one dimension (ie the relevant credit spread curve), the correlation parameter ρ_{kl} as defined in MAR21.54 and MAR21.55 is not applicable to the curvature risk capital requirement calculation. Thus, the correlation parameter is determined by whether the two names of weighted sensitivities are the same. In the formula in MAR21.54 and MAR21.55, the correlation parameters $\rho_{kl}^{(basis)}$ and $\rho_{kl}^{(tenor)}$ need not apply and only correlation parameter $\rho_{kl}^{(name)}$ applies between two weighted sensitivities within the same bucket. This correlation parameter should be squared. In applying the high and low correlations scenario set out in MAR21.6, the curvature risk capital requirements are calculated by applying the curvature correlation parameters ρ_{kl} determined in this paragraph.

21.101 For aggregating curvature risk positions across buckets, the curvature risk correlations γ_{bc} are determined by squaring the corresponding delta correlation parameters γ_{bc}. For instance, when aggregating CVR_{EUR} and CVR_{USD} for the GIRR, the correlation should be $50\%^2 = 25\%$. In applying the high and low correlations scenario set out in MAR21.6, the curvature risk capital requirements are calculated by applying the curvature correlation parameters γ_{bc}, (ie the square of the corresponding delta correlation parameter).

MAR22

Standardised approach: default risk capital requirement

This chapter sets out the calculation of the default risk capital requirement under the standardised approach for market risk.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework, updated to take account of the revised implementation date announced on 27 March 2020.

Main concepts of default risk capital requirements

22.1 The default risk capital (DRC) requirement is intended to capture jump-to-default (JTD) risk that may not be captured by credit spread shocks under the sensitivities-based method. DRC requirements provide some limited hedging recognition. In this chapter offsetting refers to the netting of exposures to the same obligor (where a short exposure may be subtracted in full from a long exposure) and hedging refers to the application of a partial hedge benefit from the short exposures (where the risk of long and short exposures in distinct obligors do not fully offset due to basis or correlation risks).

Instruments subject to the default risk capital requirement

22.2 The DRC requirement must be calculated for instruments subject to default risk:

(1) Non-securitisation portfolios

(2) Securitisation portfolio (non-correlation trading portfolio, or non-CTP)

(3) Securitisation (correlation trading portfolio, or CTP)

Overview of DRC requirement calculation

22.3 The following step-by-step approach must be followed for each risk class subject to default risk. The specific definition of gross JTD risk, net JTD risk, bucket, risk weight and the method for aggregation of DRC requirement across buckets are separately set out per each risk class in subsections in MAR22.9 to MAR22.26.

(1) The gross JTD risk of each exposure is computed separately.

(2) With respect to the same obligator, the JTD amounts of long and short exposures are offset (where permissible) to produce net long and/or net short exposure amounts per distinct obligor.

(3) Net JTD risk positions are then allocated to buckets.

(4) Within a bucket, a hedge benefit ratio is calculated using net long and short JTD risk positions. This acts as a discount factor that reduces the amount of net short positions to be netted against net long positions within a bucket. A prescribed risk weight is applied to the net positions which are then aggregated.

(5) Bucket level DRC requirements are aggregated as a simple sum across buckets to give the overall DRC requirement.

22.4 No diversification benefit is recognised between the DRC requirements for:

(1) non-securitisations;

(2) securitisations (non-CTP); and

(3) securitisations (CTP).

22.5 For traded non-securitisation credit and equity derivatives, JTD risk positions by individual constituent issuer legal entity should be determined by applying a look-through approach.

FAQ

FAQ1 *What is the JTD equivalent when decomposing multiple underlying positions of a single security or product (eg index options) for purposes of the standardised approach?*

The JTD equivalent is defined as the difference between the value of the security or product assuming that each single name referenced by the security or product, separately from the others, defaults (with zero recovery) and the value of the security or product assuming that none of the names referenced by the security or product default.

22.6 For the CTP, the capital requirement calculation includes the default risk for non-securitisation hedges. These hedges must be removed from the calculation of default risk non-securitisation.

22.7 Claims on sovereigns, public sector entities and multilateral development banks may, at national discretion, be subject to a zero default risk weight in line with CRE20.7 to CRE20.15 of the credit risk standard. National authorities may apply a non-zero risk weight to securities issued by certain foreign governments, including to securities denominated in a currency other than that of the issuing government.

22.8 For claims on an equity investment in a fund that is subject to the treatment specified in MAR21.36(3) (ie treated as an unrated "other sector" equity), the equity investment in the fund shall be treated as an unrated equity instrument. Where the mandate of that fund allows the fund to invest in primarily high-yield or distressed names, banks shall apply the maximum risk weight per Table 2 in MAR22.24 that is achievable under the fund's mandate (by calculating the effective average risk weight of the fund when assuming that the fund invests

first in defaulted instruments to the maximum possible extent allowed under its mandate, and then in CCC-rated names to the maximum possible extent, and then B-rated, and then BB-rated). Neither offsetting nor diversification between these generated exposures and other exposures is allowed.

FAQ

FAQ1 *For equity investments in funds for which sensitivities-based method capital requirements are calculated under MAR21.36(3) (ie the "other sector" equity treatment), may the mandate of the fund be used to determine the jump-to-default (JTD) of the fund for default risk?*

No. In calculating the JTD, the LGD of equity investments in funds for which sensitivities-based method capital requirements are calculated under MAR21.36(3) should be 100%, consistent with the requirement in MAR22.8 to treat the equity investment as a position in an unrated equity instrument.

Default risk capital requirement for non-securitisations

Gross jump-to-default risk positions (gross JTD)

22.9 The gross JTD risk position is computed exposure by exposure. For instance, if a bank has a long position on a bond issued by Apple, and another short position on a bond issued by Apple, it must compute two separate JTD exposures.

22.10 For the purpose of DRC requirements, the determination of the long/short direction of positions must be on the basis of long or short with respect to whether the credit exposure results in a loss or gain in the case of a default.

(1) Specifically, a long exposure is defined as a credit exposure that results in a loss in the case of a default.

(2) For derivative contracts, the long/short direction is also determined by whether the contract will result in a loss in the case of a default (ie long or short position is not determined by whether the option or credit default swap (CDS), is bought or sold). Thus, for the purpose of DRC requirements, a sold put option on a bond is a long credit exposure, since a default results in a loss to the seller of the option.

22.11 The gross JTD is a function of the loss given default (LGD), notional amount (or face value) and the cumulative profit and loss (P&L) already realised on the position, where:

(1) notional is the bond-equivalent notional amount (or face value) of the position; and

(2) P&L is the cumulative mark-to-market loss (or gain) already taken on the exposure. P&L is equal to the market value minus the notional amount, where the market value is the current market value of the position.

$$JTD(long) = \max\left(LGD \times notional + P\&L, 0\right)$$

$$JTD(short) = \min\left(LGD \times notional + P\&L, 0\right)$$

FAQ

FAQ1 *What is the JTD equivalent when decomposing multiple underlying positions of a single security or product (eg index options) for purposes of the standardised approach?*

The JTD equivalent is defined as the difference between the value of the security or product assuming that each single name referenced by the security or product, separately from the others, defaults (with zero recovery) and the value of the security or product assuming that none of the names referenced by the security or product default.

22.12 For calculating the gross JTD, LGD is set as follows:

(1) Equity instruments and non-senior debt instruments are assigned an LGD of 100%.

(2) Senior debt instruments are assigned an LGD of 75%.

(3) Covered bonds, as defined within MAR21.51, are assigned an LGD of 25%.

(4) When the price of the instrument is not linked to the recovery rate of the defaulter (eg a foreign exchange-credit hybrid option where the cash flows are swap of cash flows, long EUR coupons and short USD coupons with a knockout feature that ends cash flows on an event of default of a particular obligor), there should be no multiplication of the notional by the LGD.

FAQ

FAQ1 *For the purpose of market risk capital requirements, what are the credit spread risk capital requirements for Fannie Mae and Freddie Mac mortgage-backed security (MBS) bonds? What is the LGD for Fannie and Freddie MBS?*

Non-tranched MBS issued by government sponsored-entities (GSEs), such as Fannie and Freddie, are assigned to bucket 2 (local government, government-backed non-financials, education, public administration) for credit spread risk with a risk weight of 1.0%.

In accordance with MAR22.12, the LGD for non-tranched MBS issued by GSEs is 75% (ie the LGD assigned to senior debt instruments) unless the GSE security satisfies the requirements of footnote 15 to MAR21.51 for treatment of the security as a covered bond.

22.13 In calculating the JTD as set out in MAR22.11, the notional amount of an instrument that gives rise to a long (short) exposure is recorded as a positive (negative) value, while the P&L loss (gain) is recorded as a negative (positive) value. If the contractual or legal terms of the derivative allow for the unwinding of the instrument with no exposure to default risk, then the JTD is equal to zero.

22.14 The notional amount is used to determine the loss of principal at default, and the mark-to-market loss is used to determine the net loss so as to not double-count the mark-to-market loss already recorded in the market value of the position.

(1) For all instruments, the notional amount is the notional amount of the instrument relative to which the loss of principal is determined. Examples are as follows:

(a) For a bond, the notional amount is the face value.

(b) For credit derivatives, the notional amount of a CDS contract or a put option on a bond is the notional amount of the derivative contract.

(c) In the case of a call option on a bond, the notional amount to be used in the JTD calculation is zero (since, in the event of default, the call option will not be exercised). In this case, a JTD would extinguish the call option's value and this loss would be captured through the mark-to-market P&L term in the JTD calculation.

(2) Table 1 illustrates examples of the notional amounts and market values for a long credit position with a mark-to-market loss to be used in the JTD calculation, where:

(a) the bond-equivalent market value is an intermediate step in determining the P&L for derivative instruments;

(b) the mark-to-market value of CDS or an option takes an absolute value; and

(c) the strike amount of the bond option is expressed in terms of the bond price (not the yield).

Examples of components for a long credit position in the JTD calculation — Table 1

Instrument	Notional	Bond-equivalent market value	P&L
Bond	Face value of bond	Market value of bond	Market value - face value
CDS	Notional of CDS	Notional of CDS + mark-to-market (MtM) value of CDS	- MtM value of CDS
Sold put option on a bond	Notional of option	Strike amount - | MtM value of option |	(Strike - | MtM value of option |) - Notional
Bought call option on a bond	0	MtM value of option	MtM value of option

P&L = bond-equivalent market value - notional.

With this representation of the P&L for a sold put option, a lower strike results in a lower JTD loss.

FAQ

FAQ1 *What is the JTD equivalent when decomposing multiple underlying positions of a single security or product (eg index options) for purposes of the standardised approach?*

The JTD equivalent is defined as the difference between the value of the security or product assuming that each single name referenced by the security or product, separately from the others, defaults (with zero recovery) and the value of the security or product assuming that none of the names referenced by the security or product default.

FAQ2 *Are convertible bonds to be treated the same way as vanilla bonds in computing the DRC requirement?*

No. Banks should also consider the P&L of the equity optionality embedded within a convertible bond when computing its DRC requirement. A convertible bond can be decomposed into a vanilla bond and a long equity option. Hence, treating the convertible bond as a vanilla bond will potentially underestimate the JTD risk of the instrument.

22.15 To account for defaults within the one-year capital horizon, the JTD for all exposures of maturity less than one year and their hedges are scaled by a fraction of a year. No scaling is applied to the JTD for exposures of one year or greater.[1] For example, the JTD for a position with a six month maturity would be weighted by one-half, while the JTD for a position with a one year maturity would have no scaling applied to the JTD.

Footnotes

[1] *Note that this paragraph refers to the scaling of gross JTD (ie not net JTD).*

FAQ

FAQ1 *MAR22.16 states that for the standardised approach DRC requirement, cash equity positions may be attributed a maturity of three months or a maturity of more than one year, at firms' discretion. Such restrictions do not exist in MAR33 for the internal models approach, which allows banks discretion to apply a 60-day liquidity horizon for equity sub-portfolios. Furthermore, MAR22.15 states "... the JTD for all exposures of maturity less than one year and their hedges are scaled by a fraction of a year". Given the above-mentioned paragraphs, for purposes of the standardised approach DRC requirement, is a bank permitted to assign cash equities and equity derivatives such as index futures any maturity between three months and one year on a sub-portfolio basis in order to avoid broken hedges?*

No. Such discretion is not permitted in the standardised approach. As required by MAR22.16, cash equity positions are assigned a maturity of either more than one year or three months. There is no discretion permitted to assign cash equity positions to any maturity between three months and one year. In determining the offsetting criterion, MAR22.17 specifies that the maturity of the derivatives contract be considered, not the maturity of the underlying instrument. MAR22.18 further states that the maturity weighting applied to the JTD for any product with a maturity of less than three months is floored at three months.

*To illustrate how the standardised approach DRC requirement should be calculated with a simple hypothetical portfolio, consider equity index futures with one month to maturity and a negative market value of EUR 10 million (–EUR 10 million, maturity 1M), hedged with the underlying equity positions with a positive market value of EUR 10 million (+EUR 10 million). Both positions in the example should be considered having a three-month maturity. Based on MAR22.15, which requires maturity scaling, defined as a fraction of the year, of positions and their hedge, the JTD for the above trading portfolio would be calculated as follows: 1/4*10 – 1/4*10 = 0.*

22.16 Cash equity positions (ie stocks) are assigned to a maturity of either more than one year or three months, at banks' discretion.

FAQ

FAQ1 *MAR22.16 states that for the standardised approach DRC requirement, cash equity positions may be attributed a maturity of three months or a maturity of more than one year, at firms' discretion. Such restrictions do not exist in MAR33 for the internal models approach, which allows banks discretion to apply a 60-day liquidity horizon for equity sub-portfolios. Furthermore, MAR22.15 states "... the JTD for all exposures of maturity less than one year and their hedges are scaled by a fraction of a year". Given the above-mentioned paragraphs, for purposes of the standardised approach DRC requirement, is a bank permitted to assign cash equities and equity derivatives such as index futures any maturity between three months and one year on a sub-portfolio basis in order to avoid broken hedges?*

No. Such discretion is not permitted in the standardised approach. As required by MAR22.16, cash equity positions are assigned a maturity of either more than one year or three months. There is no discretion permitted to assign cash equity positions to any maturity between three months and one year. In determining the offsetting criterion, MAR22.17 specifies that the maturity of the derivatives contract be considered, not the maturity of the underlying instrument. MAR22.18 further states that the maturity weighting applied to the JTD for any product with maturity of less than three months is floored at three months.

*To illustrate how the standardised approach DRC requirement should be calculated with a simple hypothetical portfolio, consider equity index futures with one month to maturity and a negative market value of EUR 10 million (–EUR 10 million, maturity 1M), hedged with the underlying equity positions with a positive market value of EUR 10 million (+EUR 10 million). Both positions in the example should be considered having a three-month maturity. Based on MAR22.15, which requires maturity scaling, defined as a fraction of the year, of positions and their hedge, the JTD for the above trading portfolio would be calculated as follows: 1/4*10 – 1/4*10 = 0.*

22.17 For derivative exposures, the maturity of the derivative contract is considered in determining the offsetting criterion, not the maturity of the underlying instrument.

22.18 The maturity weighting applied to the JTD for any sort of product with a maturity of less than three months (such as short term lending) is floored at a weighting factor of one-fourth or, equivalently, three months (that means that the positions having shorter-than-three months remaining maturity would be regarded as having a remaining maturity of three months for the purpose of the DRC requirement).

FAQ

FAQ1 *In the case where a total return swap (TRS) with a maturity of one month is hedged by the underlying equity, would the bank still need to compute a DRC requirement if there were sufficient legal terms on the TRS such that there is no settlement risk at swap maturity as the swap is terminated based on the executed price of the stock/bond hedge and any unwind of the TRS can be delayed (beyond the swap maturity date) in the event of hedge disruption until the stock/bond can be liquidated?*

The net JTD for such a position would be zero. If the contractual/legal terms of the derivative allow for the unwinding of both legs of the position at the time of expiry of the first to mature with no exposure to default risk of the underlying credit beyond that point, then the JTD for the maturity-mismatched position is equal to zero.

Net jump-to-default risk positions (net JTD)

22.19 Exposures to the same obligator may be offset as follows:

(1) The gross JTD risk positions of long and short exposures to the same obligor may be offset where the short exposure has the same or lower seniority relative to the long exposure. For example, a short exposure in an equity may offset a long exposure in a bond, but a short exposure in a bond cannot offset a long exposure in the equity.

(2) For the purposes of determining whether a guaranteed bond is an exposure to the underlying obligor or an exposure to the guarantor, the credit risk mitigation requirements set out in CRE22.71 and CRE22.73 apply.

(3) Exposures of different maturities that meet this offsetting criterion may be offset as follows.

(a) Exposures with maturities longer than the capital horizon (one year) may be fully offset.

(b) An exposure to an obligor comprising a mix of long and short exposures with a maturity less than the capital horizon (equal to one year) must be weighted by the ratio of the exposure's maturity relative to the capital horizon. For example, with the one-year capital horizon, a three-month short exposure would be weighted so that its benefit against long exposures of longer-than-one-year maturity would be reduced to one quarter of the exposure size.

22.20 In the case of long and short offsetting exposures where both have a maturity under one year, the scaling can be applied to both the long and short exposures.

22.21 Finally, the offsetting may result in net long JTD risk positions and net short JTD risk positions. The net long and net short JTD risk positions are aggregated separately as described below.

Calculation of default risk capital requirement for non-securitisation

22.22 For the default risk of non-securitisations, three buckets are defined as:

(1) corporates;

(2) sovereigns; and

(3) local governments and municipalities.

22.23 In order to recognise hedging relationship between net long and net short positions within a bucket, a hedge benefit ratio is computed as follows.

(1) A simple sum of the net long JTD risk positions (not risk-weighted) must be calculated, where the summation is across the credit quality categories (ie rating bands). The aggregated amount is used in the numerator and denominator of the expression of the hedge benefit ratio (HBR) below.

(2) A simple sum of the net (not risk-weighted) short JTD risk positions must be calculated, where the summation is across the credit quality categories (ie rating bands). The aggregated amount is used in the denominator of the expression of the HBR below.

(3) The HBR is the ratio of net long JTD risk positions to the sum of net long JTD and absolute value of net short JTD risk positions:

$$HBR = \frac{\sum \text{net JTD}_{\text{long}}}{\sum \text{net JTD}_{\text{long}} + \sum \left| \text{net JTD}_{\text{short}} \right|}$$

22.24 For calculating the weighted net JTD, default risk weights are set depending on the credit quality categories (ie rating bands) for all three buckets (ie irrespective of the type of counterparty), as set out in Table 2:

Default risk weights for non-securitisations by credit quality category — Table 2

Credit quality category	Default risk weight
AAA	0.5%
AA	2%
A	3%
BBB	6%
BB	15%
B	30%
CCC	50%
Unrated	15%
Defaulted	100%

FAQ

FAQ1 *How are risk weights to be determined when external ratings assigned by credit rating agencies differ and when there are no external ratings available?*

Consistent with the treatment of external ratings under the standardised approach to credit risk (see CRE21.10 and CRE21.11), if there are two ratings that map into different risk weights, the higher risk weight should be applied. If there are three or more ratings with different risk weights, the ratings corresponding to the two lowest risk weights should be referred to and the higher of those two risk weights will be applied.

Consistent with the treatment where there are no external ratings under the CVA risk chapter (see MAR50.16), where there are no external ratings or where external ratings are not recognised within a jurisdiction, banks may, subject to supervisory approval:

- *for the purpose of assigning delta CSR non-securitisation risk weights, map the internal rating to an external rating, and assign a risk weight corresponding to either "investment grade" or "high-yield" in the MAR21.51;*
- *for the purpose of assigning default risk weights under the DRC requirement, map the internal rating to an external rating, and assign a risk weight corresponding to one of the seven external ratings in the table included in MAR22.24; or*
- *apply the risk weights specified in MAR21.53 and MAR22.24 for unrated/non-rated categories.*

22.25 The capital requirement for each bucket is to be calculated as the combination of the sum of the risk-weighted long net JTD, the HBR, and the sum of the risk-weighted short net JTD, where the summation for each long net JTD and short net JTD is across the credit quality categories (ie rating bands). In the following formula, DRC stands for DRC requirement; and i refers to an instrument belonging to bucket b.

$$DRC_b = \max\left[\left(\sum_{i \in \text{Long}} RW_i \cdot \text{net JTD}_i\right) - HBR \cdot \left(\sum_{i \in \text{Short}} RW_i \cdot |\text{net JTD}_i|\right); 0\right]$$

22.26

No hedging is recognised between different buckets - the total DRC requirement for non-securitisations must be calculated as a simple sum of the bucket level capital requirements.

Default risk capital requirement for securitisations (non-CTP)

Gross jump-to-default risk positions (gross JTD)

22.27 For the computation of gross JTD on securitisations, the same approach must be followed as for default risk (non-securitisations), except that an LGD ratio is not applied to the exposure. Because the LGD is already included in the default risk weights for securitisations to be applied to the securitisation exposure (see below), to avoid double counting of LGD the JTD for securitisations is simply the market value of the securitisation exposure (ie the JTD for tranche positions is their market value).

22.28 For the purposes of offsetting and hedging recognition for securitisations (non-CTP), positions in underlying names or a non-tranched index position may be decomposed proportionately into the equivalent replicating tranches that span the entire tranche structure. When underlying names are treated in this way, they must be removed from the non-securitisation default risk treatment.

Net jump-to-default risk positions (net JTD)

22.29 For default risk of securitisations (non-CTP), offsetting is limited to a specific securitisation exposure (ie tranches with the same underlying asset pool). This means that:

(1) no offsetting is permitted between securitisation exposures with different underlying securitised portfolio (ie underlying asset pools), even if the attachment and detachment points are the same; and

(2) no offsetting is permitted between securitisation exposures arising from different tranches with the same securitised portfolio.

22.30 Securitisation exposures that are otherwise identical except for maturity may be offset. The same offsetting rules for non-securitisations including scaling down positions of less than one year as set out in MAR22.15 through MAR22.18 apply to JTD risk positions for securitisations (non-CTP). Offsetting within a specific securitisation exposure is allowed as follows.

(1) Securitisation exposures that can be perfectly replicated through decomposition may be offset. Specifically, if a collection of long securitisation exposures can be replicated by a collection of short securitisation exposures, then the securitisation exposures may be offset.

(2) Furthermore, when a long securitisation exposure can be replicated by a collection of short securitisation exposures with different securitised portfolios, then the securitisation exposure with the "mixed" securitisation portfolio may be offset by the combination of replicating securitisation exposures.

(3) After the decomposition, the offsetting rules would apply as in any other case. As in the case of default risk (non-securitisations), long and short securitisation exposures should be determined from the perspective of long or short the underlying credit, eg the bank making losses on a long securitisation exposure in the event of a default in the securitised portfolio.

Calculation of default risk capital requirement for securitisations (non-CTP)

22.31 For default risk of securitisations (non-CTP), the buckets are defined as follows:

(1) Corporates (excluding small and medium enterprises) – this bucket takes into account all regions.

(2) Other buckets – these are defined along two dimensions:

(a) Asset classes: the 11 asset classes are defined as asset-backed commercial paper; auto Loans/Leases; residential mortgage-backed securities (MBS); credit cards; commercial MBS; collateralised loan obligations; collateralised debt obligation (CDO)-squared; small and medium enterprises; student loans, other retail; and other wholesale.

(b) Regions: the four regions are defined as Asia, Europe, North America and all other.

22.32 To assign a securitisation exposure to a bucket, banks must rely on a classification that is commonly used in the market for grouping securitisation exposures by type and region of underlying.

(1) The bank must assign each securitisation exposure to one and only one of the buckets above and it must assign all securitisations with the same type and region of underlying to the same bucket.

(2) Any securitisation exposure that a bank cannot assign to a type or region of underlying in this fashion must be assigned to the "other bucket".

22.33 The capital requirement for default risk of securitisations (non-CTP) is determined using a similar approach to that for non-securitisations. The DRC requirement within a bucket is calculated as follows:

(1) The hedge benefit discount HBR, as defined in MAR22.23, is applied to net short securitisation exposures in that bucket.

(2) The capital requirement is calculated as in MAR22.25.

22.34 For calculating the weighted net JTD, the risk weights of securitisation exposures are defined by the tranche instead of the credit quality. The risk weight for securitisations (non-CTP) is applied as follows:

(1) The default risk weights for securitisation exposures are based on the corresponding risk weights for banking book instruments as set out in CRE40 to CRE44, with the following modification: the maturity component in the banking book securitisation framework is set to zero (ie a one-year maturity is assumed) to avoid double-counting of risks in the maturity adjustment (of the banking book approach) since migration risk in the trading book will be captured in the credit spread capital requirement.

(2) Following the corresponding treatment in the banking book, the hierarchy of approaches in determining the risk weights should be applied at the underlying pool level.

(3) The capital requirement under the standardised approach for an individual cash securitisation position can be capped at the fair value of the transaction.

22.35 No hedging is recognised between different buckets. Therefore, the total DRC requirement for securitisations (non-CTP) must be calculated as a simple sum of the bucket-level capital requirements.

Default risk capital requirement for securitisations (CTP)

Gross jump-to-default risk positions (gross JTD)

22.36 For the computation of gross JTD on securitisations (CTP), the same approach must be followed as for default risk-securitisations (non-CTP) as described in MAR22.27.

22.37 The gross JTD for non-securitisations (CTP) (ie single-name and index hedges) positions is defined as their market value.

22.38

Nth-to-default products should be treated as tranched products with attachment and detachment points defined below, where "Total names" is the total number of names in the underlying basket or pool:

(1) Attachment point = (N – 1) / Total names

(2) Detachment point = N / Total names

Net jump-to-default risk positions (net JTD)

22.39 Exposures that are otherwise identical except for maturity may be offset. The same concept of long and short positions from a perspective of loss or gain in the event of a default as set out in MAR22.10 and offsetting rules for non-securitisations including scaling down positions of less than one year as set out in MAR22.15 to MAR22.18 apply to JTD risk positions for securitisations (non-CTP).

(1) For index products, for the exact same index family (eg CDX.NA.IG), series (eg series 18) and tranche (eg 0–3%), securitisation exposures should be offset (netted) across maturities (subject to the offsetting allowance as described above).

(2) Long and short exposures that are perfect replications through decomposition may be offset as follows. When the offsetting involves decomposing single name equivalent exposures, decomposition using a valuation model would be allowed in certain cases as follows. Such decomposition is the sensitivity of the security's value to the default of the underlying single name obligor. Decomposition with a valuation model is defined as follows: a single name equivalent constituent of a securitisation (eg tranched position) is the difference between the unconditional value of the securitisation and the conditional value of the securitisation assuming that the single name defaults, with zero recovery, where the value is determined by a valuation model. In such cases, the decomposition into single-name equivalent exposures must account for the effect of marginal defaults of the single names in the securitisation, where in particular the sum of the decomposed single name amounts must be consistent with the undecomposed value of the securitisation. Further, such decomposition is restricted to vanilla securitisations (eg vanilla CDOs, index tranches or bespokes); while the decomposition of exotic securitisations (eg CDO squared) is prohibited.

(3) Moreover, for long and short positions in index tranches, and indices (non-tranched), if the exposures are to the exact same series of the index, then

offsetting is allowed by replication and decomposition. For instance, a long securitisation exposure in a 10–15% tranche vs combined short securitisation exposures in 10–12% and 12–15% tranches on the same index/series can be offset against each other. Similarly, long securitisation exposures in the various tranches that, when combined perfectly, replicate a position in the index series (non-tranched) can be offset against a short securitisation exposure in the index series if all the positions are to the exact same index and series (eg CDX.NA.IG series 18). Long and short positions in indices and single-name constituents in the index may also be offset by decomposition. For instance, single-name long securitisation exposures that perfectly replicate an index may be offset against a short securitisation exposure in the index. When a perfect replication is not possible, then offsetting is not allowed except as indicated in the next sentence. Where the long and short securitisation exposures are otherwise equivalent except for a residual component, the net amount must show the residual exposure. For instance, a long securitisation exposure in an index of 125 names, and short securitisation exposures of the appropriate replicating amounts in 124 of the names, would result in a net long securitisation exposure in the missing 125th name of the index.

(4) Different tranches of the same index or series may not be offset (netted), different series of the same index may not be offset, and different index families may not be offset.

Calculation of default risk capital requirement for securitisations (CTP)

22.40 For default risk of securitisations (CTP), each index is defined as a bucket of its own. A non-exhaustive list of indices include: CDX North America IG, iTraxx Europe IG, CDX HY, iTraxx XO, LCDX (loan index), iTraxx LevX (loan index), Asia Corp, Latin America Corp, Other Regions Corp, Major Sovereign (G7 and Western Europe) and Other Sovereign.

22.41 Bespoke securitisation exposures should be allocated to the index bucket of the index they are a bespoke tranche of. For instance, the bespoke tranche 5% - 8% of a given index should be allocated to the bucket of that index.

22.42 The default risk weights for securitisations applied to tranches are based on the corresponding risk weights for the banking book instruments, which is defined in a separate Basel Committee publication - Revisions to the Securitisations framework of 2014, 2016 and 2018, with the following modification: the maturity component in the banking book securitisation framework is set to zero, ie a one-year maturity is assumed to avoid double-counting of risks in the maturity adjustment (of the banking book approach) since migration risk in the trading book will be captured in the credit spread capital requirement.

22.43 For the non-tranched products, the same risk weights for non-securitisations as set out in MAR22.24 apply. For the tranched products, banks must derive the risk weight using the banking book treatment as set out in MAR22.42.

22.44 Within a bucket (ie for each index) at an index level, the capital requirement for default risk of securitisations (CTP) is determined in a similar approach to that for non-securitisations.

(1) The hedge benefit ratio (HBR), as defined in MAR22.23, is modified and applied to net short positions in that bucket as in the formula below, where the subscript ctp for the term HBR_{ctp} indicates that the HBR is determined using the combined long and short positions across all indices in the CTP (ie not only the long and short positions of the bucket by itself). The summation of risk-weighted amounts in the formula spans all exposures relating to the index (ie index tranche, bespoke, non-tranche index or single name).

(2) A deviation from the approach for non-securitisations is that no floor at zero applies at the bucket level, and consequently, the DRC requirement at the index level (DRC_b) can be negative.

$$DRC_b = \left(\sum_{i \in Long} RW_i \cdot net\ JTD_i \right) - HBR_{ctp} \cdot \left(\sum_{i \in Short} RW_i \cdot | net\ JTD_i | \right)$$

22.45 The total DRC requirement for securitisations (CTP) is calculated by aggregating bucket level capital amounts as follows. For instance, if the DRC requirement for the index CDX North America IG is +100 and the DRC requirement for the index Major Sovereign (G7 and Western Europe) is -100, the total DRC requirement for the CTP is $100 - 0.5 \times 100 = 50$.[2]

$$DRC_{CTP} = max[\sum_b \left(max\left[DRC_b, 0 \right] + 0.5 \times min\left[DRC_b, 0 \right] \right), 0]$$

Footnotes

[2] *The procedure for the DRC_b and DRC_{CTP} terms accounts for the basis risk in cross index hedges, as the hedge benefit from cross-index short positions is discounted twice, first by the hedge benefit ratio HBR in DRC_b, and again by the term 0.5 in the DRC_{CTP} equation.*

MAR23

Standardised approach: residual risk add-on

This chapter sets out the calculation of residual risk add-on under the standardised approach for market risk.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework, updated to take account of the revised implementation date announced on 27 March 2020.

Introduction

23.1 The residual risk add-on (RRAO) is to be calculated for all instruments bearing residual risk separately in addition to other components of the capital requirement under the standardised approach.

Instruments subject to the residual risk add-on

23.2 Instruments with an exotic underlying and instruments bearing other residual risks are subject to the RRAO.

23.3 Instruments with an exotic underlying are trading book instruments with an underlying exposure that is not within the scope of delta, vega or curvature risk treatment in any risk class under the sensitivities-based method or default risk capital (DRC) requirements in the standardised approach.[1]

Footnotes

[1] *Examples of exotic underlying exposures include: longevity risk, weather, natural disasters, future realised volatility (as an underlying exposure for a swap).*

FAQ

FAQ1 *Is future realised volatility considered an "exotic underlying" for the purpose of the RRAO?*

Yes, future realised volatility is considered an exotic underlying for the purpose of the RRAO.

23.4 Instruments bearing other residual risks are those that meet criteria (1) and (2) below:

(1) Instruments subject to vega or curvature risk capital requirements in the trading book and with pay-offs that cannot be written or perfectly replicated as a finite linear combination of vanilla options with a single underlying equity price, commodity price, exchange rate, bond price, credit default swap price or interest rate swap; or

(2) Instruments which fall under the definition of the correlation trading portfolio (CTP) in MAR20.5, except for those instruments that are recognised in the market risk framework as eligible hedges of risks within the CTP.

FAQ

FAQ1 *Are bonds with multiple call dates considered instruments bearing other residual risks for the purpose of the RRAO?*

Yes. Bonds with multiple call dates would be considered as instruments bearing other residual risks, as they are path-dependent options.

23.5 A non-exhaustive list of other residual risks types and instruments that may fall within the criteria set out in MAR23.4 include:

(1) Gap risk: risk of a significant change in vega parameters in options due to small movements in the underlying, which results in hedge slippage. Relevant instruments subject to gap risk include all path dependent options, such as barrier options, and Asian options as well as all digital options.

(2) Correlation risk: risk of a change in a correlation parameter necessary for determining the value of an instrument with multiple underlyings. Relevant instruments subject to correlation risk include all basket options, best-of-options, spread options, basis options, Bermudan options and quanto options.

(3) Behavioural risk: risk of a change in exercise/prepayment outcomes such as those that arise in fixed rate mortgage products where retail clients may make decisions motivated by factors other than pure financial gain (such as demographical features and/or and other social factors). A callable bond may only be seen as possibly having behavioural risk if the right to call lies with a retail client.

23.6 When an instrument is subject to one or more of the following risk types, this by itself will not cause the instrument to be subject to the RRAO:

(1) Risk from a cheapest-to-deliver option;

(2) Smile risk: the risk of a change in an implied volatility parameter necessary for determining the value of an instrument with optionality relative to the implied volatility of other instruments optionality with the same underlying and maturity, but different moneyness;

(3) Correlation risk arising from multi-underlying European or American plain vanilla options, and from any options that can be written as a linear combination of such options. This exemption applies in particular to the relevant index options;

(4) Dividend risk arising from a derivative instrument whose underlying does not consist solely of dividend payments; and

(5) Index instruments and multi-underlying options of which treatment for delta, vega or curvature risk are set out in MAR21.31 and MAR21.32. These are subject to the RRAO if they fall within the definitions set out in this chapter. For funds that are subject to the treatment specified in MAR21.36(3) (ie treated as an unrated "other sector" equity), banks shall assume the fund is exposed to exotic underlying exposures, and to other residual risks, to the maximum possible extent allowed under the fund's mandate.

23.7 In cases where a transaction exactly matches with a third-party transaction (ie a back-to-back transaction), the instruments used in both transactions must be excluded from the RRAO capital requirement. Any instrument that is listed and/or eligible for central clearing must be excluded from the RRAO for other residual risks as defined in MAR23.4. Any instrument that is listed and/or eligible for central clearing with an exotic underlying must be included in the RRAO.

FAQ

FAQ1 *Can hedges (for example, dividend swaps hedging dividend risks) be excluded from the RRAO?*

Hedges may be excluded from the RRAO only if the hedge exactly matches the trade (ie via a back-to-back transaction) as per MAR23.7. For the example cited, dividend swaps should remain within the RRAO.

FAQ2 *Can total return swap (TRS) products be netted with the underlying product(s) that drive the value of the TRS for the purposes of the RRAO?*

As per MAR23.7, a TRS on an underlying product may be excluded from the RRAO capital requirement if there is an equal and opposite exposure in the same TRS. If no exactly matching transaction exists, the entire notional of the TRS would be allocated to the RRAO.

Calculation of the residual risk add-on

23.8 The residual risk add-on must be calculated in addition to any other capital requirements within the standardised approach. The residual risk add-on is to be calculated as follows.

(1) The scope of instruments that are subject to the RRAO must not have an impact in terms of increasing or decreasing the scope of risk factors subject to the delta, vega, curvature or DRC treatments in the standardised approach.

(2) The RRAO is the simple sum of gross notional amounts of the instruments bearing residual risks, multiplied by a risk weight.

(a) The risk weight for instruments with an exotic underlying specified in MAR23.3 is 1.0%.

(b) The risk weight for instruments bearing other residual risks specified in MAR23.4 is 0.1%.[2]

Footnotes

[2] *Where the bank cannot satisfy the supervisor that the RRAO provides a sufficiently prudent capital charge, the supervisor will address any potentially under-capitalised risks by imposing a conservative additional capital charge under Pillar 2.*

MAR30

Internal models approach: general provisions

This chapter sets out the general criteria for banks' use of the internal models approach.

Version effective as of 01 Jan 2023

More rigorous model approval process that enables supervisors to remove internal modelling permission for individual trading desks. Updated to take account of the revised implementation date announced on 27 March 2020. FAQ on climate related financial risks added on 8 December 2022.

General criteria

30.1 The use of internal models for the purposes of determining market risk capital requirements is conditional upon the explicit approval of the bank's supervisory authority.

30.2 The supervisory authority will only approve a bank's use of internal models to determine market risk capital requirements if, at a minimum:

(1) the supervisory authority is satisfied that the bank's risk management system is conceptually sound and is implemented with integrity;

(2) the bank has, in the supervisory authority's view, a sufficient number of staff skilled in the use of sophisticated models not only in the trading area but also in the risk control, audit and, if necessary, back office areas;

(3) the bank's trading desk risk management model has, in the supervisory authority's judgement, a proven track record of reasonable accuracy in measuring risk;

(4) the bank regularly conducts stress tests along the lines set out in MAR30.19 to MAR30.23; and

(5) the positions included in the bank's internal trading desk risk management models for determining minimum market risk capital requirements are held in trading desks that have been approved for the use of those models and that have passed the required tests described in MAR30.17.

30.3 Supervisory authorities may insist on a period of initial monitoring and live testing of a bank's internal trading desk risk management model before it is used for the purposes of determining the bank's market risk capital requirements.

30.4 The scope of trading portfolios that are eligible to use internal models to determine market risk capital requirements is determined based on a three-prong approach as follows:

(1) The bank must satisfy its supervisory authority that both the bank's organisational infrastructure (including the definition and structure of trading desks) and its bank-wide internal risk management model meet qualitative evaluation criteria, as set out in MAR30.5 to MAR30.16.

(2) The bank must nominate individual trading desks, as defined in MAR12.1 to MAR12.6, for which the bank seeks model approval in order to use the internal models approach (IMA).

(a) The bank must nominate trading desks that it intends to be in-scope for model approval and trading desks that are out-of-scope for the use of the IMA. The bank must specify in writing the basis for these nominations.

(b) The bank must not nominate trading desks to be out-of-scope for model approval due to capital requirements for a particular trading desk determined using the standardised approach being lower than those determined using the IMA.

(c) The bank must use the standardised approach to determine the market risk capital requirements for trading desks that are out-of-scope for model approval. The positions in these out-of-scope trading desks are to be combined with all other positions that are subject to the standardised approach in order to determine the bank's standardised approach capital requirements.

(d) Trading desks that the bank does not nominate for model approval at the time of model approval will be ineligible to use the IMA for a period of at least one year from the date of the latest internal model approval.

(3) The bank must receive supervisory approval to use the IMA on individual trading desks. Following the identification of eligible trading desks, this step determines which trading desks will be in-scope to use the IMA and which risk factors within in-scope trading desks are eligible to be included in the bank's internal expected shortfall (ES) models to determine market risk capital requirements as set out in MAR33.

(a) Each trading desk must satisfy profit and loss (P&L) attribution (PLA) tests on an ongoing basis to be eligible to use the IMA to determine market risk capital requirements. In order to conduct the PLA test, the bank must identify the set of risk factors to be used to determine its market risk capital requirements.

(b) Each trading desk also must satisfy backtesting requirements on an ongoing basis to be eligible to use the IMA to determine market risk capital requirements as set out in MAR32.4 to MAR32.19.

(c) Banks must conduct PLA tests and backtesting on a quarterly basis to update the eligibility and trading desk classification in PLA for trading desks in-scope to use the IMA.

(d) The market risk capital requirements for risk factors that satisfy the risk factor eligibility test as set out in MAR31.12 to MAR31.24 must be determined using ES models as specified in MAR33.1 to MAR33.15.

(e) The market risk capital requirements for risk factors that do not satisfy the risk factor eligibility test must be determined using stressed expected shortfall (SES) models as specified in MAR33.16 to MAR33.17.

FAQ

FAQ1 *The model approval process requires an overall assessment of a bank's bank-wide internal risk capital model. Does the use of the term "bank-wide" include a group of trading desks to be nominated as in-scope for model approval?*

The term "bank-wide" is defined as pertaining to the group of trading desks that the bank nominates as in-scope in their application for the IMA.

FAQ2 *As securitisations are out of scope for the IMA (IMA), are banks required to segregate desks to ensure securitisation and non-securitisation products reside in different trading desks? If not, how should banks test model eligibility?*

Securitisation positions are out of scope for IMA regulatory capital treatment, and as a result they are not taken into account for the model eligibility tests. This implies that banks are not allowed to include securitisations in trading desks for which they determine market risk capital requirements using the IMA. Securitisations must be included in trading desks for which capital requirements are determined using the standardised approach. Banks are allowed to also include hedging instruments in trading desks which include securitisations and are capitalised using the standardised approach.

Qualitative standards

30.5 In order to use the IMA to determine market risk capital requirements, the bank must have market risk management systems that are conceptually sound and implemented with integrity. Accordingly, the bank must meet the qualitative criteria set out below on an ongoing basis. Supervisors will assess that the bank has met the criteria before the bank is permitted to use the IMA.

30.6 The bank must have an independent risk control unit that is responsible for the design and implementation of the bank's market risk management system. The risk control unit should produce and analyse daily reports on the output of the trading desk's risk management model, including an evaluation of the relationship between measures of risk exposure and trading limits. This risk control unit must be independent of business trading units and should report directly to senior management of the bank.

30.7 The bank's risk control unit must conduct regular backtesting and PLA assessments at the trading desk level. The bank must also conduct regular backtesting of its bank-wide internal models used for determining market risk capital requirements.

30.8 A distinct unit of the bank that is separate from the unit that designs and implements the internal models must conduct the initial and ongoing validation of all internal models used to determine market risk capital requirements. The model validation unit must validate all internal models used for purposes of the IMA on at least an annual basis.

30.9 The board of directors and senior management of the bank must be actively involved in the risk control process and must devote appropriate resources to risk control as an essential aspect of the business. In this regard, the daily reports prepared by the independent risk control unit must be reviewed by a level of management with sufficient seniority and authority to enforce both reductions of positions taken by individual traders and reductions in the bank's overall risk exposure.

30.10 Internal models used to determine market risk capital requirements are likely to differ from those used by a bank in its day-to-day internal risk management functions. Nevertheless, the core design elements of both the market risk capital requirement model and the internal risk management model should be the same.

(1) Valuation models that are a feature of both models should be similar. These valuation models must be an integral part of the internal identification, measurement, management and internal reporting of price risks within the bank's trading desks.

(2) Internal risk management models should, at a minimum, be used to assess the risk of the positions that are subject to market risk capital requirements, although they may assess a broader set of positions.

(3) The construction of a trading desk risk management model must be based on the methodologies used in the bank's internal risk management model with regard to risk factor identification, parameter estimation and proxy concepts and deviate only if this is appropriate due to regulatory requirements. A bank's market risk capital requirement model and its internal risk management model should address an identical set of risk factors.

30.11 A routine and rigorous programme of stress testing is required. The results of stress testing must be:

(1) reviewed at least monthly by senior management;

(2) used in the bank's internal assessment of capital adequacy; and

(3) reflected in the policies and limits set by the bank's management and its board of directors.

30.12 Where stress tests reveal particular vulnerability to a given set of circumstances, the bank must take prompt action to mitigate those risks appropriately (eg by hedging against that outcome, reducing the size of the bank's exposures or increasing capital).

30.13 The bank must maintain a protocol for compliance with a documented set of internal manuals, policies, controls and procedures concerning the operation of the internal market risk management model. The bank's risk management model must be well documented. Such documentation may include a comprehensive risk management manual that describes the basic principles of the risk management model and that provides a detailed explanation of the empirical techniques used to measure market risk.

30.14 The bank must receive approval from its supervisory authority prior to implementing any significant changes to its internal models used to determine market risk capital requirements.

30.15 The bank's internal models for determining market risk capital requirements must address the full set of positions that are in the scope of application of the model. All models' measurements of risk must be based on a sound theoretical basis, calculated correctly, and reported accurately.

30.16 The bank's internal audit and validation functions or external auditor must conduct an independent review of the market risk measurement system on at least an annual basis. The scope of the independent review must include both the activities of the business trading units and the activities of the independent risk control unit. The independent review must be sufficiently detailed to determine which trading desks are impacted by any failings. At a minimum, the scope of the independent review must include the following:

(1) the organisation of the risk control unit;

(2) the adequacy of the documentation of the risk management model and process;

(3) the accuracy and appropriateness of market risk management models (including any significant changes);

(4) the verification of the consistency, timeliness and reliability of data sources used to run internal models, including the independence of such data sources;

(5) the approval process for risk pricing models and valuation systems used by the bank's front- and back-office personnel;

(6) the scope of market risks reflected in the trading desk risk management models;

(7) the integrity of the management information system;

(8) the accuracy and completeness of position data;

(9) the accuracy and appropriateness of volatility and correlation assumptions;

(10) the accuracy of valuation and risk transformation calculations;

(11) the verification of trading desk risk management model accuracy through frequent backtesting and PLA assessments; and

(12) the general alignment between the model to determine market risk capital requirements and the model the bank uses in its day-to-day internal management functions.

Model validation standards

30.17 Banks must maintain a process to ensure that their internal models have been adequately validated by suitably qualified parties independent of the model development process to ensure that each model is conceptually sound and adequately reflects all material risks. Model validation must be conducted both when the model is initially developed and when any significant changes are made to the model. The bank must revalidate its models periodically, particularly when there have been significant structural changes in the market or changes to the composition of the bank's portfolio that might lead to the models no longer being adequate. Model validation must include PLA and backtesting, and must, at a minimum, also include the following:

(1) Tests to demonstrate that any assumptions made within internal models are appropriate and do not underestimate risk. This may include reviewing the appropriateness of assumptions of normal distributions and any pricing models.

(2) Further to the regulatory backtesting programmes, model validation must assess the hypothetical P&L (HPL) calculation methodology.

(3) The bank must use hypothetical portfolios to ensure that internal models are able to account for particular structural features that may arise. For example, where the data history for a particular instrument does not meet the quantitative standards in MAR33.1 to MAR33.12 and the bank maps these positions to proxies, the bank must ensure that the proxies produce conservative results under relevant market scenarios, with sufficient consideration given to ensuring:

(a) that material basis risks are adequately reflected (including mismatches between long and short positions by maturity or by issuer); and

(b) that the models reflect concentration risk that may arise in an undiversified portfolio.

External validation

30.18 The model validation conducted by external auditors and/or supervisory authorities of a bank's internal model to determine market risk capital requirements should, at a minimum, include the following steps:

(1) Verification that the internal validation processes described in MAR30.17 are operating in a satisfactory manner;

(2) Confirmation that the formulae used in the calculation process, as well as for the pricing of options and other complex instruments, are validated by a qualified unit, which in all cases should be independent from the bank's trading area;

(3) Confirmation that the structure of internal models is adequate with respect to the bank's activities and geographical coverage;

(4) Review of the results of both the bank's backtesting of its internal models (ie comparison of value-at-risk with actual P&L and HPL) and its PLA process to ensure that the models provide a reliable measure of potential losses over time. On request, a bank should make available to its supervisory authority and/or to its external auditors the results as well as the underlying inputs to ES calculations and details of the PLA exercise; and

(5) Confirmation that data flows and processes associated with the risk measurement system are transparent and accessible. On request and in accordance with procedures, the bank should provide its supervisory authority and its external auditors access to the models' specifications and parameters.

Stress testing

30.19 Banks that use the IMA for determining market risk capital requirements must have in place a rigorous and comprehensive stress testing programme both at the trading desk level and at the bank-wide level.

30.20 Banks' stress scenarios must cover a range of factors that (i) can create extraordinary losses or gains in trading portfolios, or (ii) make the control of risk in those portfolios very difficult. These factors include low-probability events in all major types of risk, including the various components of market, credit and operational risks. A bank must design stress scenarios to assess the impact of such factors on positions that feature both linear and non-linear price characteristics (ie options and instruments that have option-like characteristics).

FAQ

FAQ1 *Should banks consider climate-related financial risks in their stress-testing scenarios for (i) understanding extraordinary losses or gains in trading portfolios, or (ii) identifying difficulties to control risks in those portfolios?*

Banks should consider material climate-related risk drivers in their stress-testing programme to assess the potential impact on market risk positions, including the impact of a sudden shock to the value of financial instruments, the correlations between risk factors, and the pricing and availability of hedges. Material climate-related financial risks may be incorporated iteratively and progressively in stress testing programmes and internal capital assessment processes (ICAAPs) as the methodologies and data used to analyse these risks mature over time and analytical gaps are addressed.

30.21 Banks' stress tests should be of a quantitative and qualitative nature, incorporating both market risk and liquidity risk aspects of market disturbances.

(1) Quantitative elements should identify plausible stress scenarios to which banks could be exposed.

(2) Qualitatively, a bank's stress testing programme should evaluate the capacity of the bank's capital to absorb potential significant losses and identify steps the bank can take to reduce its risk and conserve capital.

30.22 Banks should routinely communicate results of stress testing to senior management and should periodically communicate those results to the bank's board of directors.

30.23 Banks should combine the use of supervisory stress scenarios with stress tests developed by the bank itself to reflect its specific risk characteristics. Stress scenarios may include the following:

(1) Supervisory scenarios requiring no simulations by the bank. A bank should have information on the largest losses experienced during the reporting period and may be required to make this available for supervisory review. Supervisors may compare this loss information to the level of capital requirements that would result from a bank's internal measurement system. For example, the bank may be required to provide supervisory authorities with an assessment of how many days of peak day losses would have been covered by a given ES estimate.

(2) Scenarios requiring a simulation by the bank. Banks should subject their portfolios to a series of simulated stress scenarios and provide supervisory authorities with the results. These scenarios could include testing the current portfolio against past periods of significant disturbance (eg the 1987 equity crash, the Exchange Rate Mechanism crises of 1992 and 1993, the increase in interest rates in the first quarter of 1994, the 1998 Russian financial crisis, the 2000 bursting of the technology stock bubble, the 2007–08 subprime mortgage crisis, or the 2011–12 Euro zone crisis) incorporating both the significant price movements and the sharp reduction in liquidity associated with these events. A second type of scenario would evaluate the sensitivity of the bank's market risk exposure to changes in the assumptions about volatilities and correlations. Applying this test would require an evaluation of the historical range of variation for volatilities and correlations and evaluation of the bank's current positions against the extreme values of the historical range. Due consideration should be given to the sharp variation that at times has occurred in a matter of days in periods of significant market disturbance. For example, the above-mentioned situations involved correlations within risk factors approaching the extreme values of 1 or –1 for several days at the height of the disturbance.

(3) Bank-developed stress scenarios. In addition to the scenarios prescribed by supervisory authorities under MAR30.23(1), a bank should also develop its own stress tests that it identifies as most adverse based on the characteristics of its portfolio (eg problems in a key region of the world combined with a sharp move in oil prices). A bank should provide supervisory authorities with a description of the methodology used to identify and carry out the scenarios as well as with a description of the results derived from these scenarios.

MAR31

Internal models approach: model requirements

This chapter sets out specification and model eligibility for risk factors per the internal models approach.

Version effective as of 01 Jan 2023

Updated to include the following FAQ: MAR31. 13 FAQ2.

Specification of market risk factors

31.1 An important part of a bank's trading desk internal risk management model is the specification of an appropriate set of market risk factors. Risk factors are the market rates and prices that affect the value of the bank's trading positions. The risk factors contained in a trading desk risk management model must be sufficient to represent the risks inherent in the bank's portfolio of on- and off-balance sheet trading positions. Although banks will have some discretion in specifying the risk factors for their internal models, the following requirements must be fulfilled.

31.2 A bank's market risk capital requirement models should include all risk factors that are used for pricing. In the event a risk factor is incorporated in a pricing model but not in the trading desk risk management model, the bank must support this omission to the satisfaction of its supervisory authority.

31.3 A bank's market risk capital requirement model must include all risk factors that are specified in the standardised approach for the corresponding risk class, as set out in MAR20 to MAR22.

(1) In the event a standardised approach risk factor is not included in the market risk capital requirement model, the bank must support this omission to the satisfaction of its supervisory authority.

(2) For securitised products, banks are prohibited from using internal models to determine market risk capital requirements. Banks must use the standardised approach to determine the market risk capital requirements for securitised products as set out in MAR11.9. Accordingly, a bank's market risk capital requirement model should not specify risk factors for securitisations as defined in MAR21.10 to MAR21.11.

31.4 A bank's market risk capital requirement model and any stress scenarios calculated for non-modellable risk factors must address non-linearities for options and other relevant products (eg mortgage-backed securities), as well as correlation risk and relevant basis risks (eg basis risks between credit default swaps and bonds).

31.5 A bank may use proxies for which there is an appropriate track record for their representation of a position (eg an equity index used as a proxy for a position in an individual stock). In the event a bank uses proxies, the bank must support their use to the satisfaction of the bank's supervisory authority.

31.6 For general interest rate risk, a bank must use a set of risk factors that corresponds to the interest rates associated with each currency in which the bank has interest rate sensitive on- or off-balance sheet trading positions.

(1) The trading desk risk management model must model the yield curve using one of a number of generally accepted approaches (eg estimating forward rates of zero coupon yields).

(2) The yield curve must be divided into maturity segments in order to capture variation in the volatility of rates along the yield curve.

(3) For material exposures to interest rate movements in the major currencies and markets, banks must model the yield curve using a minimum of six risk factors.

(4) The number of risk factors used ultimately should be driven by the nature of the bank's trading strategies. A bank with a portfolio of various types of securities across many points of the yield curve and that engages in complex arbitrage strategies would require the use of a greater number of risk factors than a bank with less complex portfolios.

31.7 The trading desk risk management model must incorporate separate risk factors to capture credit spread risk (eg between bonds and swaps). A variety of approaches may be used to reflect the credit spread risk arising from less-than-perfectly correlated movements between government and other fixed income instruments, such as specifying a completely separate yield curve for non-government fixed income instruments (eg swaps or municipal securities) or estimating the spread over government rates at various points along the yield curve.

31.8 For exchange rate risk, the trading desk risk management model must incorporate risk factors that correspond to the individual foreign currencies in which the bank's positions are denominated. Because the output of a bank's risk measurement system will be expressed in the bank's reporting currency, any net position denominated in a foreign currency will introduce foreign exchange risk. A bank must utilise risk factors that correspond to the exchange rate between the bank's reporting currency and each foreign currency in which the bank has a significant exposure.

31.9 For equity risk, a bank must utilise risk factors that correspond to each of the equity markets in which the bank holds significant positions.

(1) At a minimum, a bank must utilise risk factors that reflect market-wide movements in equity prices (eg a market index). Positions in individual securities or in sector indices may be expressed in beta-equivalents relative to a market-wide index.

(2) A bank may utilise risk factors that correspond to various sectors of the overall equity market (eg industry sectors or cyclical and non-cyclical sectors). Positions in individual securities within each sector may be expressed in beta-equivalents relative to a sector index.

(3) A bank may also utilise risk factors that correspond to the volatility of individual equities.

(4) The sophistication and nature of the modelling technique for a given market should correspond to the bank's exposure to the overall market as well as the bank's concentration in individual equities in that market.

31.10 For commodity risk, bank must utilise risk factors that correspond to each of the commodity markets in which the bank holds significant positions.

(1) For banks with relatively limited positions in commodity-based instruments, the bank may utilise a straightforward specification of risk factors. Such a specification could entail utilising one risk factor for each commodity price to which the bank is exposed (including different risk factors for different geographies where relevant).

(2) For a bank with active trading in commodities, the bank's model must account for variation in the convenience yield[1] between derivatives positions such as forwards and swaps and cash positions in the commodity.

Footnotes

[1] *The convenience yield reflects the benefits from direct ownership of the physical commodity (eg the ability to profit from temporary market shortages). The convenience yield is affected both by market conditions and by factors such as physical storage costs.*

31.11 For the risks associated with equity investments in funds:

(1) For funds that meet the criterion set out in RBC25.8(5)(a) (ie funds with look-through possibility), banks must consider the risks of the fund, and of any associated hedges, as if the fund's positions were held directly by the bank (taking into account the bank's share of the equity of the fund, and any leverage in the fund structure). The bank must assign these positions to the trading desk to which the fund is assigned.

(2) For funds that do not meet the criterion set out in RBC25.8(5)(a), but meet both the criteria set out in RBC25.8(5)(b) (ie daily prices and knowledge of the mandate of the fund), banks must use the standardised approach to calculate capital requirements for the fund.

Model eligibility of risk factors

31.12 A bank must determine which risk factors within its trading desks that have received approval to use the internal models approach as set out in MAR32 are eligible to be included in the bank's internal expected shortfall (ES) model for regulatory capital requirements as set out in MAR33. For a risk factor to be classified as modellable by a bank, a necessary condition is that it passes the risk factor eligibility test (RFET). This test requires identification of a sufficient number of real prices that are representative of the risk factor. Collateral reconciliations or valuations cannot be considered real prices to meet the RFET. A price will be considered real if it meets at least one of the following criteria:

(1) It is a price at which the institution has conducted a transaction;

(2) It is a verifiable price for an actual transaction between other arms-length parties;

(3) It is a price obtained from a committed quote made by (i) the bank itself or (ii) another party. The committed quote must be collected and verified through a third-party vendor, a trading platform or an exchange; or

(4) It is a price that is obtained from a third-party vendor, where:

(a) the transaction or committed quote has been processed through the vendor;

(b) the vendor agrees to provide evidence of the transaction or committed quote to supervisors upon request; or

(c) the price meets any of the three criteria immediately listed in MAR31.12 (1) to MAR31.12(3).

FAQ

FAQ1 *What is the definition of a "committed quote" as referenced in MAR31.12?*

A committed quote is a price from an arm's length provider at which the provider of the quote must buy or sell the financial instrument.

FAQ2 *Are all transactions and eligible committed quotes valid as real price observations, regardless of size?*

Orderly transactions and eligible committed quotes with a non-negligible volume, as compared to usual transaction sizes for the bank, reflective of normal market conditions can be generally accepted as valid.

31.13 To pass the RFET, a risk factor that a bank uses in an internal model must meet either of the following criteria on a quarterly basis. Any real price that is observed for a transaction should be counted as an observation for all of the risk factors for which it is representative.

(1) The bank must identify for the risk factor at least 24 real price observations per year (measured over the period used to calibrate the current ES model, with no more than one real price observation per day to be included in this count).[2] [3] Moreover, over the previous 12 months there must be no 90-day period in which fewer than four real price observations are identified for the risk factor (with no more than one real price observation per day to be included in this count). The above criteria must be monitored on a monthly basis; or

(2) The bank must identify for the risk factor at least 100 real price observations over the previous 12 months (with no more than one real price observation per day to be included in this count).

Footnotes

[2] *When a bank uses data for real price observations from an external source, and those observations are provided with a time lag (eg data provided for a particular day is only made available a number of weeks later), the period used for the RFET may differ from the period used to calibrate the current ES model. The difference in periods used for the RFET and calibration of the ES model should not be greater than one month, ie the banks could use, for each risk factor, a one-year time period finishing up to one month before the RFET assessment instead of the period used to calibrate the current ES model.*

[3] *In particular, a bank may add modellable risk factors, and replace non-modellable risk factors by a basis between these additional modellable risk factors and these non-modellable risk factors. This basis will then be considered a non-modellable risk factor. A combination between modellable and non-modellable risk factors will be a non-modellable risk factor.*

FAQ

FAQ1 *When a bank uses external data to determine whether a risk factor passes the RFET, the period of observations used for the RFET may differ from the period of observations used to calibrate the bank's expected shortfall model. According to footnote 2 in MAR31.13, the difference in periods used for the RFET and calibration of the ES model should not be greater than one month. Does the requirement set out in footnote 2 of MAR31.13 apply when a bank uses internal data to determine whether a risk factor passes the RFET?*

Yes. Regardless of whether data is from internal or external sources, when a bank uses data for real price observations, the difference in periods used for the RFET and calibration of the ES model must not exceed one month.

FAQ2 *Regarding the reform of benchmark reference rates, what guidance can the Committee provide on the count of real price observations for the risk factor eligibility test (RFET)?*

Risk factors must have sufficient market liquidity, evidenced by records of trades, to be eligible for modelling. The replacement of risk factors due to benchmark rate reform could raise particular challenges for the count of real price observations for the risk factor eligibility test (RFET). Hence, when conducting the RFET for a new benchmark rate, banks can count both: (i) real price observations of the old benchmark rate

(that has been replaced by the new benchmark rate) from before the discontinuation of the old benchmark rate; and (ii) real price observations of the new benchmark rate, until one year after the discontinuation of the old benchmark rate (eg in the UK, LIBOR discontinuation is expected to be 31 December 2021). In this context, discontinuation includes cessation of the old benchmark rate or an event whereby the old benchmark rate is deemed by its regulator to no longer be representative of the underlying market.

31.14 In order for a risk factor to pass the RFET, a bank may also count real price observations based on information collected from a third-party vendor provided all of the following criteria are met:

(1) The vendor communicates to the bank the number of corresponding real prices observed and the dates at which they have been observed.

(2) The vendor provides, individually, a minimum necessary set of identifier information to enable banks to map real prices observed to risk factors.

(3) The vendor is subject to an audit regarding the validity of its pricing information. The results and reports of this audit must be made available on request to the relevant supervisory authority and to banks as a precondition for the bank to be allowed to use real price observations collected by the third-party vendor. If the audit of a third-party vendor is not satisfactory to a supervisory authority, the supervisory authority may decide to prevent the bank from using data from this vendor.[4]

Footnotes

[4] *In this case, the bank may be permitted to use real price observations from this vendor for other risk factors.*

31.15 A real price is representative for a risk factor of a bank where the bank is able to extract the value of the risk factor from the value of the real price. The bank must have policies and procedures that describe its mapping of real price observations to risk factors. The bank must provide sufficient information to its supervisory authorities in order to determine if the methodologies the bank uses are appropriate.

Bucketing approach for the RFET

31.16

Where a risk factor is a point on a curve or a surface (and other higher dimensional objects such as cubes), in order to count real price observations for the RFET, banks may choose from the following bucketing approaches:

(1) The *own bucketing approach*. Under this approach, the bank must define the buckets it will use and meet the following requirements:

(a) Each bucket must include only one risk factor, and all risk factors must correspond to the risk factors that are part of the risk-theoretical profit and loss (RTPL) of the bank for the purpose of the profit and loss (P&L) attribution (PLA) test.[5]

(b) The buckets must be non-overlapping.

(2) The *regulatory bucketing approach*. Under this approach, the bank must use the following set of standard buckets as set out in Table 1.

(a) For interest rate, foreign exchange and commodity risk factors with one maturity dimension (excluding implied volatilities) (t, where t is measured in years), the buckets in row (A) below must be used.

(b) For interest rate, foreign exchange and commodity risk factors with several maturity dimensions (excluding implied volatilities) (t, where t is measured in years), the buckets in row (B) below must be used.

(c) Credit spread and equity risk factors with one or several maturity dimensions (excluding implied volatilities) (t, where t is measured in years), the buckets in row (C) below must be used.

(d) For any risk factors with one or several strike dimensions (delta, δ; ie the probability that an option is "in the money" at maturity), the buckets in row (D) below must be used.[6]

(e) For expiry and strike dimensions of implied volatility risk factors (excluding those of interest rate swaptions), only the buckets in rows (C) and (D) below must be used.

(f) For maturity, expiry and strike dimensions of implied volatility risk factors from interest rate swaptions, only the buckets in row (B), (C) and (D) below must be used.

Standard buckets for the regulatory bucketing approach — Table 1

Row	Bucket								
	1	2	3	4	5	6	7	8	9
(A)	0≤t<0.75	0.75≤t<1.5	1.5≤t<4	4≤t<7	7≤t<12	12≤t<18	18≤t<25	25≤t<35	35≤t<∞
(B)	0≤t<0.75	0.75≤t<4	4≤t<10	10≤t<18	18≤t<30	30≤t<∞			
(C)	0≤t<1.5	1.5≤t<3.5	3.5≤t<7.5	7.5≤t<15	15≤t<∞				
(D)	0≤δ<0.05	0.05≤δ<0.3	0.3≤δ<0.7	0.7≤δ<0.95	0.95≤δ<1.00				

Footnotes

[5] *The requirement to use the same buckets or segmentation of risk factors for the PLA test and the RFET recognises that there is a trade-off in determining buckets for an ES model. The use of more granular buckets may facilitate a trading desk's success in meeting the requirements of the PLA test, but additional granularity may challenge a bank's ability to source a sufficient number of real observed prices per bucket to satisfy the RFET. Banks should consider this trade-off when designing their ES models.*

[6] *For options markets where alternative definitions of moneyness are standard, banks shall convert the regulatory delta buckets to the market-standard convention using their own approved pricing models.*

31.17 Banks may count all real price observations allocated to a bucket to assess whether it passes the RFET for any risk factors that belong to the bucket. A real price observation must be allocated to a bucket for which it is representative of any risk factors that belong to the bucket.

31.18 As debt instruments mature, real price observations for those products that have been identified within the prior 12 months are usually still counted in the maturity bucket to which they were initially allocated per MAR31.17. When banks no longer need to model a credit spread risk factor belonging to a given maturity bucket, banks are allowed to re-allocate the real price observations of this bucket to the adjacent (shorter) maturity bucket.[7] A real price observation may only be counted in a single maturity bucket for the purposes of the RFET.

Footnotes

[7] *For example, if a bond with an original maturity of four years, had a real price observation on its issuance date eight months ago, banks can opt to allocate the real price observation to the bucket associated with a maturity between 1.5 and 3.5 years instead of to the bucket associated with a maturity between 3.5 and 7.5 years to which it would normally be allocated.*

31.19 Where a bank uses a parametric function to represent a curve/surface and defines the function's parameters as the risk factors in its risk measurement system, the RFET must be passed at the level of the market data used to calibrate the function's parameters and not be passed directly at the level of these risk factor parameters (due to the fact that real price observations may not exist that are directly representative of these risk factors).

31.20 A bank may use systematic credit or equity risk factors within its models that are designed to capture market-wide movements for a given economy, region or sector, but not the idiosyncratic risk of a specific issuer (the idiosyncratic risk of a specific issuer would be a non-modellable risk factor (NMRF) unless there are sufficient real price observations of that issuer). Real price observations of market indices or instruments of individual issuers may be considered representative for a systematic risk factor as long as they share the same attributes as the systematic risk factor.

31.21 In addition to the approach set out in MAR31.20, where systematic risk factors of credit or equity risk factors include a maturity dimension (eg a credit spread curve), one of the bucketing approaches set out above must be used for this maturity dimension to count "real" price observations for the RFET.

31.22 Once a risk factor has passed the RFET, the bank should choose the most appropriate data to calibrate its model. The data used for calibration of the model does not need to be the same data used to pass the RFET.

31.23 Once a risk factor has passed the RFET, the bank must demonstrate that the data used to calibrate its ES model are appropriate based on the principles contained in MAR31.25 to MAR31.26. Where a bank has not met these principles to the satisfaction of its supervisory authority for a particular risk factor, the supervisory authority may choose to deem the data unsuitable for use to calibrate the model and, in such case, the risk factor must be excluded from the ES model and subject to capital requirements as an NMRF.

31.24 There may, on very rare occasions, be a valid reason why a significant number of modellable risk factors across different banks may become non-modellable due to a widespread reduction in trading activities (for instance, during periods of significant cross-border financial market stress affecting several banks or when financial markets are subjected to a major regime shift). One possible supervisory response in this instance could be to consider as modellable a risk factor that no longer passes the RFET. However, such a response should not facilitate a decrease in capital requirements. Supervisory authorities should only pursue such a response under the most extraordinary, systemic circumstances.

Principles for the modellability of risk factors that pass the RFET

31.25 Banks use many different types of models to determine the risks resulting from trading positions. The data requirements for each model may be different. For any given model, banks may use different sources or types of data for the model' s risk factors. Banks must not rely solely on the number of observations of real prices to determine whether a risk factor is modellable. The accuracy of the source of the risk factor real price observation must also be considered.

31.26 In addition to the requirements specified in MAR31.12 to MAR31.23, banks must apply the principles below to determine whether a risk factor that passed the RFET can be modelled using the ES model or should be subject to capital requirements as an NMRF. Banks are required to demonstrate to their supervisory authorities that these principles are being followed. Supervisory authorities may determine risk factors to be non-modellable in the event these principles are not applied.

(1) Principle one. The data used may include combinations of modellable risk factors. Banks often price instruments as a combination of risk factors. Generally, risk factors derived solely from a combination of modellable risk factors are modellable. For example, risk factors derived through multifactor beta models for which inputs and calibrations are based solely on modellable risk factors, can be classified as modellable and can be included within the ES model. A risk factor derived from a combination of modellable risk factors that are mapped to distinct buckets of a given curve/surface is modellable only if this risk factor also passes the RFET.

(a) Interpolation based on combinations of modellable risk factors should be consistent with mappings used for PLA testing (to determine the RTPL) and should not be based on alternative, and potentially broader, bucketing approaches. Likewise, banks may compress risk factors into a smaller dimension of orthogonal risk factors (eg principal components) and/or derive parameters from observations of modellable risk factors, such as in models of stochastic implied volatility, without the parameters being directly observable in the market.

(b) Subject to the approval of the supervisor, banks may extrapolate up to a reasonable distance from the closest modellable risk factor. The extrapolation should not rely solely on the closest modellable risk factor but on more than one modellable risk factor. In the event that a bank uses extrapolation, the extrapolation must be considered in the determination of the RTPL.

(2) Principle two. The data used must allow the model to pick up both idiosyncratic and general market risk. General market risk is the tendency of an instrument's value to change with the change in the value of the broader market, as represented by an appropriate index or indices. Idiosyncratic risk

is the risk associated with a particular issuance, including default provisions, maturity and seniority. The data must allow both components of market risk to be captured in any market risk model used to determine capital requirements. If the data used in the model do not reflect either idiosyncratic or general market risk, the bank must apply an NMRF charge for those aspects that are not adequately captured in its model.

(3) Principle three. The data used must allow the model to reflect volatility and correlation of the risk positions. Banks must ensure that they do not understate the volatility of an asset (eg by using inappropriate averaging of data or proxies). Further, banks must ensure that they accurately reflect the correlation of asset prices, rates across yield curves and/or volatilities within volatility surfaces. Different data sources can provide dramatically different volatility and correlation estimates for asset prices. The bank should choose data sources so as to ensure that (i) the data are representative of real price observations; (ii) price volatility is not understated by the choice of data; and (iii) correlations are reasonable approximations of correlations among real price observations. Furthermore, any transformations must not understate the volatility arising from risk factors and must accurately reflect the correlations arising from risk factors used in the bank's ES model.

(4) Principle four. The data used must be reflective of prices observed and/or quoted in the market. Where data used are not derived from real price observations, the bank must demonstrate that the data used are reasonably representative of real price observations. To that end, the bank must periodically reconcile price data used in a risk model with front office and back office prices. Just as the back office serves to check the validity of the front office price, risk model prices should be included in the comparison. The comparison of front or back office prices with risk prices should consist of comparisons of risk prices with real price observations, but front office and back office prices can be used where real price observations are not widely available. Banks must document their approaches to deriving risk factors from market prices.

(5) Principle five. The data used must be updated at a sufficient frequency. A market risk model may require large amounts of data, and it can be challenging to update such large data sets frequently. Banks should strive to update their model data as often as possible to account for frequent turnover of positions in the trading portfolio and changing market conditions. Banks should update data at a minimum on a monthly basis, but

preferably daily. Additionally, banks should have a workflow process for updating the sources of data. Furthermore, where the bank uses regressions to estimate risk factor parameters, these must be re-estimated on a regular basis, generally no less frequently than every two weeks. Calibration of pricing models to current market prices must also be sufficiently frequent, ideally no less frequent than the calibration of front office pricing models. Where appropriate, banks should have clear policies for backfilling and/or gap-filling missing data.

(6) Principle six. The data used to determine stressed expected shortfall ($ES_{R,S}$) must be reflective of market prices observed and/or quoted in the period of stress. The data for the $ES_{R,S}$ model should be sourced directly from the historical period whenever possible. There are cases where the characteristics of current instruments in the market differ from those in the stress period. Nevertheless, banks must empirically justify any instances where the market prices used for the stress period are different from the market prices actually observed during that period. Further, in cases where instruments that are currently traded did not exist during a period of significant financial stress, banks must demonstrate that the prices used match changes in prices or spreads of similar instruments during the stress period.

In cases where banks do not sufficiently justify the use of current market data for products whose characteristics have changed since the stress period, the bank must omit the risk factor for the stressed period and meet the requirement of MAR33.5(2)(b) that the reduced set of risk factors explain 75% of the fully specified ES model. Moreover, if name-specific risk factors are used to calculate the ES in the actual period and these names were not available in the stressed period, there is a presumption that the idiosyncratic part of these risk factors are not in the reduced set of risk factors. Exposures for risk factors that are included in the current set but not in the reduced set need to be mapped to the most suitable risk factor of the reduced set for the purposes of calculating ES measures in the stressed period.

(7) Principle seven. The use of proxies must be limited, and proxies must have sufficiently similar characteristics to the transactions they represent. Proxies must be appropriate for the region, quality and type of instrument they are intended to represent. Supervisors will assess whether methods for combining risk factors are conceptually and empirically sound.

(a) For example, the use of indices in a multifactor model must capture the correlated risk of the assets represented by the indices, and the remaining idiosyncratic risk must be demonstrably uncorrelated across different issuers. A multifactor model must have significant explanatory power for the price movements of assets and must provide an assessment of the uncertainty in the final outcome due to the use of a proxy. The coefficients (betas) of a multifactor model must be empirically based and must not be determined based on judgment. Instances where coefficients are set by judgment generally should be considered as NMRFs.

(b) If risk factors are represented by proxy data in the current period ES model, the proxy data representation of the risk factor – not the risk factor itself – must be used in the RTPL unless the bank has identified the basis between the proxy and the actual risk factor and properly capitalised the basis either by including the basis in the ES model (if the risk factor is a modellable) or capturing the basis as a NMRF. If the capital requirement for the basis is properly determined, then the bank can choose to include in the RTPL either:

(i) the proxy risk factor and the basis; or

(ii) the actual risk factor itself.

MAR32

Internal models approach: backtesting and P&L attribution test requirements

This chapter sets out the profit and loss attribution test and backtesting requirements for banks that use the internal models approach.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework, updated to take account of the revised implementation date announced on 27 March 2020.

Introduction

32.1 As set out in MAR30.4, a bank that intends to use the internal models approach (IMA) to determine market risk capital requirements for a trading desk must conduct and successfully pass backtesting at the bank-wide level and both the backtesting and profit and loss (P&L) attribution (PLA) test at the trading desk level as identified in MAR30.4(2).

32.2 For a bank to remain eligible to use the IMA to determine market risk capital requirements, a minimum of 10% of the bank's aggregated market risk capital requirement must be based on positions held in trading desks that qualify for use of the bank's internal models for market risk capital requirements by satisfying the backtesting and PLA test as set out in this chapter. This 10% criterion must be assessed by the bank on a quarterly basis when calculating the aggregate capital requirement for market risk according to MAR33.43.

32.3 The implementation of the backtesting programme and the PLA test must begin on the date that the internal models capital requirement becomes effective.

(1) For supervisory approval of a model, the bank must provide a one-year backtesting and PLA test report to confirm the quality of the model.

(2) The bank's supervisory authority may require backtesting and PLA test results prior to that date.

(3) The bank's supervisory authority will determine any necessary supervisory response to backtesting results based on the number of exceptions over the course of 12 months (ie 250 trading days) generated by the bank's model.

(a) Based on the assessment on the significance of exceptions, the supervisory authority may initiate a dialogue with the bank to determine if there is a problem with a bank's model.

(b) In the most serious cases, the supervisory authority will impose an additional increase in a bank's capital requirement or disallow use of the model.

Backtesting requirements

32.4 Backtesting requirements compare the value-at-risk (VaR) measure calibrated to a one-day holding period against each of the actual P&L (APL) and hypothetical P&L (HPL) over the prior 12 months. Specific requirements to be applied at the bank-wide level and trading desk level are set out below.

32.5

Backtesting of the bank-wide risk model must be based on a VaR measure calibrated at a 99th percentile confidence level.

(1) An exception or an outlier occurs when either the actual loss or the hypothetical loss of the bank-wide trading book registered in a day of the backtesting period exceeds the corresponding daily VaR measure given by the model. As per MAR99.8, exceptions for actual losses are counted separately from exceptions for hypothetical losses; the overall number of exceptions is the greater of these two amounts.

(2) In the event either the P&L or the daily VaR measure is not available or impossible to compute, it will count as an outlier.

32.6 In the event an outlier can be shown by the bank to relate to a non-modellable risk factor, and the capital requirement for that non-modellable risk factor exceeds the actual or hypothetical loss for that day, it may be disregarded for the purpose of the overall backtesting process if the supervisory authority is notified accordingly and does not object to this treatment. In these cases, a bank must document the history of the movement of the value of the relevant non-modellable risk factor and have supporting evidence that the non-modellable risk factor has caused the relevant loss.

FAQ

FAQ1 *Please confirm if this treatment applies to desk-level backtesting exceptions as well. Also, please confirm if the stressed capital add-on (SES) should be compared with the full loss amount or just the excess amount, ie the difference between APL/HPL and VaR.*

If the backtesting exception at a desk-level test is being driven by a non-modellable risk factor that receives an SES capital requirement that is in excess of the maximum of the APL loss or HPL loss for that day, it is permitted to be disregarded for the purposes of the desk-level backtesting. The bank must be able to calculate a non-modellable risk factor capital requirement for the specific desk and not only for the respective risk factor across all desks.

For example, if the P&L for a desk is EUR –1.5 million and VaR is EUR 1 million, a non-modellable risk factor capital requirement (at desk level) of EUR 0.8 million would not be sufficient to disregard an exception for the purpose of desk-level backtesting. The non-modellable risk factor capital requirement attributed to the standalone desk level (without VaR) must be greater than the loss of EUR 1.5 million in order to disregard an exception for the purpose of desk-level backtesting.

32.7 The scope of the portfolio subject to bank-wide backtesting should be updated quarterly based on the results of the latest trading desk-level backtesting, risk factor eligibility test and PLA tests.

32.8 The framework for the supervisory interpretation of backtesting results for the bank-wide capital model encompasses a range of possible responses, depending on the strength of the signal generated from the backtesting. These responses are classified into three backtesting zones, distinguished by colours into a hierarchy of responses.

(1) Green zone. This corresponds to results that do not themselves suggest a problem with the quality or accuracy of a bank's model.

(2) Amber zone. This encompasses results that do raise questions in this regard, for which such a conclusion is not definitive.

(3) Red zone. This indicates a result that almost certainly indicates a problem with a bank's risk model.

32.9 These zones are defined according to the number of exceptions generated in the backtesting programme considering statistical errors as explained in MAR99.9 to MAR99.21. Table 1 sets out boundaries for these zones and the presumptive supervisory response for each backtesting outcome, based on a sample of 250 observations.

Backtesting zones Table 1

Backtesting zone	Number of exceptions	Backtesting dependent multiplier (to be added to any qualitative add-on per MAR33.44)
Green	0	1.50
	1	1.50
	2	1.50
	3	1.50
	4	1.50
Amber	5	1.70
	6	1.76
	7	1.83
	8	1.88
	9	1.92
Red	10 or more	2.00

32.10 The backtesting green zone generally would not initiate a supervisory increase in capital requirements for backtesting (ie no backtesting add-on would apply).

32.11 Outcomes in the backtesting amber zone could result from either accurate or inaccurate models. However, they are generally deemed more likely for inaccurate models than for accurate models. Within the backtesting amber zone, the supervisory authority will impose a higher capital requirement in the form of a backtesting add-on. The number of exceptions should generally inform the size of any backtesting add-on, as set out in Table 1 of MAR32.9.

32.12

A bank must also document all of the exceptions generated from its ongoing backtesting programme, including an explanation for each exception.

32.13 A bank may also implement backtesting for confidence intervals other than the 99th percentile, or may perform other statistical tests not set out in this standard.

32.14 Besides a higher capital requirement for any outcomes that place the bank in the backtesting amber zone, in the case of severe problems with the basic integrity of the model, the supervisory authority may consider whether to disallow the bank's use of the model for market risk capital requirement purposes altogether.

32.15 If a bank's model falls into the backtesting red zone, the supervisor will automatically increase the multiplication factor applicable to the bank's model or may disallow use of the model.

Backtesting at the trading desk level

32.16 The performance of a trading desk's risk management model will be tested through daily backtesting.

32.17 The backtesting assessment is considered to be complementary to the PLA assessment when determining the eligibility of a trading desk for the IMA.

32.18 At the trading desk level, backtesting must compare each desk's one-day VaR measure (calibrated to the most recent 12 months' data, equally weighted) at both the 97.5th percentile and the 99th percentile, using at least one year of current observations of the desk's one-day P&L.

(1) An exception or an outlier occurs when either the actual or hypothetical loss of the trading desk registered in a day of the backtesting period exceeds the corresponding daily VaR measure determined by the bank's model. Exceptions for actual losses are counted separately from exceptions for hypothetical losses; the overall number of exceptions is the greater of these two amounts.

(2) In the event either the P&L or the risk measure is not available or impossible to compute, it will count as an outlier.

FAQ

FAQ1 *Are banks permitted to use volatility scaling of returns for the VaR calculation?*

Volatility scaling of returns for VaR calculation at the discretion of the bank that results in a shorter observation period being used is not allowed. A bank may scale up the volatility of all observations for a selected (group of) risk factor(s) to reflect a recent stress period. The bank may use this scaled data to calculate future VaR and expected shortfall estimates only after ex ante notification of such a scaling to the supervisor.

32.19 If any given trading desk experiences either more than 12 exceptions at the 99th percentile or 30 exceptions at the 97.5th percentile in the most recent 12-month period, the capital requirement for all of the positions in the trading desk must be determined using the standardised approach.[1]

Footnotes

[1] *Desks with exposure to issuer default risk must pass a two-stage approval process. First, the market risk model must pass backtesting and PLA. Conditional on approval of the market risk model, the desk may then apply for approval to model default risk. Desks that fail either test must be capitalised under the standardised approach.*

PLA test requirements

32.20 The PLA test compares daily risk-theoretical P&L (RTPL) with the daily HPL for each trading desk. It intends to:

(1) measure the materiality of simplifications in a banks' internal models used for determining market risk capital requirements driven by missing risk factors and differences in the way positions are valued compared with their front office systems; and

(2) prevent banks from using their internal models for the purposes of capital requirements when such simplifications are considered material.

32.21 The PLA test must be performed on a standalone basis for each trading desk in scope for use of the IMA.

Definition of profits and losses used for the PLA test and backtesting

32.22 The RTPL is the daily trading desk-level P&L that is produced by the valuation engine of the trading desk's risk management model.

(1) The trading desk's risk management model must include all risk factors that are included in the bank's expected shortfall (ES) model with supervisory parameters and any risk factors deemed not modellable by the supervisory authority, and which are therefore not included in the ES model for calculating the respective regulatory capital requirement, but are included in non-modellable risk factors.

(2) The RTPL must not take into account any risk factors that the bank does not include in its trading desk's risk management model.

32.23 Movements in all risk factors contained in the trading desk's risk management model should be included, even if the forecasting component of the internal model uses data that incorporates additional residual risk. For example, a bank using a multifactor beta-based index model to capture event risk might include alternative data in the calibration of the residual component to reflect potential events not observed in the name-specific historical time series. The fact that the name is a risk factor in the model, albeit modelled in a multifactor model environment, means that, for the purposes of the PLA test, the bank would include the actual return of the name in the RTPL (and in the HPL) and receive recognition for the risk factor coverage of the model.

32.24 The PLA test compares a trading desk's RTPL with its HPL. The HPL used for the PLA test should be identical to the HPL used for backtesting purposes. This comparison is performed to determine whether the risk factors included and the valuation engines used in the trading desk's risk management model capture the material drivers of the bank's P&L by determining if there is a significant degree of association between the two P&L measures observed over a suitable time period. The RTPL can differ from the HPL for a number of reasons. However, a trading desk risk management model should provide a reasonably accurate assessment of the risks of a trading desk to be deemed eligible for the internal models-based approach.

32.25 The HPL must be calculated by revaluing the positions held at the end of the previous day using the market data of the present day (ie using static positions). As HPL measures changes in portfolio value that would occur when end-of-day positions remain unchanged, it must not take into account intraday trading nor new or modified deals, in contrast to the APL. Both APL and HPL include foreign denominated positions and commodities included in the banking book.

32.26

Fees and commissions must be excluded from both APL and HPL as well as valuation adjustments for which separate regulatory capital approaches have been otherwise specified as part of the rules (eg credit valuation adjustment and its associated eligible hedges) and valuation adjustments that are deducted from Common Equity Tier 1 (eg the impact on the debt valuation adjustment component of the fair value of financial instruments must be excluded from these P&Ls).

32.27 Any other market risk-related valuation adjustments, irrespective of the frequency by which they are updated, must be included in the APL while only valuation adjustments updated daily must be included in the HPL, unless the bank has received specific agreement to exclude them from its supervisory authority. Smoothing of valuation adjustments that are not calculated daily is not allowed. P&L due to the passage of time should be included in the APL and should be treated consistently in both HPL and RTPL.[2]

Footnotes

[2] *Time effects can include various elements such as: the sensitivity to time, or theta effect (ie using mathematical terminology, the first-order derivative of the price relative to the time) and carry or costs of funding.*

32.28 Valuation adjustments that the bank is unable to calculate at the trading desk level (eg because they are assessed in terms of the bank's overall positions/risks or because of other constraints around the assessment process) are not required to be included in the HPL and APL for backtesting at the trading desk level, but should be included for bank-wide backtesting. To the satisfaction of its supervisory authority, the bank must provide support for valuation adjustments that are not computed at a trading desk level.

32.29 Both APL and HPL must be computed based on the same pricing models (eg same pricing functions, pricing configurations, model parametrisation, market data and systems) as the ones used to produce the reported daily P&L.

PLA test data input alignment

32.30 For the sole purpose of the PLA assessment, banks are allowed to align RTPL input data for its risk factors with the data used in HPL if these alignments are documented, justified to the supervisory authority and the requirements set out below are fulfilled:

(1) Banks must demonstrate that HPL input data can be appropriately used for RTPL purposes, and that no risk factor differences or valuation engine differences are omitted when transforming HPL input data into a format which can be applied to the risk factors used in RTPL calculation.

(2) Any adjustment of RTPL input data must be properly documented, validated and justified to the supervisory authority.

(3) Banks must have procedures in place to identify changes with regard to the adjustments of RTPL input data. Banks must notify the supervisory authority of any such changes.

(4) Banks must provide assessments on the effect these input data alignments would have on the RTPL and the PLA test. To do so, banks must compare RTPL based on HPL-aligned market data with the RTPL based on market data without alignment. This comparison must be performed when designing or changing the input data alignment process and upon the request of the bank's supervisory authority.

32.31 Adjustments to RTPL input data will be allowed when the input data for a given risk factor that is included in both the RTPL and the HPL differs due to different providers of market data sources or time fixing of market data sources, or transformations of market data into input data suitable for the risk factors of the underlying pricing models. These adjustments can be done either:

(1) by direct replacement of the RTPL input data (eg par rate tenor x, provider a) with the HPL input data (eg par rate tenor x, provider b); or

(2) by using the HPL input data (eg par rate tenor x, provider b) as a basis to calculate the risk factor data needed in the RTPL/ES model (eg zero rate tenor x).

FAQ

FAQ1 *In the event trading desks of a bank operate in different time zones compared to the location of the bank's risk control department, data for risk modelling could be retrieved at different snapshot times compared to the data on which the desks' front office P&L is based. Are banks permitted to align RTPL and HPL in terms of data snapshot times for these desks?*

Banks are permitted to align the snapshot time used for the calculation of the RTPL of a desk to the snapshot time used for the derivation of its HPL.

32.32 If the HPL uses market data in a different manner to RTPL to calculate risk parameters that are essential to the valuation engine, these differences must be reflected in the PLA test and as a result in the calculation of HPL and RTPL. In this regard, HPL and RTPL are allowed to use the same market data only as a basis, but must use their respective methods (which can differ) to calculate the respective valuation engine parameters. This would be the case, for example, where market data are transformed as part of the valuation process used to calculate RTPL. In that instance, banks may align market data between RTPL and HPL pre-transformation but not post-transformation.

32.33 Banks are not permitted to align HPL input data for risk factors with input data used in RTPL. Adjustments to RTPL or HPL to address residual operational noise are not permitted. Residual operational noise arises from computing HPL and RTPL in two different systems at two different points in time. It may originate from transitioning large portions of data across systems, and potential data aggregations may result in minor reconciliation gaps below tolerance levels for intervention; or from small differences in static/reference data and configuration.

PLA test metrics

32.34 The PLA requirements are based on two test metrics:

(1) the Spearman correlation metric to assess the correlation between RTPL and HPL; and

(2) the Kolmogorov-Smirnov (KS) test metric to assess similarity of the distributions of RTPL and HPL.

32.35 To calculate each test metric for a trading desk, the bank must use the time series of the most recent 250 trading days of observations of RTPL and HPL.

Process for determining the Spearman correlation metric

32.36 For a time series of HPL, banks must produce a corresponding time series of ranks based on the size of the P&L (R_{HPL}) . That is, the lowest value in the HPL time series receives a rank of 1, the next lowest value receives a rank of 2 and so on.

32.37 Similarly, for a time series of RTPL, banks must produce a corresponding time series of ranks based on size (R_{RTPL}) .

32.38 Banks must calculate the Spearman correlation coefficient of the two time series of rank values of R_{RTPL} *and* R_{HPL} based on size using the following formula, where $\sigma_{R_{HPL}}$ and $\sigma_{R_{RTPL}}$ are the standard deviations of R_{RTPL} *and* R_{HPL} .

$$r_S = \frac{cov\left(R_{HPL}, R_{RTPL}\right)}{\sigma_{R_{HPL}} \times \sigma_{R_{RTPL}}}$$

Process for determining Kolmogorov-Smirnov test metrics

32.39 The bank must calculate the empirical cumulative distribution function of RTPL. For any value of RTPL, the empirical cumulative distribution is the product of 0.004 and the number of RTPL observations that are less than or equal to the specified RTPL.

32.40 The bank must calculate the empirical cumulative distribution function of HPL. For any value of HPL, the empirical cumulative distribution is the product of 0.004 and number of HPL observations that are less than or equal to the specified HPL.

32.41 The KS test metric is the largest absolute difference observed between these two empirical cumulative distribution functions at any P&L value.

PLA test metrics evaluation

32.42 Based on the outcome of the metrics, a trading desk is allocated to a PLA test red zone, an amber zone or a green zone as set out in Table 2.

(1) A trading desk is in the PLA test green zone if both

(a) the correlation metric is above 0.80; and

(b) the KS distributional test metric is below 0.09 (p-value = 0.264).

(2) A trading desk is in the PLA test red zone if the correlation metric is less than 0.7 or if the KS distributional test metric is above 0.12 (p-value = 0.055).

(3) A trading desk is in the PLA amber zone if it is allocated neither to the green zone nor to the red zone.

PLA test thresholds — Table 2

Zone	Spearman correlation	KS test
Amber zone thresholds	0.80	0.09 (p-value = 0.264)
Red zone thresholds	0.70	0.12 (p-value = 0.055)

32.43 If a trading desk is in the PLA test red zone, it is ineligible to use the IMA to determine market risk capital requirements and must be use the standardised approach.

(1) Risk exposures held by these ineligible trading desks must be included with the out-of-scope trading desks for purposes of determining capital requirement per the standardised approach.

(2) A trading desk deemed ineligible to use the IMA must remain out-of-scope to use the IMA until:

(a) the trading desk produces outcomes in the PLA test green zone; and

(b) the trading desk has satisfied the backtesting exceptions requirements over the past 12 months.

32.44 If a trading desk is in the PLA test amber zone, it is not considered an out-of-scope trading desk for use of the IMA.

(1) If a trading desk is in the PLA test amber zone, it cannot return to the PLA test green zone until:

(a) the trading desk produces outcomes in the PLA test green zone; and

(b) the trading desk has satisfied its backtesting exceptions requirements over the prior 12 months.

(2) Trading desks in the PLA test amber zone are subject to a capital surcharge as specified in MAR33.43.

Treatment for exceptional situations

32.45 There may, on very rare occasions, be a valid reason why a series of accurate trading desk level-models across different banks will produce many backtesting exceptions or inadequately track the P&L produced by the front office pricing model (for instance, during periods of significant cross-border financial market stress affecting several banks or when financial markets are subjected to a major regime shift). One possible supervisory response in this instance would be to permit the relevant trading desks to continue to use the IMA but require each trading desk's model to take account of the regime shift or significant market stress as quickly as practicable while maintaining the integrity of its procedures for updating the model. Supervisory authorities should only pursue such a response under the most extraordinary, systemic circumstances.

MAR33

Internal models approach: capital requirements calculation

This chapter sets out the process by which capital requirements are calculated per the internal models approach.

Version effective as of 01 Jan 2023

Updated to include the following FAQ: MAR33.5 FAQ4.

Calculation of expected shortfall

33.1 Banks will have flexibility in devising the precise nature of their expected shortfall (ES) models, but the following minimum standards will apply for the purpose of calculating market risk capital requirements. Individual banks or their supervisory authorities will have discretion to apply stricter standards.

FAQ

FAQ1 *Does the internal models approach (IMA) require all products to be simulated on full revaluation? Can a parametric approach be used on simple products, such as a forward rate agreement?*

The IMA does not require all products to be simulated on full revaluation. Simplifications (eg sensitivities-based valuation) may be used provided the bank's supervisor agrees that the method used is adequate for the instruments covered.

33.2 ES must be computed on a daily basis for the bank-wide internal models to determine market risk capital requirements. ES must also be computed on a daily basis for each trading desk that uses the internal models approach (IMA).

33.3 In calculating ES, a bank must use a 97.5th percentile, one-tailed confidence level.

33.4 In calculating ES, the liquidity horizons described in MAR33.12 must be reflected by scaling an ES calculated on a base horizon. The ES for a liquidity horizon must be calculated from an ES at a base liquidity horizon of 10 days with scaling applied to this base horizon result as expressed below, where:

(1) ES is the regulatory liquidity-adjusted ES;

(2) T is the length of the base horizon, ie 10 days;

(3) $ES_T(P)$ is the ES at horizon T of a portfolio with positions $P = (p_i)$ with respect to shocks to all risk factors that the positions P are exposed to;

(4) $ES_T(P, j)$ is the ES at horizon T of a portfolio with positions $P = (p_i)$ with respect to shocks for each position p_i in the subset of risk factors $Q(p_i, j)$, with all other risk factors held constant;

(5) the ES at horizon T, $ES_T(P)$ must be calculated for changes in the risk factors, and $ES_T(P, j)$ must be calculated for changes in the relevant subset $Q(p_i, j)$ of risk factors, over the time interval T without scaling from a shorter horizon;

(6) $Q(p_i, j)$ is the subset of risk factors for which liquidity horizons, as specified in MAR33.12, for the desk where p_i is booked are at least as long as LH_j according to the table below. For example, $Q(p_i,4)$ is the set of risk factors with a 60-day horizon and a 120-day liquidity horizon. Note that $Q(p_i, j)$ is a subset of $Q(p_i, j-1)$;

(7) the time series of changes in risk factors over the base time interval T may be determined by overlapping observations; and

(8) LH_j is the liquidity horizon j, with lengths in the following table:

Liquidity horizons, j — Table 1

j	LH_j
1	10
2	20
3	40
4	60
5	120

$$ES = \sqrt{\left(ES_T\left(P\right)\right)^2 + \sum_{j\geq 2}\left(ES_T\left(P, j\right)\sqrt{\frac{\left(LH_j - LH_{j-1}\right)}{T}}\right)^2}$$

33.5 The ES measure must be calibrated to a period of stress.

(1) Specifically, the ES measure must replicate an ES outcome that would be generated on the bank's current portfolio if the relevant risk factors were experiencing a period of stress. This is a joint assessment across all relevant risk factors, which will capture stressed correlation measures.

(2) This calibration is to be based on an indirect approach using a reduced set of risk factors. Banks must specify a reduced set of risk factors that are relevant for their portfolio and for which there is a sufficiently long history of observations.

(a) This reduced set of risk factors is subject to supervisory approval and must meet the data quality requirements for a modellable risk factor as outlined in MAR31.12 to MAR31.24.

(b) The identified reduced set of risk factors must be able to explain a minimum of 75% of the variation of the full ES model (ie the ES of the reduced set of risk factors should be at least equal to 75% of the fully specified ES model on average measured over the preceding 12-week period).

FAQ

FAQ1 *What indicator must be maximised for the identification of the stressed period?*

The aggregate capital requirement for modellable risk factors (IMCC) as per MAR33.15 has to be maximised for the modellable risk factors.

FAQ2 *Is it correct that the reduced set of risk factors must explain a minimum of 75% of the variation of the full ES at the group level (ie top level) only and not at the desk level in order to be consistent with the stressed period selection performed at the group level?*

Yes, the reduced set of risk factors must be able to explain a minimum of 75% of the variation of the full ES model at the group level for the aggregate of all desks with IMA model approval.

FAQ3 *How should banks determine whether the ES measure calculated using a reduced set of risk factors explains at least 75% of the variation of the full ES model?*

The average of the measurements of the ratio (ES using reduced set of risk factors and current period (ESR,C) to ES using full set of risk factors and current period (ESF,C)) over the preceding 12-week period must be at least 75%.

FAQ4

Regarding the reform of benchmark reference rates, what guidance can the Committee provide on the calculation of expected shortfall (ES) if the new benchmark rate was not available during a stress period for the purposes of MAR33?

If the new benchmark rate is currently eligible for modelling according to MAR31 but was not available during the stress period, it may pose a challenge to banks calculating the expected shortfall (ES) for the current and stress period per MAR33. To address this, if the new benchmark rate is eligible for modelling according to MAR31 but was not available during the stress period, banks may use:

(i) for the current period, the new benchmark rate in the full set of risk factors ($ES_{F,C}$) and in the reduced set of risk factors ($ES_{R,C}$); and

(ii) for the stress period, the old benchmark rate in the reduced set of risk factors ($ES_{R,S}$).

This interpretation does not annul the specification in MAR33.5(2) that the reduced set is subject to supervisory approval and must meet the data quality requirements.

33.6 The ES for market risk capital purposes is therefore expressed as follows, where:

(1) The ES for the portfolio using the above reduced set of risk factors ($ES_{R,S}$), is calculated based on the most severe 12-month period of stress available over the observation horizon.

(2) $ES_{R,S}$ is then scaled up by the ratio of (i) the current ES using the full set of risk factors to (ii) the current ES measure using the reduced set of factors. For the purpose of this calculation, this ratio is floored at 1.

(a) $ES_{F,C}$ is the ES measure based on the current (most recent) 12-month observation period with the full set of risk factors; and

(b) $ES_{R,C}$ is the ES measure based on the current period with a reduced set of risk factors.

$$ES = ES_{R,S} \times \frac{ES_{F,C}}{ES_{R,C}}$$

33.7

For measures based on stressed observations ($ES_{R,S}$), banks must identify the 12-month period of stress over the observation horizon in which the portfolio experiences the largest loss. The observation horizon for determining the most stressful 12 months must, at a minimum, span back to and include 2007. Observations within this period must be equally weighted. Banks must update their 12-month stressed periods at least quarterly, or whenever there are material changes in the risk factors in the portfolio. Whenever a bank updates its 12-month stressed periods it must also update the reduced set of risk factors (as the basis for the calculations of $E_{R,C}$ and $E_{R,S}$) accordingly.

33.8 For measures based on current observations ($ES_{F,C}$), banks must update their data sets no less frequently than once every three months and must also reassess data sets whenever market prices are subject to material changes.

(1) This updating process must be flexible enough to allow for more frequent updates.

(2) The supervisory authority may also require a bank to calculate its ES using a shorter observation period if, in the supervisor's judgement; this is justified by a significant upsurge in price volatility. In this case, however, the period should be no shorter than six months.

33.9 No particular type of ES model is prescribed. Provided that each model used captures all the material risks run by the bank, as confirmed through profit and loss (P&L) attribution (PLA) tests and backtesting, and conforms to each of the requirements set out above and below, supervisors may permit banks to use models based on either historical simulation, Monte Carlo simulation, or other appropriate analytical methods.

33.10 Banks will have discretion to recognise empirical correlations within broad regulatory risk factor classes (interest rate risk, equity risk, foreign exchange risk, commodity risk and credit risk, including related options volatilities in each risk factor category). Empirical correlations across broad risk factor categories will be constrained by the supervisory aggregation scheme, as described in MAR33.14 to MAR33.15, and must be calculated and used in a manner consistent with the applicable liquidity horizons, clearly documented and able to be explained to supervisors on request.

33.11 Banks' models must accurately capture the risks associated with options within each of the broad risk categories. The following criteria apply to the measurement of options risk:

(1) Banks' models must capture the non-linear price characteristics of options positions.

(2) Banks' risk measurement systems must have a set of risk factors that captures the volatilities of the rates and prices underlying option positions, ie vega risk. Banks with relatively large and/or complex options portfolios must have detailed specifications of the relevant volatilities. Banks must model the volatility surface across both strike price and vertex (ie tenor).

33.12 As set out in MAR33.4, a scaled ES must be calculated based on the liquidity horizon n defined below. n is calculated per the following conditions:

(1) Banks must map each risk factor on to one of the risk factor categories shown below using consistent and clearly documented procedures.

(2) The mapping of risk factors must be:

(a) set out in writing;

(b) validated by the bank's risk management;

(c) made available to supervisors; and

(d) subject to internal audit.

(3) n is determined for each broad category of risk factor as set out in Table 2. However, on a desk-by-desk basis, n can be increased relative to the values in the table below (ie the liquidity horizon specified below can be treated as a floor). Where n is increased, the increased horizon must be 20, 40, 60 or 120 days and the rationale must be documented and be subject to supervisory approval. Furthermore, liquidity horizons should be capped at the maturity of the related instrument.

Liquidity horizon n by risk factor — Table 2

Risk factor category	*n*	Risk factor category	*n*
Interest rate: specified currencies - EUR, USD, GBP, AUD, JPY, SEK, CAD and domestic currency of a bank	10	Equity price (small cap): volatility	60
Interest rate: unspecified currencies	20	Equity: other types	60
Interest rate: volatility	60	Foreign exchange (FX) rate: specified currency pairs[1]	10
Interest rate: other types	60	FX rate: currency pairs	20
Credit spread: sovereign (investment grade, or IG)	20	FX: volatility	40
Credit spread: sovereign (high yield, or HY)	40	FX: other types	40
Credit spread: corporate (IG)	40	Energy and carbon emissions trading price	20
Credit spread: corporate (HY)	60	Precious metals and non-ferrous metals price	20
Credit spread: volatility	120	Other commodities price	60
Credit spread: other types	120	Energy and carbon emissions trading price: volatility	60
		Precious metals and non-ferrous metals price: volatility	60
Equity price (large cap)	10	Other commodities price: volatility	120

Equity price (small cap)	20	Commodity: other types	120
Equity price (large cap): volatility	20		

Footnotes

[1] *USD/EUR, USD/JPY, USD/GBP, USD/AUD, USD/CAD, USD/CHF, USD /MXN, USD/CNY, USD/NZD, USD/RUB, USD/HKD, USD/SGD, USD /TRY, USD/KRW, USD/SEK, USD/ZAR, USD/INR, USD/NOK, USD/BRL, EUR/JPY, EUR/GBP, EUR/CHF and JPY/AUD. Currency pairs forming first-order crosses across these specified currency pairs are also subject to the same liquidity horizon.*

FAQ

FAQ1 *Please clarify the liquidity horizon to be used for equity dividends and equity repo risk factors.*

The liquidity horizon for equity large cap repo and dividend risk factors is 20 days. All other equity repo and dividend risk factors are subject to a liquidity horizon of 60 days.

FAQ2 *For mono-currency and cross-currency basis risk, should liquidity horizons of 10 days and 20 days for interest rate-specified currencies and unspecified currencies, respectively, be applied?*

Yes.

FAQ3 *To which liquidity horizon should inflation risk factors be assigned? Should the liquidity horizon for inflation risk factors be treated consistently with interest rates?*

The liquidity horizon for inflation risk factors should be consistent with the liquidity horizons for interest rate risk factors for a given currency.

FAQ4 *How must a bank treat risk factors in instruments that mature before the liquidity horizon of the respective risk factor prescribed in MAR33.12 ?*

If the maturity of the instrument is shorter than the respective liquidity horizon of the risk factor as prescribed in MAR33.12, the next longer liquidity horizon length (out of the lengths of 10, 20, 40, 60 or 120 days as set out in the paragraph) compared with the maturity of the

instrument itself must be used. For example, although the liquidity horizon for interest rate volatility is prescribed as 60 days, if an instrument matures in 30 days, a 40-day liquidity horizon would apply for the instrument's interest rate volatility.

FAQ5 *Which liquidity horizon should be mapped to multi-sector credit and equity indices (ie where different risk factor categories are involved)?*

To determine the liquidity horizon of multi-sector credit and equity indices, the respective liquidity horizons of the underlying instruments must be used. A weighted average of liquidity horizons of the instruments contained in the index must be determined by multiplying the liquidity horizon of each individual instrument by its weight in the index (ie the weight used to construct the index) and summing across all instruments. The liquidity horizon of the index is the shortest liquidity horizon (out of 10, 20, 40, 60 and 120 days) that is equal to or longer than the weighted average liquidity horizon. For example, if the weighted average liquidity horizon is 12 days, the liquidity horizon of the index would be 20 days.

Calculation of capital requirement for modellable risk factors

33.13 For those trading desks that are permitted to use the IMA, all risk factors that are deemed to be modellable must be included in the bank's internal, bank-wide ES model. The bank must calculate its internally modelled capital requirement at the bank-wide level using this model, with no supervisory constraints on cross-risk class correlations (IMCC(C)).

FAQ

FAQ1 *Are banks permitted to not capitalise certain risks or risk factors via ES or stressed expected shortfall (SES) (as appropriate) as long as those risks or risk factors are not included in the model eligibility tests?*

Banks design their own models for use under the IMA. As a result, they may exclude risk factors from IMA models as long as the bank's supervisor does not conclude that the risk factor must be capitalised by either ES or SES. Moreover, at a minimum, the risk factors defined in MAR31.1 to MAR31.11 need to be covered in the IMA. If a risk factor is capitalised by neither ES nor SES, it is to be excluded from the calculation of risk-theoretical P&L.

33.14 The bank must calculate a series of partial ES capital requirements (ie all other risk factors must be held constant) for the range of broad regulatory risk classes (interest rate risk, equity risk, foreign exchange risk, commodity risk and credit spread risk). These partial, non-diversifiable (constrained) ES values ($IMCC(C_i)$) will then be summed to provide an aggregated risk class ES capital requirement.

33.15 The aggregate capital requirement for modellable risk factors (IMCC) is based on the weighted average of the constrained and unconstrained ES capital requirements, where:

(1) The stress period used in the risk class level $ES_{R,S,i}$ should be the same as that used to calculate the portfolio-wide $ES_{R,S}$.

(2) Rho (ρ) is the relative weight assigned to the firm's internal model. The value of ρ is 0.5.

(3) B stands for broad regulatory risk classes as set out in MAR33.14.

$$IMCC = \rho\left(IMCC\left(C\right)\right) + \left(1-\rho\right)\left(\sum_{i=1}^{B} IMCC\left(C_i\right)\right)$$

$$where \;\; IMCC\left(C\right) = ES_{R,S}\frac{ES_{F,C}}{ES_{R,C}} \;\; and \;\; IMCC\left(C_i\right) = ES_{R,S,i}\frac{ES_{F,C,i}}{ES_{R,C,i}}$$

FAQ

FAQ1 *To calculate the aggregate capital requirement for modellable risk factors (internally modelled capital charge, IMCC) up to 63 daily ES calculations would be necessary if each ES measure were required to be calculated daily. Is it permissible to calculate some of the ES measures weekly or must all measures be calculated daily?*

The formula specified in MAR33.15, $IMCC = \rho(IMCC(C)) + (1-\rho)(\sum_{i=1}^{RB} IMCC(C_i))$ *, can be rewritten as*

$IMCC = \rho(IMCC(C)) + (1-\rho)\frac{(\sum_{i=1}^{RB} IMCC(C_i))}{(IMCC(C))}(IMCC(C))$ *with*

$IMCC(C) = ES_{R,S}\frac{ES_{F,C}}{ES_{R,C}}$ *. While* $ES_{R,S}$ *,* $ES_{F,C}$ *and* $ES_{R,C}$ *must be calculated daily, it is generally acceptable that the ratio of undiversified IMCC(C) to diversified IMCC(C),* $\frac{(\sum_{i=1}^{RB} IMCC(C_i))}{(IMCC(C))}$ *, may be calculated on a weekly basis.*

By defining ω *as* $\omega = \rho + \left(1-\rho\right)\cdot\frac{(\sum_{i=1}^{RB} IMCC(C_i))}{(IMCC(C))}$ *the formula for the calculation of IMCC can be rearranged, leading to the following expression of IMCC:* $IMCC = \omega\cdot(IMCC(C))$ *. Hence, IMCC can be calculated as a multiple of IMCC(C), where IMCC(C) is calculated daily and the multiplier* ω *is updated weekly.*

Banks must have procedures and controls in place to ensure that the weekly calculation of the "undiversified IMCC(C) to diversified IMCC(C)" ratio does not lead to a systematic underestimation of risks relative to daily calculation. Banks must be in a position to switch to daily calculation upon supervisory direction.

Calculation of capital requirement for non-modellable risk factors

33.16 Capital requirements for each non-modellable risk factor (NMRF) are to be determined using a stress scenario that is calibrated to be at least as prudent as the ES calibration used for modelled risks (ie a loss calibrated to a 97.5% confidence threshold over a period of stress). In determining that period of stress, a bank must determine a common 12-month period of stress across all NMRFs in the same risk class. Subject to supervisory approval, a bank may be permitted to calculate stress scenario capital requirements at the bucket level (using the same buckets that the bank uses to disprove modellability, per MAR31.16) for risk factors that belong to curves, surfaces or cubes (ie a single stress scenario capital requirement for all the NMRFs that belong to the same bucket).

(1) For each NMRF, the liquidity horizon of the stress scenario must be the greater of the liquidity horizon assigned to the risk factor in MAR33.12 and 20 days. The bank's supervisory authority may require a higher liquidity horizon.

(2) For NMRFs arising from idiosyncratic credit spread risk, banks may apply a common 12-month stress period. Likewise, for NMRFs arising from idiosyncratic equity risk arising from spot, futures and forward prices, equity repo rates, dividends and volatilities, banks may apply a common 12-month stress scenario. Additionally, a zero correlation assumption may be used when aggregating gains and losses provided the bank conducts analysis to demonstrate to its supervisor that this is appropriate. [2] Correlation or diversification effects between other non-idiosyncratic NMRFs are recognised through the formula set out in MAR33.17.

(3) In the event that a bank cannot provide a stress scenario which is acceptable for the supervisor, the bank will have to use the maximum possible loss as the stress scenario.

Footnotes

[2] *The tests are generally done on the residuals of panel regressions where the dependent variable is the change in issuer spread while the independent variables can be either a change in a market factor or a dummy variable for sector and/or region. The assumption is that the data on the names used to estimate the model suitably proxies the names in the portfolio and the idiosyncratic residual component captures the multifactor-name basis. If the model is missing systematic explanatory factors or the data suffers from measurement error, then the residuals would exhibit heteroscedasticity (which can be tested via White, Breuche Pagan tests etc) and/or serial correlation (which can be tested with Durbin Watson, Lagrange multiplier (LM) tests etc) and/or cross-sectional correlation (clustering).*

33.17 The aggregate regulatory capital measure for I (non-modellable idiosyncratic credit spread risk factors that have been demonstrated to be appropriate to aggregate with zero correlation), J (non-modellable idiosyncratic equity risk factors that have been demonstrated to be appropriate to aggregate with zero correlation) and the remaining K (risk factors in model-eligible trading desks that are non-modellable (SES)) is calculated as follows, where:

(1) $ISES_{NM,i}$ is the stress scenario capital requirement for idiosyncratic credit spread non-modellable risk i from the I risk factors aggregated with zero correlation;

(2) $ISES_{NM,j}$ is the stress scenario capital requirement for idiosyncratic equity non-modellable risk j from the J risk factors aggregated with zero correlation;

(3) $SES_{NM,k}$ is the stress scenario capital requirement for non-modellable risk k from K risk factors; and

(4) Rho (ρ) is equal to 0.6.

$$SES = \sqrt{\sum_{i=1}^{I} ISES_{NM,i}^2} + \sqrt{\sum_{j=1}^{J} ISES_{NM,j}^2} + \sqrt{\left(\rho \times \sum_{k=1}^{K} SES_{NM,k}\right)^2 + \left(1-\rho^2\right) \times \sum_{k=1}^{K} SES_{NM,k}^2}$$

Calculation of default risk capital requirement

33.18 Banks must have a separate internal model to measure the default risk of trading book positions. The general criteria in MAR30.1 to MAR30.4 and the qualitative standards in MAR30.5 to MAR30.16 also apply to the default risk model.

33.19 Default risk is the risk of direct loss due to an obligor's default as well as the potential for indirect losses that may arise from a default event.

33.20 Default risk must be measured using a value-at-risk (VaR) model.

(1) Banks must use a default simulation model with two types of systematic risk factors.

(2) Default correlations must be based on credit spreads or on listed equity prices. Correlations must be based on data covering a period of 10 years that includes a period of stress as defined in MAR33.5 and based on a one-year liquidity horizon.

(3) Banks must have clear policies and procedures that describe the correlation calibration process, documenting in particular in which cases credit spreads or equity prices are used.

(4) Banks have the discretion to apply a minimum liquidity horizon of 60 days to the determination of default risk capital (DRC) requirement for equity sub-portfolios.

(5) The VaR calculation must be conducted weekly and be based on a one-year time horizon at a one-tail, 99.9 percentile confidence level.

FAQ

FAQ1 MAR33.20 and MAR33.28 state that correlations must be measured over a liquidity horizon of one year in line with MAR33.23, which states that a bank must assume constant positions over the one-year capital horizon. However, according to MAR33.23, a minimum liquidity horizon of 60 days can be applied to equity sub-portfolios. Should the correlations for equity sub-portfolios be calibrated utilising a 60-day liquidity horizon for consistency?

Banks are permitted to calibrate correlations to liquidity horizons of 60 days in the case that a separate calculation is performed for equity sub-portfolios and these desks deal predominately in equity exposures. In the case of a desk with both equity and bond exposures, for which a joint calculation for default risk of equities and bonds needs to be performed, the correlations need to be calibrated to a liquidity horizon of one year.

In this case, a bank is permitted to consistently use a 60-day probability of default (PD) for equities and a one-year PD for bonds.

FAQ2 MAR33.20(2) states: "Default correlations must be based on credit spreads or on listed equity prices." Are banks permitted to also include additional data sources (eg rating time series) in addition to equity prices in order to correct for a correlation bias observed in equity data?

Only credit spreads or listed equity prices are permitted. No additional data sources (eg rating time series) are permitted.

FAQ3 MAR33.20(1) specifies that banks must use a default simulation model with two types of systematic risk factors. To meet this condition, should the model always have two random variables that correspond to the systematic risk factors?

Yes. Systematic risk in a DRC requirement model must be accounted for via multiple systematic factors of two different types. The random variable that determines whether an obligor defaults must be an obligor-specific function of the systematic factors of both types and of an idiosyncratic factor. For example, in a Merton-type model, obligor i defaults when its asset return X_i falls below an obligor-specific threshold that determines the obligor's probability of default. Systematic risk can be described via M systematic regional factors Y_j^{region} ($j = 1,\ldots,M$) and N systematic industry factors $Y_j^{industry}$ (

$j = 1,\ldots,N$ *). For each obligor* i *, region factor loadings* $\beta_{i,j}^{region}$ *and industry factor loadings* $\beta_{i,j}^{industry}$ *that describe the sensitivity of the obligor's asset return to each systematic factor need to be chosen. There must be at least one non-zero factor loading for the region type and at least one non-zero factor loading for the industry type. The asset return of obligor* i *can be represented as* $X_i = \sum_{j=1}^{M} \beta_{i,j}^{region} \cdot Y_j^{region} + \sum_{j=1}^{N} \beta_{i,j}^{industry} \cdot Y_j^{industry} + \gamma_i \cdot \varepsilon_i$ *, where* ε_i *is the idiosyncratic risk factor and* γ_i *is the idiosyncratic factor loading.*

FAQ4 *Is a 60-day liquidity horizon permitted to be used for all equity positions? Are banks permitted to use a longer liquidity horizon where appropriate, eg where equity is held to hedge hybrid positions (such as convertibles)?*

Yes, banks are permitted to use a 60-day liquidity horizon for all equity positions but are permitted to use a longer liquidity horizon where appropriate.

33.21 All positions subject to market risk capital requirements that have default risk as defined in MAR33.19, with the exception of those positions subject to the standardised approach, are subject to the DRC requirement model.

(1) Sovereign exposures (including those denominated in the sovereign's domestic currency), equity positions and defaulted debt positions must be included in the model.

(2) For equity positions, the default of an issuer must be modelled as resulting in the equity price dropping to zero.

33.22 The DRC requirement model capital requirement is the greater of:

(1) the average of the DRC requirement model measures over the previous 12 weeks; or

(2) the most recent DRC requirement model measure.

33.23 A bank must assume constant positions over the one-year horizon, or 60 days in the context of designated equity sub-portfolios.

FAQ

FAQ1 *MAR33.20 and MAR33.27 state that correlations must be measured over a liquidity horizon of one year in line with MAR33.23, which states that a bank must assume constant positions over the one-year capital horizon. However, according to MAR33.23, a minimum liquidity horizon of 60 days can be applied to equity sub-portfolios. Should the correlations for equity sub-portfolios be calibrated utilising a 60-day liquidity horizon for consistency?*

Banks are permitted to calibrate correlations to liquidity horizons of 60 days in the case that a separate calculation is performed for equity sub-portfolios and these desks deal predominately in equity exposures. In the case of a desk with both equity and bond exposures, for which a joint calculation for default risk of equities and bonds needs to be performed, the correlations need to be calibrated to a liquidity horizon of one year.

In this case, a bank is permitted to consistently use a 60-day probability of default (PD) for equities and a one-year PD for bonds.

FAQ2 *MAR33.23 states that a bank must have constant positions over the chosen liquidity horizon. However, MAR33.28 states that a bank must capture material mismatches between the position and its hedge. Please explain how these two paragraphs are to be consistently applied to securities with a maturity of less than one year.*

The concept of constant positions has changed in the market risk framework because the capital horizon is now meant to always be synonymous with the new definition of liquidity horizon and no new positions are added when positions expire during the capital horizon. For securities with a maturity under one year, a constant position can be maintained within the liquidity horizon but, much like under the Basel II.5 incremental risk charge, any maturity of a long or short position must be accounted for when the ability to maintain a constant position within the liquidity horizon cannot be contractually assured.

33.24 Default risk must be measured for each obligor.

(1) Probabilities of default (PDs) implied from market prices are not acceptable unless they are corrected to obtain an objective probability of default.[3]

(2) PDs are subject to a floor of 0.03%.

Footnotes

[3] *Market-implied PDs are not acceptable.*

33.25 A bank's model may reflect netting of long and short exposures to the same obligor. If such exposures span different instruments with exposure to the same obligor, the effect of the netting must account for different losses in the different instruments (eg differences in seniority).

33.26 The basis risk between long and short exposures of different obligors must be modelled explicitly. The potential for offsetting default risk among long and short exposures across different obligors must be included through the modelling of defaults. The pre-netting of positions before input into the model other than as described in MAR33.25 is not allowed.

33.27 The DRC requirement model must recognise the impact of correlations between defaults among obligors, including the effect on correlations of periods of stress as described below.

(1) These correlations must be based on objective data and not chosen in an opportunistic way where a higher correlation is used for portfolios with a mix of long and short positions and a low correlation used for portfolios with long only exposures.

(2) A bank must validate that its modelling approach for these correlations is appropriate for its portfolio, including the choice and weights of its systematic risk factors. A bank must document its modelling approach and the period of time used to calibrate the model.

(3) These correlations must be measured over a liquidity horizon of one year.

(4) These correlations must be calibrated over a period of at least 10 years.

(5) Banks must reflect all significant basis risks in recognising these correlations, including, for example, maturity mismatches, internal or external ratings, vintage etc.

FAQ

FAQ1 *MAR33.20 and MAR33.27 state that correlations must be measured over a liquidity horizon of one year in line with MAR33.23, which states that a bank must assume constant positions over the one-year capital horizon. However, according to MAR33.23, a minimum liquidity horizon of 60 days can be applied to equity sub-portfolios. Should the correlations for equity sub-portfolios be calibrated utilising a 60-day liquidity horizon for consistency?*

Banks are permitted to calibrate correlations to liquidity horizons of 60 days in the case that a separate calculation is performed for equity sub-portfolios and these desks deal predominately in equity exposures. In the case of a desk with both equity and bond exposures, for which a joint calculation for default risk of equities and bonds needs to be performed, the correlations need to be calibrated to a liquidity horizon of one year.

In this case, a bank is permitted to consistently use a 60-day PD for equities and a one-year PD for bonds.

FAQ2 *MAR33.23 states that a bank must have constant positions over the chosen liquidity horizon. However, MAR33.28 states that a bank must capture material mismatches between the position and its hedge. Please explain how these two paragraphs are to be consistently applied to securities with a maturity of less than one year.*

The concept of constant positions has changed in the market risk framework because the capital horizon is now meant to always be synonymous with the new definition of liquidity horizon and no new positions are added when positions expire during the capital horizon. For securities with a maturity under one year, a constant position can be maintained within the liquidity horizon but, much like under the Basel II.5 incremental risk charge, any maturity of a long or short position must be accounted for when the ability to maintain a constant position within the liquidity horizon cannot be contractually assured.

33.28 The bank's model must capture any material mismatch between a position and its hedge. With respect to default risk within the one-year capital horizon, the model must account for the risk in the timing of defaults to capture the relative risk from the maturity mismatch of long and short positions of less than one-year maturity.

33.29 The bank's model must reflect the effect of issuer and market concentrations, as well as concentrations that can arise within and across product classes during stressed conditions.

33.30 As part of this DRC requirement model, the bank must calculate, for each and every position subjected to the model, an incremental loss amount relative to the current valuation that the bank would incur in the event that the obligor of the position defaults.

33.31 Loss estimates must reflect the economic cycle; for example, the model must incorporate the dependence of the recovery on the systemic risk factors.

33.32 The bank's model must reflect the non-linear impact of options and other positions with material non-linear behaviour with respect to default. In the case of equity derivatives positions with multiple underlyings, simplified modelling approaches (for example modelling approaches that rely solely on individual jump-to-default sensitivities to estimate losses when multiple underlyings default) may be applied (subject to supervisory approval).

FAQ

FAQ1 *MAR33.32 indicates that a bank may use a simplified modelling approach for equity derivative positions with multiple underlyings. May a similar simplified approach be used for non-correlation trading portfolio credit derivative positions with multiple underlyings?*

No. The simplified treatment applies only to equity derivatives.

33.33 Default risk must be assessed from the perspective of the incremental loss from default in excess of the mark-to-market losses already taken into account in the current valuation.

33.34 Owing to the high confidence standard and long capital horizon of the DRC requirement, robust direct validation of the DRC model through standard backtesting methods at the 99.9%/one-year soundness standard will not be possible.

(1) Accordingly, validation of a DRC model necessarily must rely more heavily on indirect methods including but not limited to stress tests, sensitivity analyses and scenario analyses, to assess its qualitative and quantitative reasonableness, particularly with regard to the model's treatment of concentrations.

(2) Given the nature of the DRC soundness standard, such tests must not be limited to the range of events experienced historically.

(3) The validation of a DRC model represents an ongoing process in which supervisors and firms jointly determine the exact set of validation procedures to be employed.

33.35 Banks should strive to develop relevant internal modelling benchmarks to assess the overall accuracy of their DRC models.

33.36 Due to the unique relationship between credit spread and default risk, banks must seek approval for each trading desk with exposure to these risks, both for credit spread risk and default risk. Trading desks which do not receive approval will be deemed ineligible for internal modelling standards and be subject to the standardised capital framework.

33.37 Where a bank has approved PD estimates as part of the internal ratings-based (IRB) approach, this data must be used. Where such estimates do not exist, or the bank's supervisor determines that they are not sufficiently robust, PDs must be computed using a methodology consistent with the IRB methodology and satisfy the following conditions.

(1) Risk-neutral PDs should not be used as estimates of observed (historical) PDs.

(2) PDs must be measured based on historical default data including both formal default events and price declines equivalent to default losses. Where possible, this data should be based on publicly traded securities over a complete economic cycle. The minimum historical observation period for calibration purposes is five years.

(3) PDs must be estimated based on historical data of default frequency over a one-year period. The PD may also be calculated on a theoretical basis (eg geometric scaling) provided that the bank is able to demonstrate that such theoretical derivations are in line with historical default experience.

(4) PDs provided by external sources may also be used by banks, provided they can be shown to be relevant for the bank's portfolio.

33.38 Where a bank has approved loss-given-default (LGD)[4] estimates as part of the IRB approach, this data must be used. Where such estimates do not exist, or the supervisor determines that they are not sufficiently robust, LGDs must be computed using a methodology consistent with the IRB methodology and satisfy the following conditions.

(1) LGDs must be determined from a market perspective, based on a position's current market value less the position's expected market value subsequent to default. The LGD should reflect the type and seniority of the position and cannot be less than zero.

(2) LGDs must be based on an amount of historical data that is sufficient to derive robust, accurate estimates.

(3) LGDs provided by external sources may also be used by institutions, provided they can be shown to be relevant for the bank's portfolio.

Footnotes

[4] *LGD should be interpreted in this context as 1 – recovery rate.*

33.39 Banks must establish a hierarchy ranking their preferred sources for PDs and LGDs, in order to avoid the cherry-picking of parameters.

Calculation of capital requirement for model-ineligible trading desks

33.40 The regulatory capital requirement associated with trading desks that are either out-of-scope for model approval or that have been deemed ineligible to use an internal model (Cu) is to be calculated by aggregating all such risks and applying the standardised approach.

Aggregation of capital requirement

33.41 The aggregate (non-DRC) capital requirement for those trading desks approved and eligible for the IMA (ie trading desks that pass the backtesting requirements and that have been assigned to the PLA test green zone or amber zone (C_A) in MAR32.43 to MAR32.45) is equal to the maximum of the most recent observation and a weighted average of the previous 60 days scaled by a multiplier and is calculated as follows where SES is the aggregate regulatory capital measure for the risk factors in model-eligible trading desks that are non-modellable.

$$C_A = max\left\{IMCC_{t-1} + SES_{t-1}; m_c \cdot IMCC_{avg} + SES_{avg}\right\}$$

33.42 The multiplication factor m_C is fixed at 1.5 unless it is set at a higher level by the supervisory authority to reflect the addition of a qualitative add on and/or a backtesting add-on per the following considerations.

(1) Banks must add to this factor a "plus" directly related to the ex-post performance of the model, thereby introducing a built-in positive incentive to maintain the predictive quality of the model.

(2) For the backtesting add-on, the plus will range from 0 to 0.5 based on the outcome of the backtesting of the bank's daily VaR at the 99th percentile based on current observations on the full set of risk factors (VaR_{FC}).

(3) If the backtesting results are satisfactory and the bank meets all of the qualitative standards set out in MAR30.5 to MAR30.16, the plus factor could be zero. MAR32 presents in detail the approach to be applied for backtesting and the plus factor.

(4) The backtesting add-on factor is determined based on the maximum of the exceptions generated by the backtesting results against actual P&L (APL) and hypothetical P&L (HPL) as described MAR32.

33.43 The aggregate capital requirement for market risk (ACR_{total}) is equal to the aggregate capital requirement for approved and eligible trading desks ($IMA_{G,A}$ = C_A + DRC) plus the standardised approach capital requirement for trading desks that are either out-of-scope for model approval or that have been deemed ineligible to use the internal models approach (C_U). If at least one eligible trading desk is in the PLA test amber zone, a capital surcharge is added. The impact of the capital surcharge is limited by the formula:

$$ACR_{total} = \min\left\{IMA_{G,A} + Capital\,surcharge + C_U\ ; SA_{all\ desk}\right\} + \max\left\{0; IMA_{G,A} - SA_{G,A}\right\}$$

33.44 For the purposes of calculating the capital requirement, the risk factor eligibility test, the PLA test and the trading desk-level backtesting are applied on a quarterly basis to update the modellability of risk factors and desk classification to the PLA test green zone, amber zone, or red zone. In addition, the stressed period and the reduced set of risk factors ($E_{R,C}$ and $E_{R,S}$) must be updated on a quarterly basis. The reference dates to perform the tests and to update the stress period and selection of the reduced set of risk factors should be consistent. Banks must reflect updates to the stressed period and to the reduced set of risk factors as well as the test results in calculating capital requirements in a timely manner. The averages of the previous 60 days (IMCC, SES) and or respectively 12 weeks (DRC) have only to be calculated at the end of the quarter for the purpose of calculating the capital requirement.

33.45

The capital surcharge is calculated as the difference between the aggregated standardised capital charges ($SA_{G,A}$) and the aggregated internal models-based capital charges ($IMA_{G,A} = C_A + DRC$) multiplied by a factor k. To determine the aggregated capital charges, positions in all of the trading desks in the PLA green zone or amber zone are taken into account. The capital surcharge is floored at zero. In the formula below:

(1) $k = 0.5 \times \frac{\sum_{i \in A} SA_i}{\sum_{i \in G,A} SA_i}$;

(2) SA_i denotes the standardised capital requirement for all the positions of trading desk "i";

(3) $i \in A$ denotes the indices of all the approved trading desks in the amber zone; and

(4) $i \in G, A$ denotes the indices of all the approved trading desks in the green zone or amber zone.

$$Capital\,surcharge = k \cdot \max\left\{0, SA_{G,A} - IMA_{G,A}\right\}$$

33.46 The risk-weighted assets for market risk under the IMA are determined by multiplying the capital requirements calculated as set out in this chapter by 12.5.

MAR40

Simplified standardised approach

This chapter sets out a simplified standardised approach for calculating risk-weighted assets for market risk.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework updated to take account of the revised implementation date announced on 27 March 2020. Also, cross references to the securitisation chapters updated to include a reference to the chapter on NPL securitisations (CRE45) published on 26 November 2020.

Risk-weighted assets and capital requirements

40.1 The risk-weighted assets for market risk under the simplified standardised approach are determined by multiplying the capital requirements calculated as set out in this chapter by 12.5.

(1) MAR40.3 to MAR40.73 deal with interest rate, equity, foreign exchange (FX) and commodities risk.

(2) MAR40.74 to MAR40.86 set out a number of possible methods for measuring the price risk in options of all kinds.

(3) The capital requirement under the simplified standardised approach will be the measures of risk obtained from MAR40.2 to MAR40.86, summed arithmetically.

40.2 The capital requirement arising from the simplified standardised approach is the simple sum of the recalibrated capital requirements arising from each of the four risk classes – namely interest rate risk, equity risk, FX risk and commodity risk as detailed in the formula below, where:

(1) CR_{IRR} = capital requirement under MAR40.3 to MAR40.40 (interest rate risk), plus additional requirements for option risks from debt instruments (non-delta risks) under MAR40.74 to MAR40.86 (treatment of options);

(2) CR_{EQ} = capital requirement under MAR40.41 to MAR40.52 (equity risk), plus additional requirements for option risks from equity instruments (non-delta risks) under MAR40.74 to MAR40.86 (treatment of options);

(3) CR_{FX} = capital requirement under MAR40.53 to MAR40.62 (FX risk), plus additional requirements for option risks from foreign exchange instruments (non-delta risks) under MAR40.74 to MAR40.86 (treatment of options);

(4) CR_{COMM} = capital requirement under MAR40.63 to MAR40.73 (commodities risk), plus additional requirements for option risks from commodities instruments (non-delta risks) under MAR40.74 to MAR40.86 (treatment of options);

(5) SF_{IRR} = Scaling factor of 1.30;

(6) SF_{EQ} = Scaling factor of 3.50;

(7) SF_{COMM} = Scaling factor of 1.90; and

(8) SF_{FX} = Scaling factor of 1.20.

$$Capital\ requirement = CR_{IRR} * SF_{IRR} + CR_{EQ} * SF_{EQ} + CR_{FX} * SF_{FX} + CR_{COMM} * SF_{Comm}$$

Interest rate risk

40.3 This section sets out the simplified standard approach for measuring the risk of holding or taking positions in debt securities and other interest rate related instruments in the trading book. The instruments covered include all fixed-rate and floating-rate debt securities and instruments that behave like them, including non-convertible preference shares.[1] Convertible bonds, ie debt issues or preference shares that are convertible, at a stated price, into common shares of the issuer, will be treated as debt securities if they trade like debt securities and as equities if they trade like equities. The basis for dealing with derivative products is considered in MAR40.31 to MAR40.40.

Footnotes

[1] *Traded mortgage securities and mortgage derivative products possess unique characteristics because of the risk of prepayment. Accordingly, for the time being, no common treatment will apply to these securities, which will be dealt with at national discretion. A security that is the subject of a repurchase or securities lending agreement will be treated as if it were still owned by the lender of the security, ie it will be treated in the same manner as other securities positions.*

40.4 The minimum capital requirement is expressed in terms of two separately calculated amounts, one applying to the "specific risk" of each security, whether it is a short or a long position, and the other to the interest rate risk in the portfolio (termed "general market risk") where long and short positions in different securities or instruments can be offset.

Specific risk

40.5 The capital requirement for specific risk is designed to protect against an adverse movement in the price of an individual security owing to factors related to the individual issuer. In measuring the risk, offsetting will be restricted to matched positions in the identical issue (including positions in derivatives). Even if the issuer is the same, no offsetting will be permitted between different issues since differences in coupon rates, liquidity, call features, etc mean that prices may diverge in the short run.

FAQ

FAQ1 *What could be the conditions under which trading book positions that are subject to interest rate specific risk could be netted in order to derive either the net long position or the net short position? Are the rules considering a perfect hedge only? Is it allowed to net cash and synthetic securitisations for the purpose of the capital calculation for structured products under the simplified standardised approach for correlation trading?*

Netting is only allowed under limited circumstances for interest rate specific risk as explained in MAR40.5: "offsetting will be restricted to matched positions in the identical issue (including positions in derivatives). Even if the issuer is the same, no offsetting will be permitted between different issues since differences in coupon rates, liquidity, call features, etc means that prices may diverge in the short run."

In addition, partial offsetting is allowed in two other sets of circumstances. One set of circumstances is described in MAR40.21 and concerns nth-to-default basked products. The other set of circumstances described in MAR40.16 to MAR40.18 pertains to offsetting between a credit derivative (whether total return swap or credit default swap) and the underlying exposure (ie cash position). Although this treatment applies generally in a one-for-one fashion, it is possible that multiple instruments could combine to create a hedge that would be eligible for consideration for partial offsetting. Supervisors should recognise that, in the case of multiple instruments comprising one side of the position, necessary conditions (ie the value of two legs moving in opposite directions, key contractual features of the credit derivative, identical reference obligations and currency /maturity mismatches) will be extremely difficult to meet, in practice.

40.6 The specific risk capital requirements for "government" and "other" categories will be as follows:

Specific risk capital requirements for issuer risk

Government and "other" categories

Table 1

Categories	External credit assessment	Specific risk capital requirement
Government	AAA to AA–	0%
	A+ to BBB–	0.25% (residual term to final maturity 6 months or less) 1.00% (residual term to final maturity greater than 6 and up to and including 24 months) 1.60% (residual term to final maturity exceeding 24 months)
	BB+ to B–	8.00%
	Below B–	12.00%
	Unrated	8.00%
Qualifying		0.25% (residual term to final maturity 6 months or less) 1.00% (residual term to final maturity greater than 6 and up to and including 24 months) 1.60% (residual term to final maturity exceeding 24 months)
Other	BB+ to BB–	8.00%
	Below BB–	12.00%
	Unrated	8.00%

40.7 The government category will include all forms of government[2] paper including bonds, treasury bills and other short-term instruments, but national authorities reserve the right to apply a specific risk capital requirement to securities issued by certain foreign governments, especially to securities denominated in a currency other than that of the issuing government.

Footnotes

[2] *Including, at national discretion, local and regional governments subject to a zero credit risk weight in CRE20.*

40.8 When the government paper is denominated in the domestic currency and funded by the bank in the same currency, at national discretion a lower specific risk capital requirement may be applied.

40.9 The qualifying category includes securities issued by public sector entities and multilateral development banks, plus other securities that are:

(1) rated investment grade (IG)[3] by at least two credit rating agencies specified by the national authority; or

(2) rated IG by one rating agency and not less than IG by any other rating agency specified by the national authority (subject to supervisory oversight); or

(3) subject to supervisory approval, unrated, but deemed to be of comparable investment quality by the reporting bank, and the issuer has securities listed on a recognised stock exchange.

Footnotes

[3] *For example, IG include rated Baa or higher by Moody's and BBB or higher by Standard and Poor's.*

40.10 Each supervisory authority will be responsible for monitoring the application of these qualifying criteria, particularly in relation to the last criterion where the initial classification is essentially left to the reporting banks. National authorities will also have discretion to include within the qualifying category debt securities issued by banks in countries which have implemented this framework, subject to the express understanding that supervisory authorities in such countries undertake prompt remedial action if a bank fails to meet the capital standards set forth in this framework. Similarly, national authorities will have discretion to include within the qualifying category debt securities issued by securities firms that are subject to equivalent rules.

40.11 Furthermore, the qualifying category shall include securities issued by institutions that are deemed to be equivalent to IG quality and subject to supervisory and regulatory arrangements comparable to those under this framework.

40.12 Unrated securities may be included in the qualifying category when they are subject to supervisory approval, unrated, but deemed to be of comparable investment quality by the reporting bank, and the issuer has securities listed on a recognised stock exchange. This will remain unchanged for banks using the simplified standardised approach. For banks using the internal ratings-based (IRB) approach for a portfolio, unrated securities can be included in the qualifying category if both of the following conditions are met:

(1) the securities are rated equivalent[4] to IG under the reporting bank's internal rating system, which the national supervisor has confirmed complies with the requirements for an IRB approach; and

(2) the issuer has securities listed on a recognised stock exchange.

Footnotes

[4] *Equivalent means the debt security has a one-year probability of default (PD) equal to or less than the one year PD implied by the long-run average one-year PD of a security rated IG or better by a qualifying rating agency.*

40.13 However, since this may in certain cases considerably underestimate the specific risk for debt instruments which have a high yield to redemption relative to government debt securities, each national supervisor will have the discretion:

(1) to apply a higher specific risk charge to such instruments; and/or

(2) to disallow offsetting for the purposes of defining the extent of general market risk between such instruments and any other debt instruments.

40.14 The specific risk capital requirement of securitisation positions as defined in CRE40.1 to CRE40.6 that are held in the trading book is to be calculated according to the revised method for such positions in the banking book as set out in CRE40 to CRE45. A bank shall calculate the specific risk capital requirement applicable to each net securitisation position by dividing the risk weight calculated as if it were held in the banking book by 12.5.

40.15 Banks may limit the capital requirement for an individual position in a credit derivative or securitisation instrument to the maximum possible loss. For a short risk position this limit could be calculated as a change in value due to the underlying names immediately becoming default risk-free. For a long risk position, the maximum possible loss could be calculated as the change in value in the event that all the underlying names were to default with zero recoveries. The maximum possible loss must be calculated for each individual position.

FAQ

FAQ1 *When a bank buys credit protection for an asset-backed security (ABS) tranche and (due to netting rules) the bank is treated as having a net short position, the simplified standardised capital requirement for the net short position is often determined by the max potential loss. This is particularly true when the underlying ABS tranche has been severely downgraded and written down. In particular, banks note that if the underlying ABS continues to deteriorate, the overall capital requirement progressively increases and is dominated by the charge against the short side of the hedged position.*

Some examples (without and with off-set) illustrate how the Max Loss principle should apply.

Max loss without offset:

Suppose the bank has net long and net short positions that reference similar, but not the same, underlying assets. In other words the bank hedges an A-rated mezzanine residential mortgage-backed security (RMBS) tranche (notional = USD 100) with a credit default swap (CDS) on a similar but different A-rated mezzanine RMBS (also having notional = USD 100).

Suppose the RMBS tranche owned by the bank is now rated C, and has value of USD 15. Also assume that the value of the CDS on the different RMBS has a current value of USD 80. Further, suppose that the current value of the RMBS underlying this CDS is USD 20 and is also rated C. Finally, suppose that the CDS would be valued at USD –2 if the underlying RMBS tranche were to recover unexpectedly and become risk-free.

The correct treatment is as follows: min (USD 15, USD 15) (long leg) + min (USD 20, USD 82) (short leg) = USD 35.

No off-set would be permissible in this example, because the same underlying asset has not been hedged. The capital requirement should, therefore, be calculated by summing the charges against the long and short legs. The maximum loss principle would apply to each individual position.

Please note that the market value of the underlying has been applied in determining the exposure value of the CDS.

Max loss with offset:

Suppose the bank hedges an A-rated mezzanine RMBS tranche with a CDS referencing the same RMBS having notional of USD 100. Suppose the RMBS tranche is now rated C, and has value USD 15, while the current value of the CDS is USD 85. Suppose that the value of the CDS would equal USD –2 if the RMBS tranche were to recover unexpectedly and become risk-free.

In this example, if the CDS exactly matched the RMBS in tenor, then offsetting could potentially apply. In that instance, the capital requirement should equal 20% of max{min(USD 15, USD 15), min(USD 15, USD 87)} = USD 3.

If the tenors were not matched (ie maturity mismatch), then the capital requirement should equal max{min(USD 15, USD 15), min(USD 15, USD 87)} = USD 15.

Please note that the maximum loss principle cannot be applied on a portfolio basis.

40.16 Full allowance will be recognised for positions hedged by credit derivatives when the values of two legs (ie long and short) always move in the opposite direction and broadly to the same extent. This would be the case in the following situations, in which cases no specific risk capital requirement applies to both sides of the position:

(1) the two legs consist of completely identical instruments; or

(2) a long cash position (or credit derivative) is hedged by a total rate of return swap (or vice versa) and there is an exact match between the reference obligation and the underlying exposure (ie the cash position).[5]

Footnotes

[5] *The maturity of the swap itself may be different from that of the underlying exposure.*

FAQ

FAQ1 *According to MAR40.16 to MAR40.18, the offsetting treatment is applied to a cash position that is hedged by a credit derivative or a credit derivative that is hedged by another credit derivative, assuming there is an exact match in terms of the reference obligations. Please illustrate the treatment.*

MAR40.16 to MAR40.18, are applicable not only when the underlying position being hedged is a cash position, but also when the position being hedged is a credit default swap (CDS) or other credit derivative. They also apply regardless of whether the cash positions or reference obligations of the credit derivative are single-name or securitisation exposures.

For example, when a long cash position is hedged using a CDS, the 80% offset treatment of MAR40.17 (the partial allowance treatment of MAR40.18) generally applies when the reference obligation of the CDS is the cash instrument being hedged and the currencies and remaining maturities of the two positions are (are not) identical. Similarly, when a purchased CDS is hedged with a sold CDS, the 80% offset treatment (the partial allowance treatment) generally applies when both the long and short CDSs have the same reference obligations and the currencies and remaining maturities of the long and short CDSs are (are not) identical. The full allowance (100% offset) treatment generally applies only when there is zero basis risk between the instrument being hedged and the hedging instrument, such as when a cash position is hedged with a total rate of return swap referencing the same cash instrument and there is no currency mismatch, or when a purchased CDS position is hedged by selling a CDS with identical terms in all respects, including reference obligation, currency, maturity, documentation clauses (eg credit payout events, methods for determining payouts for credit events, etc), and structure of fixed and variable payments over time.

As explained in FAQ1 to MAR40.5, it is worth noting that the conditions under which partial or full offsetting of risk positions that are subject to interest rate specific risk are narrowly defined. In practice, offsets between securitisation positions and credit derivatives are unlikely to be recognised in most cases due to the explicit requirements in MAR40.16 to MAR40.18 on reference names etc.

40.17 An 80% offset will be recognised when the value of two legs (ie long and short) always moves in the opposite direction but not broadly to the same extent. This would be the case when a long cash position (or credit derivative) is hedged by a credit default swap (CDS) or a credit-linked note (or vice versa) and there is an exact match in terms of the reference obligation, the maturity of both the reference obligation and the credit derivative, and the currency of the underlying exposure. In addition, key features of the credit derivative contract (eg credit event definitions, settlement mechanisms) should not cause the price movement of the credit derivative to materially deviate from the price movements of the cash position. To the extent that the transaction transfers risk (ie taking account of restrictive payout provisions such as fixed payouts and materiality thresholds), an 80% specific risk offset will be applied to the side of the transaction with the higher capital requirement, while the specific risk requirement on the other side will be zero.

FAQ

FAQ1 *According to MAR40.16 to MAR40.18, the offsetting treatment is applied to a cash position that is hedged by a credit derivative or a credit derivative that is hedged by another credit derivative, assuming there is an exact match in terms of the reference obligations. Please illustrate the treatment.*

MAR40.16 to MAR40.18 are applicable not only when the underlying position being hedged is a cash position, but also when the position being hedged is a CDS or other credit derivative. They also apply regardless of whether the cash positions or reference obligations of the credit derivative are single-name or securitisation exposures.

For example, when a long cash position is hedged using a CDS, the 80% offset treatment of MAR40.17 (the partial allowance treatment of MAR40.18) generally applies when the reference obligation of the CDS is the cash instrument being hedged and the currencies and remaining maturities of the two positions are (are not) identical. Similarly, when a purchased CDS is hedged with a sold CDS, the 80% offset treatment (the partial allowance treatment) generally applies when both the long and short CDSs have the same reference obligations and the currencies and remaining maturities of the long and short CDSs are (are not) identical. The full allowance (100% offset) treatment generally applies only when there is zero basis risk between the instrument being hedged and the hedging instrument, such as when a cash position is hedged with a total rate of return swap referencing the same cash instrument and there is no currency mismatch, or when a purchased CDS position is hedged by selling a CDS with identical terms in all respects, including reference obligation, currency, maturity, documentation clauses (eg credit payout events, methods for determining payouts for credit events, etc), and structure of fixed and variable payments over time.

As explained in FAQ1 to MAR40.5, it is worth noting that the conditions under which partial or full offsetting of risk positions that are subject to interest rate specific risk are narrowly defined. In practice, offsets between securitisation positions and credit derivatives are unlikely to be recognised in most cases due to the explicit requirements in MAR40.16 to MAR40.18 on reference names etc.

40.18 Partial allowance will be recognised when the value of the two legs (ie long and short) usually moves in the opposite direction. This would be the case in the following situations:

(1) The position is captured in MAR40.16(2), but there is an asset mismatch between the reference obligation and the underlying exposure. Nonetheless, the position meets the requirements in CRE22.74.

(2) The position is captured in MAR40.16(1) or MAR40.17 but there is a currency or maturity mismatch[6] between the credit protection and the underlying asset.

(3) The position is captured in MAR40.17 but there is an asset mismatch between the cash position (or credit derivative) and the credit derivative hedge. However, the underlying asset is included in the (deliverable) obligations in the credit derivative documentation.

Footnotes

[6] *Currency mismatches should feed into the normal reporting of FX risk.*

FAQ

FAQ1 *According to MAR40.16 to MAR40.18, the offsetting treatment is applied to a cash position that is hedged by a credit derivative or a credit derivative that is hedged by another credit derivative, assuming there is an exact match in terms of the reference obligations. Please illustrate the treatment.*

MAR40.16 to MAR40.18 are applicable not only when the underlying position being hedged is a cash position, but also when the position being hedged is a CDS or other credit derivative. They also apply regardless of whether the cash positions or reference obligations of the credit derivative are single-name or securitisation exposures.

For example, when a long cash position is hedged using a CDS, the 80% offset treatment of MAR40.17 (the partial allowance treatment of MAR40.18) generally applies when the reference obligation of the CDS is the cash instrument being hedged and the currencies and remaining maturities of the two positions are (are not) identical. Similarly, when a purchased CDS is hedged with a sold CDS, the 80% offset treatment (the partial allowance treatment) generally applies when both the long and short CDSs have the same reference obligations and the currencies and remaining maturities of the long and short CDSs are (are not) identical. The full allowance (100% offset) treatment generally applies only when there is zero basis risk between the instrument being hedged and the hedging instrument, such as when a cash position is hedged with a total rate of return swap referencing the same cash instrument and there is no currency mismatch, or when a purchased CDS position is hedged by selling a CDS with identical terms in all respects, including reference obligation, currency, maturity, documentation clauses (eg credit payout events, methods for determining payouts for credit events, etc), and structure of fixed and variable payments over time.

As explained in FAQ1 to MAR40.5, it is worth noting that the conditions under which partial or full offsetting of risk positions that are subject to interest rate specific risk are narrowly defined. In practice, offsets between securitisation positions and credit derivatives are unlikely to be recognised in most cases due to the explicit requirements in MAR40.16 to MAR40.18 on reference names etc.

40.19 In each of these cases in MAR40.16 to MAR40.18, the following rule applies. Rather than adding the specific risk capital requirements for each side of the transaction (ie the credit protection and the underlying asset) only the higher of the two capital requirements will apply.

40.20 In cases not captured in MAR40.16 to MAR40.18, a specific risk capital requirement will be assessed against both sides of the position.

40.21 An nth-to-default credit derivative is a contract where the payoff is based on the nth asset to default in a basket of underlying reference instruments. Once the nth default occurs the transaction terminates and is settled.

(1) The capital requirement for specific risk for a first-to-default credit derivative is the lesser of:

(a) the sum of the specific risk capital requirements for the individual reference credit instruments in the basket; and

(b) the maximum possible credit event payment under the contract.

(2) Where a bank has a risk position in one of the reference credit instruments underlying a first-to-default credit derivative and this credit derivative hedges the bank's risk position, the bank is allowed to reduce, with respect to the hedged amount, both the capital requirement for specific risk for the reference credit instrument and that part of the capital requirement for specific risk for the credit derivative that relates to this particular reference credit instrument. Where a bank has multiple risk positions in reference credit instruments underlying a first-to-default credit derivative, this offset is allowed only for that underlying reference credit instrument having the lowest specific risk capital requirement.

(3) The capital requirement for specific risk for an nth-to-default credit derivative with n greater than one is the lesser of:

(a) the sum of the specific risk capital requirements for the individual reference credit instruments in the basket but disregarding the (n-1) obligations with the lowest specific risk capital requirements; and

(b) the maximum possible credit event payment under the contract. For nth-to-default credit derivatives with n greater than 1, no offset of the capital requirement for specific risk with any underlying reference credit instrument is allowed.

(4) If a first or other nth-to-default credit derivative is externally rated, then the protection seller must calculate the specific risk capital requirement using the rating of the derivative and apply the respective securitisation risk weights as specified in MAR40.14, as applicable.

(5) The capital requirement against each net nth-to-default credit derivative position applies irrespective of whether the bank has a long or short position, ie obtains or provides protection.

FAQ

FAQ1 *The framework mentions only tranches and nth-to-default products explicitly, but not nth to n+m-th-to-default products (eg the value depends on the default of the 5th, 6th, 7th and 8th default in a pool; only in specific cases such as the same nominal for all underlyings can this product be represented by, for example, a 5% to 8% tranche). Are nth to n+m-th-to-default products covered in the framework?*

Yes. Such products are to be decomposed into individual nth-to-default products and the rules for nth-to-default products in MAR40.21 apply.

In the example cited above, the capital requirement for a basket default swap covering defaults five to eight would be calculated as the sum of the capital requirements for a 5th-to-default swap, a 6th-to-default swap, a 7th-to-default swap and an 8th-to-default swap.

40.22 A bank must determine the specific risk capital requirement for the correlation trading portfolio (CTP) as follows:

(1) The bank computes:

(a) the total specific risk capital requirements that would apply just to the net long positions from the net long correlation trading exposures combined; and

(b) the total specific risk capital requirements that would apply just to the net short positions from the net short correlation trading exposures combined.

(2) The larger of these total amounts is then the specific risk capital requirement for the CTP.

FAQ

FAQ1 *Can the approach of taking the larger of the specific risk capital requirements for net long positions and the specific risk capital requirement for net short positions be applied to leveraged securitisation positions or option products on securitisation positions?*

No. Leveraged securitisation positions and option products on securitisation positions are securitisation positions. They are not admissible for the CTP. The capital requirements for specific risk will be determined as the sum of the capital requirements for specific risk against net long and net short positions.

General market risk

40.23 The capital requirements for general market risk are designed to capture the risk of loss arising from changes in market interest rates. A choice between two principal methods of measuring the risk is permitted – a maturity method and a duration method. In each method, the capital requirement is the sum of four components:

(1) the net short or long position in the whole trading book;

(2) a small proportion of the matched positions in each time band (the "vertical disallowance");

(3) a larger proportion of the matched positions across different time bands (the "horizontal disallowance"); and

(4) a net charge for positions in options, where appropriate (see MAR40.84 and MAR40.85).

40.24 Separate maturity ladders should be used for each currency and capital requirements should be calculated for each currency separately and then summed with no offsetting between positions of the opposite sign. In the case of those currencies in which business is insignificant, separate maturity ladders for each currency are not required. Rather, the bank may construct a single maturity ladder and slot, within each appropriate time band, the net long or short position for each currency. However, these individual net positions are to be summed within each time band, irrespective of whether they are long or short positions, to produce a gross position figure.

40.25 In the maturity method (see MAR40.29 for the duration method), long or short positions in debt securities and other sources of interest rate exposures including derivative instruments, are slotted into a maturity ladder comprising 13 time

bands (or 15 time bands in the case of low coupon instruments). Fixed rate instruments should be allocated according to the residual term to maturity and floating-rate instruments according to the residual term to the next repricing date. Opposite positions of the same amount in the same issues (but not different issues by the same issuer), whether actual or notional, can be omitted from the interest rate maturity framework, as well as closely matched swaps, forwards, futures and forward rate agreements (FRAs) which meet the conditions set out in MAR40.35 and MAR40.36 below.

40.26 The first step in the calculation is to weight the positions in each time band by a factor designed to reflect the price sensitivity of those positions to assumed changes in interest rates. The weights for each time band are set out in Table 4. Zero-coupon bonds and deep-discount bonds (defined as bonds with a coupon of less than 3%) should be slotted according to the time bands set out in the second column of Table 4.

Maturity method: time bands and weights — Table 4

Coupon 3% or more	Coupon less than 3%	Risk weight	Assumed changes in yield
1 month or less	1 month or less	0.00%	1.00
1 to 3 months	1 to 3 months	0.20%	1.00
3 to 6 months	3 to 6 months	0.40%	1.00
6 to 12 months	6 to 12 months	0.70%	1.00
1 to 2 years	1.0 to 1.9 years	1.25%	0.90
2 to 3 years	1.9 to 2.8 years	1.75%	0.80
3 to 4 years	2.8 to 3.6 years	2.25%	0.75
4 to 5 years	3.6 to 4.3 years	2.75%	0.75
5 to 7 years	4.3 to 5.7 years	3.25%	0.70
7 to 10 years	5.7 to 7.3 years	3.75%	0.65
10 to 15 years	7.3 to 9.3 years	4.50%	0.60
15 to 20 years	9.3 to 10.6 years	5.25%	0.60
Over 20 years	10.6 to 12 years	6.00%	0.60
	12 to 20 years	8.00%	0.60
	Over 20 years	12.50%	0.60

40.27 The next step in the calculation is to offset the weighted longs and shorts in each time band, resulting in a single short or long position for each band. Since, however, each band would include different instruments and different maturities, a 10% capital requirement to reflect basis risk and gap risk will be levied on the smaller of the offsetting positions, be it long or short. Thus, if the sum of the weighted longs in a time band is USD 100 million and the sum of the weighted shorts USD 90 million, the so-called vertical disallowance for that time band would be 10% of USD 90 million (ie USD 9 million).

40.28 The result of the above calculations is to produce two sets of weighted positions, the net long or short positions in each time band (USD 10 million long in the example above) and the vertical disallowances, which have no sign.

(1) In addition, however, banks will be allowed to conduct two rounds of horizontal offsetting:

(a) first between the net positions in each of three zones, where zone 1 is set as zero to one year, zone 2 is set as one year to four years, and zone 3 is set as four years and over (however, for coupons less than 3%, zone 2 is set as one year to 3.6 years and zone 3 is set as 3.6 years and over); and

(b) subsequently between the net positions in the three different zones.

(2) The offsetting will be subject to a scale of disallowances expressed as a fraction of the matched positions, as set out in Table 5. The weighted long and short positions in each of three zones may be offset, subject to the matched portion attracting a disallowance factor that is part of the capital requirement. The residual net position in each zone may be carried over and offset against opposite positions in other zones, subject to a second set of disallowance factors.

Horizontal disallowances — Table 5

Zones[7]	Time band[7]	Within the zone	Between adjacent zones	Between zones 1 and 3
Zone 1	0-1 month	40%	40%	100%
	1-3 months			
	3-6 months			
	6-12 months			
Zone 2	1-2 years	30%	40%	
	2-3 years			
	3-4 years			
	4-5 years			
Zone 3	5-7 years	30%		
	7-10 years			
	10-15 years			
	15-20 years			
	Over 20 years			

Footnotes

[7] *The zones for coupons less than 3% are 0 to 1 year, 1 to 3.6 years, and 3.6 years and over.*

40.29 Under the alternative duration method, banks with the necessary capability may, with their supervisors' consent, use a more accurate method of measuring all of

their general market risk by calculating the price sensitivity of each position separately. Banks must elect and use the method on a continuous basis (unless a change in method is approved by the national authority) and will be subject to supervisory monitoring of the systems used. The mechanics of this method are as follows:

(1) First calculate the price sensitivity of each instrument in terms of a change in interest rates of between 0.6 and 1.0 percentage points depending on the maturity of the instrument (see Table 6);

(2) Slot the resulting sensitivity measures into a duration-based ladder with the 15 time bands set out in Table 6;

(3) Subject long and short positions in each time band to a 5% vertical disallowance designed to capture basis risk; and

(4) Carry forward the net positions in each time band for horizontal offsetting subject to the disallowances set out in Table 5 above.

Duration method: time bands and assumed changes in yield — Table 6

	Assumed change in yield		Assumed change in yield
Zone 1:		Zone 3:	
1 month or less	1.00	3.6 to 4.3 years	0.75
1 to 3 months	1.00	4.3 to 5.7 years	0.70
3 to 6 months	1.00	5.7 to 7.3 years	0.65
6 to 12 months	1.00	7.3 to 9.3 years	0.60
Zone 2:		9.3 to 10.6 years	0.60
1.0 to 1.9 years	0.90	10.6 to 12 years	0.60
1.9 to 2.8 years	0.80	12 to 20 years	0.60
2.8 to 3.6 years	0.75	Over 20 years	0.60

40.30 In the case of residual currencies (see MAR40.24 above) the gross positions in each time band will be subject to either the risk weightings set out in MAR40.26,

if positions are reported using the maturity method, or the assumed change in yield set out in MAR40.29, if positions are reported using the duration method, with no further offsets.

Interest rate derivatives

40.31 The measurement system should include all interest-rate derivatives and off-balance sheet instruments in the trading book which react to changes in interest rates (eg FRAs, other forward contracts, bond futures, interest rate and cross-currency swaps and forward foreign exchange positions). Options can be treated in a variety of ways as described in MAR40.74 to MAR40.86. A summary of the rules for dealing with interest rate derivatives is set out in MAR40.40.

40.32 The derivatives should be converted into positions in the relevant underlying and become subject to specific and general market risk charges as described above. In order to calculate the standard formula described above, the amounts reported should be the market value of the principal amount of the underlying or of the notional underlying resulting from the prudent valuation guidance set out in CAP50.[8]

Footnotes

[8] *For instruments where the apparent notional amount differs from the effective notional amount, banks must use the effective notional amount.*

40.33 Futures and forward contracts (including FRAs) are treated as a combination of a long and a short position in a notional government security. The maturity of a future or an FRA will be the period until delivery or exercise of the contract, plus – where applicable – the life of the underlying instrument. For example, a long position in a June three-month interest rate future (taken in April) is to be reported as a long position in a government security with a five-month maturity and a short position in a government security with a two-month maturity. Where a range of deliverable instruments may be delivered to fulfil the contract, the bank has flexibility to elect which deliverable security goes into the maturity or duration ladder but should take account of any conversion factor defined by the exchange. In the case of a future on a corporate bond index, positions will be included at the market value of the notional underlying portfolio of securities.

40.34 Swaps will be treated as two notional positions in government securities with relevant maturities. For example, an interest rate swap under which a bank is receiving floating rate interest and paying fixed will be treated as a long position in a floating rate instrument of maturity equivalent to the period until the next interest fixing and a short position in a fixed-rate instrument of maturity equivalent to the residual life of the swap. For swaps that pay or receive a fixed or floating interest rate against some other reference price, eg a stock index, the interest rate component should be slotted into the appropriate repricing maturity category, with the equity component being included in the equity framework. The separate legs of cross-currency swaps are to be reported in the relevant maturity ladders for the currencies concerned.

40.35 Banks may exclude from the interest rate maturity framework altogether (for both specific and general market risk) long and short positions (both actual and notional) in identical instruments with exactly the same issuer, coupon, currency and maturity. A matched position in a future or forward and its corresponding underlying may also be fully offset[10] and thus excluded from the calculation. When the future or the forward comprises a range of deliverable instruments offsetting of positions in the future or forward contract and its underlying is only permissible in cases where there is a readily identifiable underlying security that is most profitable for the trader with a short position to deliver. The price of this security, sometimes called the "cheapest-to-deliver", and the price of the future or forward contract should, in such cases, move in close alignment. No offsetting will be allowed between positions in different currencies; the separate legs of cross-currency swaps or forward FX deals are to be treated as notional positions in the relevant instruments and included in the appropriate calculation for each currency.

Footnotes

[10] *The leg representing the time to expiry of the future should, however, be reported.*

40.36 In addition, opposite positions in the same category of instruments[10] can in certain circumstances be regarded as matched and allowed to offset fully. To qualify for this treatment, the positions must relate to the same underlying instruments, be of the same nominal value and be denominated in the same currency.[11] In addition:

(1) for futures: offsetting positions in the notional or underlying instruments to which the futures contract relates must be for identical products and mature within seven days of each other;

(2) for swaps and FRAs: the reference rate (for floating rate positions) must be identical and the coupon closely matched (ie within 15 basis points); and

(3) for swaps, FRAs and forwards: the next interest fixing date or, for fixed coupon positions or forwards, the residual maturity must correspond within the following limits:

(a) less than one month hence: same day;

(b) between one month and one year hence: within seven days; and

(c) over one year hence: within 30 days.

Footnotes

[10] *This includes the delta-equivalent value of options. The delta equivalent of the legs arising out of the treatment of caps and floors as set out in MAR40.78 can also be offset against each other under the rules laid down in this paragraph.*

[11] *The separate legs of different swaps may also be matched subject to the same conditions.*

40.37 Banks with large swap books may use alternative formulae for these swaps to calculate the positions to be included in the maturity or duration ladder. One method would be to first convert the payments required by the swap into their present values. For that purpose, each payment should be discounted using zero coupon yields, and a single net figure for the present value of the cash flows entered into the appropriate time band using procedures that apply to zero- (or low-) coupon bonds; these figures should be slotted into the general market risk framework as set out above. An alternative method would be to calculate the sensitivity of the net present value implied by the change in yield used in the maturity or duration method and allocate these sensitivities into the time bands set out in MAR40.26 or MAR40.29. Other methods which produce similar results could also be used. Such alternative treatments will, however, only be allowed if:

(1) the supervisory authority is fully satisfied with the accuracy of the systems being used;

(2) the positions calculated fully reflect the sensitivity of the cash flows to interest rate changes and are entered into the appropriate time bands; and

(3) the positions are denominated in the same currency.

40.38 Interest rate and currency swaps, FRAs, forward FX contracts and interest rate futures will not be subject to a specific risk charge. This exemption also applies to futures on an interest rate index (eg London Interbank Offer Rate, or LIBOR). However, in the case of futures contracts where the underlying is a debt security, or an index representing a basket of debt securities, a specific risk charge will apply according to the credit risk of the issuer as set out in MAR40.5 to MAR40.21.

40.39 General market risk applies to positions in all derivative products in the same manner as for cash positions, subject only to an exemption for fully or very closely matched positions in identical instruments as defined in MAR40.35 and MAR40.36. The various categories of instruments should be slotted into the maturity ladder and treated according to the rules identified earlier.

40.40 Table 7 presents a summary of the regulatory treatment for interest rate derivatives, for market risk purposes.

Summary of treatment of interest rate derivatives — Table 7

Instrument	Specific risk charge[12]	General market risk charge
Exchanged-traded future		
Government debt security	Yes[13]	Yes, as two positions
Corporate debt security	Yes	Yes, as two positions
Index on interest rates (eg LIBOR)	No	Yes, as two positions
Over-the-counter (OTC) forward		
Government debt security	Yes[13]	Yes, as two positions
Corporate debt security	Yes	Yes, as two positions
Index on interest rates	No	Yes, as two positions
FRAs, swaps	No	Yes, as two positions
Forward FX	No	Yes, as one position in each currency
Options		Either
Government debt security	Yes[13]	(a) carve out together with the associated hedging positions: simplified approach; scenario analysis; internal models
Corporate debt security	Yes	(b) general market risk charge according to the delta-plus method (gamma and vega should receive separate capital requirements)
Index on interest rates	No	
FRAs, swaps	No	

Footnotes

[12] *This is the specific risk charge relating to the issuer of the instrument. Under the credit risk rules, a separate capital requirement for the counterparty credit risk applies.*

[13] *The specific risk capital requirement only applies to government debt securities that are rated below AA– (see MAR40.6 and MAR40.7).*

Equity risk

40.41 This section sets out a minimum capital standard to cover the risk of holding or taking positions in equities in the trading book. It applies to long and short positions in all instruments that exhibit market behaviour similar to equities, but not to non-convertible preference shares (which are covered by the interest rate risk requirements described in MAR40.3 to MAR40.40). Long and short positions in the same issue may be reported on a net basis. The instruments covered include common stocks (whether voting or non-voting), convertible securities that behave like equities, and commitments to buy or sell equity securities. The treatment of derivative products, stock indices and index arbitrage is described in MAR40.44 to MAR40.52 below.

Specific and general market risks

40.42 As with debt securities, the minimum capital standard for equities is expressed in terms of two separately calculated capital requirements for the specific risk of holding a long or short position in an individual equity and for the general market risk of holding a long or short position in the market as a whole. Specific risk is defined as the bank's gross equity positions (ie the sum of all long equity positions and of all short equity positions) and general market risk as the difference between the sum of the longs and the sum of the shorts (ie the overall net position in an equity market).The long or short position in the market must be calculated on a market-by-market basis, ie a separate calculation has to be carried out for each national market in which the bank holds equities.

40.43 The capital requirement for specific risk and for general market risk will each be 8%.

Equity derivatives

40.44 Except for options, which are dealt with in MAR40.74 to MAR40.86, equity derivatives and off-balance sheet positions that are affected by changes in equity prices should be included in the measurement system.[14] This includes futures and swaps on both individual equities and on stock indices. The derivatives are to be converted into positions in the relevant underlying. The treatment of equity derivatives is summarised in MAR40.52 below.

Footnotes

[14] *Where equities are part of a forward contract, a future or an option (quantity of equities to be received or to be delivered), any interest rate or foreign currency exposure from the other leg of the contract should be reported as set out in MAR40.3 to MAR40.40 and MAR40.53 to MAR40.62.*

40.45 In order to calculate the standard formula for specific and general market risk, positions in derivatives should be converted into notional equity positions:

(1) Futures and forward contracts relating to individual equities should in principle be reported at current market prices.

(2) Futures relating to stock indices should be reported as the marked-to-market value of the notional underlying equity portfolio.

(3) Equity swaps are to be treated as two notional positions.[15]

(4) Equity options and stock index options should be either carved out together with the associated underlyings or be incorporated in the measure of general market risk described in this section according to the delta-plus method.

Footnotes

[15] *For example, an equity swap in which a bank is receiving an amount based on the change in value of one particular equity or stock index and paying a different index will be treated as a long position in the former and a short position in the latter. Where one of the legs involves receiving/paying a fixed or floating interest rate, that exposure should be slotted into the appropriate repricing time band for interest rate related instruments as set out in MAR40.3 to MAR40.40. The stock index should be covered by the equity treatment.*

40.46 Matched positions in each identical equity or stock index in each market may be fully offset, resulting in a single net short or long position to which the specific

and general market risk charges will apply. For example, a future in a given equity may be offset against an opposite cash position in the same equity.[16]

Footnotes

[16] *The interest rate risk arising out of the future, however, should be reported as set out in MAR40.3 to MAR40.40.*

40.47 Besides general market risk, a further capital requirement of 2% will apply to the net long or short position in an index contract comprising a diversified portfolio of equities. This capital requirement is intended to cover factors such as execution risk. National supervisory authorities will take care to ensure that this 2% risk weight applies only to well-diversified indices and not, for example, to sectoral indices.

40.48 In the case of the futures-related arbitrage strategies described below, the additional 2% capital requirement described above (set out in MAR40.47) may be applied to only one index with the opposite position exempt from a capital requirement. The strategies are:

(1) when the bank takes an opposite position in exactly the same index at different dates or in different market centres; and

(2) when the bank has an opposite position in contracts at the same date in different but similar indices, subject to supervisory oversight that the two indices contain sufficient common components to justify offsetting.

40.49 Where a bank engages in a deliberate arbitrage strategy, in which a futures contract on a broadly based index matches a basket of stocks, it will be allowed to carve out both positions from the simplified standardised approach on condition that:

(1) the trade has been deliberately entered into and separately controlled; and

(2) the composition of the basket of stocks represents at least 90% of the index when broken down into its notional components.

40.50 In such a case as set out in MAR40.49 the minimum capital requirement will be 4% (ie 2% of the gross value of the positions on each side) to reflect divergence and execution risks. This applies even if all of the stocks comprising the index are held in identical proportions. Any excess value of the stocks comprising the basket over the value of the futures contract or excess value of the futures

contract over the value of the basket is to be treated as an open long or short position.

40.51 If a bank takes a position in depository receipts against an opposite position in the underlying equity or identical equities in different markets, it may offset the position (ie bear no capital requirement) but only on condition that any costs on conversion are fully taken into account.[17]

Footnotes

[17] *Any FX risk arising out of these positions has to be reported as set out in MAR40.53 to MAR40.67.*

40.52 Table 8 summarises the regulatory treatment of equity derivatives for market risk purposes.

Summary of treatment of equity derivatives — Table 8

Instrument	Specific risk [18]	General market risk
Exchanged-traded or OTC future		
Individual equity	Yes	Yes, as underlying
Index	2%	Yes, as underlying
Options		Either
Individual equity	Yes	(a) carve out together with the associated hedging positions: simplified approach; scenario analysis; internal models
Index	2%	(b) general market risk charge according to the delta-plus method (gamma and vega should receive separate capital requirements)

Footnotes

[18] *This is the specific risk charge relating to the issuer of the instrument. Under the credit risk rules], a separate capital requirement for the counterparty credit risk applies.*

Foreign exchange risk

40.53 This section sets out the simplified standardised approach for measuring the risk of holding or taking positions in foreign currencies, including gold.[19]

Footnotes

[19] *Gold is to be dealt with as an FX position rather than a commodity because its volatility is more in line with foreign currencies and banks manage it in a similar manner to foreign currencies.*

40.54 Two processes are needed to calculate the capital requirement for FX risk.

(1) The first is to measure the exposure in a single currency position as set out in MAR40.55 to MAR40.58.

(2) The second is to measure the risks inherent in a bank's mix of long and short positions in different currencies as set out in MAR40.59 to MAR40.62.

Measuring the exposure in a single currency

40.55 The bank's net open position in each currency should be calculated by summing:

(1) the net spot position (ie all asset items less all liability items, including accrued interest, denominated in the currency in question);

(2) the net forward position (ie all amounts to be received less all amounts to be paid under forward FX transactions, including currency futures and the principal on currency swaps not included in the spot position);

(3) guarantees (and similar instruments) that are certain to be called and are likely to be irrecoverable;

(4) net future income/expenses not yet accrued but already fully hedged (at the discretion of the reporting bank);

(5) any other item representing a profit or loss in foreign currencies (depending on particular accounting conventions in different countries); and

(6) the net delta-based equivalent of the total book of foreign currency options. [20]

Footnotes

[20] *Subject to a separately calculated capital requirement for gamma and vega as described in MAR40.77 to MAR40.80; alternatively, options and their associated underlyings are subject to one of the other methods described in MAR40.74 to MAR40.86.*

40.56 Positions in composite currencies need to be separately reported but, for measuring banks' open positions, may be either treated as a currency in their own right or split into their component parts on a consistent basis. Positions in gold should be measured in the same manner as described in MAR40.68.[21]

Footnotes

[21] *Where gold is part of a forward contract (quantity of gold to be received or to be delivered), any interest rate or foreign currency exposure from the other leg of the contract should be reported as set out in MAR40.3 to MAR40.40 and MAR40.55 above.*

40.57 Interest, other income and expenses should be treated as follows. Interest accrued (ie earned but not yet received) should be included as a position. Accrued expenses should also be included. Unearned but expected future interest and anticipated expenses may be excluded unless the amounts are certain and banks have taken the opportunity to hedge them. If banks include future income /expenses they should do so on a consistent basis, and not be permitted to select only those expected future flows which reduce their position.

40.58 Forward currency and gold positions should be measured as follows: Forward currency and gold positions will normally be valued at current spot market exchange rates. Using forward exchange rates would be inappropriate since it would result in the measured positions reflecting current interest rate differentials to some extent. However, banks that base their normal management accounting on net present values are expected to use the net present values of each position, discounted using current interest rates and valued at current spot rates, for measuring their forward currency and gold positions.

Measuring the foreign exchange risk in a portfolio of foreign currency positions and gold

40.59 For measuring the FX risk in a portfolio of foreign currency positions and gold as set out in MAR40.54(2), a bank that is not approved to use internal models by its supervisory authority must use a shorthand method which treats all currencies equally.

40.60 Under the shorthand method, the nominal amount (or net present value) of the net position in each foreign currency and in gold is converted at spot rates into the reporting currency.[22] The overall net open position is measured by aggregating:

(1) the sum of the net short positions or the sum of the net long positions, whichever is the greater;[23] plus

(2) the net position (short or long) in gold, regardless of sign.

Footnotes

[22] *Where the bank is assessing its FX risk on a consolidated basis, it may be technically impractical in the case of some marginal operations to include the currency positions of a foreign branch or subsidiary of the bank. In such cases, the internal limit in each currency may be used as a proxy for the positions. Provided there is adequate ex post monitoring of actual positions against such limits, the limits should be added, without regard to sign, to the net open position in each currency.*

[23] *An alternative calculation, which produces an identical result, is to include the reporting currency as a residual and to take the sum of all the short (or long) positions.*

40.61 The capital requirement will be 8% of the overall net open position (see example in Table 9). In particular, the capital requirement would be 8% of the higher of either the net long currency positions or the net short currency positions (ie 300) and of the net position in gold (35) = 335 x 8% = 26.8.

Example of the shorthand measure of FX risk Table 9

	JPY	EUR	GBP	CAD	USD	Gold
Net position per currency	+50	+100	+150	-20	-180	-35
Net open position	+300			-200		35

40.62 A bank of which business in foreign currency is insignificant and which does not take FX positions for its own account may, at the discretion of its national authority, be exempted from capital requirements on these positions provided that:

(1) its foreign currency business, defined as the greater of the sum of its gross long positions and the sum of its gross short positions in all foreign currencies, does not exceed 100% of eligible capital as defined in CAP10.1; and

(2) its overall net open position as defined in MAR40.60 above does not exceed 2% of its eligible capital as defined in CAP10.1.

Commodities risk

40.63 This section sets out the simplified standardised approach for measuring the risk of holding or taking positions in commodities, including precious metals, but excluding gold (which is treated as a foreign currency according to the methodology set out in MAR40.53 to MAR40.62 above). A commodity is defined as a physical product which is or can be traded on a secondary market, eg agricultural products, minerals (including oil) and precious metals.

40.64 The price risk in commodities is often more complex and volatile than that associated with currencies and interest rates. Commodity markets may also be less liquid than those for interest rates and currencies and, as a result, changes in supply and demand can have a more dramatic effect on price and volatility.[24] These market characteristics can make price transparency and the effective hedging of commodities risk more difficult.

Footnotes

[24] *Banks need also to guard against the risk that arises when the short position falls due before the long position. Owing to a shortage of liquidity in some markets, it might be difficult to close the short position and the bank might be squeezed by the market.*

40.65 The risks associated with commodities include the following risks:

(1) For spot or physical trading, the directional risk arising from a change in the spot price is the most important risk.

(2) However, banks using portfolio strategies involving forward and derivative contracts are exposed to a variety of additional risks, which may well be larger than the risk of a change in spot prices. These include:

(a) basis risk (the risk that the relationship between the prices of similar commodities alters through time);

(b) interest rate risk (the risk of a change in the cost of carry for forward positions and options); and

(c) forward gap risk (the risk that the forward price may change for reasons other than a change in interest rates).

(3) In addition, banks may face counterparty credit risk on over-the-counter derivatives, but this is captured by the methods set out in CRE51 to CRE55 and MAR50.

(4) The funding of commodities positions may well open a bank to interest rate or FX exposure and if that is so the relevant positions should be included in the measures of interest rate and FX risk described in MAR40.3 to MAR40.40 and MAR40.53 to MAR40.62, respectively.[25]

Footnotes

[25] *Where a commodity is part of a forward contract (quantity of commodities to be received or to be delivered), any interest rate or foreign currency exposure from the other leg of the contract should be reported as set out in MAR40.3 to MAR40.40 and MAR40.53 to MAR40.62. Positions which are purely stock financing (ie a physical stock has been sold forward and the cost of funding has been locked in until the date of the forward sale) may be omitted from the commodities risk calculation although they will be subject to interest rate and counterparty risk requirements.*

40.66 There are two alternatives for measuring commodities position risk under the simplified standardised approach that are described in MAR40.68 to MAR40.73 below. Commodities risk can also be measured, using either (i) the maturity ladder approach, which is a measurement system that captures forward gap and interest rate risk separately by basing the methodology on seven time bands as set out in MAR40.68 to MAR40.71 below or (ii) the simplified approach, which is a very simple framework as set out in MAR40.72 and MAR40.73 below. Both the maturity ladder approach and the simplified approach are appropriate only for banks that, in relative terms, conduct only a limited amount of commodities business.

40.67 For the maturity ladder approach and the simplified approach, long and short positions in each commodity may be reported on a net basis for the purposes of calculating open positions. However, positions in different commodities will, as a general rule, not be offsettable in this fashion. Nevertheless, national authorities will have discretion to permit netting between different subcategories[26] of the same commodity in cases where the subcategories are deliverable against each other. They can also be considered as offsettable if they are close substitutes against each other and a minimum correlation of 0.9 between the price movements can be clearly established over a minimum period of one year. However, a bank wishing to base its calculation of capital requirements for commodities on correlations would have to satisfy the relevant supervisory authority of the accuracy of the method that has been chosen and obtain its prior approval.

Footnotes

[26] *Commodities can be grouped into clans, families, subgroups and individual commodities. For example, a clan might be Energy Commodities, within which Hydro-Carbons are a family with Crude Oil being a subgroup and West Texas Intermediate, Arabian Light and Brent being individual commodities.*

Maturity ladder approach

40.68 In calculating the capital requirements under the maturity ladder approach, banks will first have to express each commodity position (spot plus forward) in terms of the standard unit of measurement (barrels, kilos, grams etc). The net position in each commodity will then be converted at current spot rates into the national currency.

40.69 Secondly, in order to capture forward gap and interest rate risk within a time band (which, together, are sometimes referred to as curvature/spread risk), matched long and short positions in each time band will carry a capital requirement. The methodology is similar to that used for interest rate related instruments as set out in MAR40.3 to MAR40.40. Positions in the separate commodities (expressed in terms of the standard unit of measurement) will first be entered into a maturity ladder while physical stocks should be allocated to the first time band. A separate maturity ladder will be used for each commodity as defined in MAR40.67 above.[27] For each time band as set out in Table 10, the sum of short and long positions that are matched will be multiplied first by the spot price for the commodity, and then by the spread rate of 1.5%.

Time bands and spread rates — Table 10

Time band	Spread rate
0-1 month	1.5%
1-3 months	1.5%
3-6 months	1.5%
6-12 months	1.5%
1-2 years	1.5%
2-3 years	1.5%
over 3 years	1.5%

Footnotes

[27] *For markets that have daily delivery dates, any contracts maturing within 10 days of one another may be offset.*

40.70 The residual net positions from nearer time bands may then be carried forward to offset exposures in time bands that are further out. However, recognising that such hedging of positions among different time bands is imprecise, a surcharge equal to 0.6% of the net position carried forward will be added in respect of each time band that the net position is carried forward. The capital requirement for each matched amount created by carrying net positions forward will be calculated as in MAR40.69 above. At the end of this process, a bank will have either only long or only short positions, to which a capital requirement of 15% will apply.

40.71 All commodity derivatives and off-balance sheet positions that are affected by changes in commodity prices should be included in this measurement framework. This includes commodity futures, commodity swaps, and options where the "delta-plus" method[28] is used (see MAR40.77 to MAR40.80 below). In order to calculate the risk, commodity derivatives should be converted into notional commodities positions and assigned to maturities as follows:

(1) Futures and forward contracts relating to individual commodities should be incorporated as notional amounts of the standard unit of measurement (barrels, kilos, grams etc) and should be assigned a maturity with reference to expiry date.

(2) Commodity swaps where one leg is a fixed price and the other the current market price should be incorporated as a series of positions equal to the notional amount of the contract, with one position corresponding with each payment on the swap and slotted into the maturity ladder accordingly. The positions would be long positions if the bank is paying fixed and receiving floating, and short positions if the bank is receiving fixed and paying floating. [29]

(3) Commodity swaps where the legs are in different commodities are to be incorporated in the relevant maturity ladder. No offsetting will be allowed in this regard except where the commodities belong to the same subcategory as defined in MAR40.67 above.

Footnotes

[28] *For banks using other approaches to measure options risk, all options and the associated underlyings should be excluded from both the maturity ladder approach and the simplified approach.*

[29] *If one of the legs involves receiving/paying a fixed or floating interest rate, that exposure should be slotted into the appropriate repricing maturity band in the maturity ladder covering interest rate related instruments.*

Simplified approach

40.72 In calculating the capital requirement for directional risk under the simplified approach, the same procedure will be adopted as in the maturity ladder approach described above (see MAR40.68 and MAR40.71. Once again, all commodity derivatives and off-balance sheet positions that are affected by changes in commodity prices should be included. The capital requirement will equal 15% of the net position, long or short, in each commodity.

40.73 In order to protect the bank against basis risk, interest rate risk and forward gap risk under the simplified approach, the capital requirement for each commodity as described in MAR40.68 and MAR40.71 above will be subject to an additional capital requirement equivalent to 3% of the bank's gross positions, long plus short, in that particular commodity. In valuing the gross positions in commodity derivatives for this purpose, banks should use the current spot price.

Treatment of options

40.74 In recognition of the wide diversity of banks' activities in options and the difficulties of measuring price risk for options, two alternative approaches will be permissible at the discretion of the national authority under the simplified standardised approach.

(1) Those banks which solely use purchased options[30] can use the simplified approach described in MAR40.76 below;

(2) Those banks which also write options are expected to use the delta-plus method or scenario approach which are the intermediate approaches as set out in MAR40.77 to MAR40.86. The more significant its trading activity is, the more the bank will be expected to use a sophisticated approach, and a bank with highly significant trading activity is expected to use the standardised approach or the internal models approach as set out in MAR20 to MAR23 or MAR30 to MAR33.

Footnotes

[30] *Unless all their written option positions are hedged by perfectly matched long positions in exactly the same options, in which case no capital requirement for market risk is required.*

40.75 In the simplified approach for options, the positions for the options and the associated underlying, cash or forward, are not subject to the standardised methodology but rather are carved-out and subject to separately calculated capital requirements that incorporate both general market risk and specific risk. The risk numbers thus generated are then added to the capital requirements for the relevant category, ie interest rate related instruments, equities, FX and commodities as described in MAR40.3 to MAR40.73. The delta-plus method uses the sensitivity parameters or Greek letters associated with options to measure their market risk and capital requirements. Under this method, the delta-equivalent position of each option becomes part of the simplified standardised approach set out in MAR40.3 to MAR40.73 with the delta-equivalent amount subject to the applicable general market risk charges. Separate capital requirements are then applied to the gamma and vega risks of the option positions. The scenario approach uses simulation techniques to calculate changes in the value of an options portfolio for changes in the level and volatility of its associated underlyings. Under this approach, the general market risk charge is determined by the scenario grid (ie the specified combination of underlying and volatility changes) that produces the largest loss. For the delta-plus method and the scenario approach, the specific risk capital requirements are determined separately by multiplying the delta-equivalent of each option by the specific risk weights set out in MAR40.3 to MAR40.52.

Simplified approach

40.76 Banks that handle a limited range of purchased options can use the simplified approach set out in Table 11 for particular trades. As an example of how the calculation would work, if a holder of 100 shares currently valued at USD 10 each holds an equivalent put option with a strike price of USD 11, the capital requirement would be: USD 1,000 x 16% (ie 8% specific plus 8% general market risk) = USD 160, less the amount the option is in the money (USD 11 - USD 10) x 100 = USD 100, ie the capital requirement would be USD 60. A similar methodology applies for options whose underlying is a foreign currency, an interest rate related instrument or a commodity.

Simplified approach: capital requirements — Table 11

Position	Treatment
Long cash and long put or short cash and long call	The capital requirement will be the market value of the underlying security[31] multiplied by the sum of specific and general market risk charges[32] for the underlying less the amount the option is in the money (if any) bounded at zero[33]
Long call or long put	The capital requirement will be the lesser of: (i) the market value of the underlying security multiplied by the sum of specific and general market risk charges[32] for the underlying and (ii) the market value of the option[34]

Footnotes

[31] *In some cases such as FX, it may be unclear which side is the underlying security; this should be taken to be the asset that would be received if the option were exercised. In addition, the nominal value should be used for items where the market value of the underlying instrument could be zero, eg caps and floors, swaptions etc.*

[32] *Some options (eg where the underlying is an interest rate, a currency or a commodity) bear no specific risk but specific risk will be present in the case of options on certain interest rate related instruments (eg options on a corporate debt security or corporate bond index; see MAR40.3 to MAR40.40 for the relevant capital requirements) and for options on equities and stock indices (see MAR40.41 to MAR40.52). The charge under this measure for currency options will be 8% and for options on commodities 15%.*

[33] *For options with a residual maturity of more than six months, the strike price should be compared with the forward, not current, price. A bank unable to do this must take the in the money amount to be zero.*

[34] *Where the position does not fall within the trading book (ie options on certain FX or commodities positions not belonging to the trading book), it may be acceptable to use the book value instead.*

Delta-plus method

40.77 Banks that write options will be allowed to include delta-weighted options positions within the simplified standardised approach set out in MAR40.3 to MAR40.73. Such options should be reported as a position equal to the market value of the underlying multiplied by the delta. However, since delta does not sufficiently cover the risks associated with options positions, banks will also be required to measure gamma (which measures the rate of change of delta) and vega (which measures the sensitivity of the value of an option with respect to a change in volatility) sensitivities in order to calculate the total capital requirement. These sensitivities will be calculated according to an approved exchange model or to the bank's proprietary options pricing model subject to oversight by the national authority.[35]

Footnotes

[35] *National authorities may wish to require banks doing business in certain classes of exotic options (eg barriers, digitals) or in options at the money that are close to expiry to use either the scenario approach or the internal models alternative, both of which can accommodate more detailed revaluation approaches.*

40.78 Delta-weighted positions with debt securities or interest rates as the underlying will be slotted into the interest rate time bands, as set out in MAR40.3 to MAR40.40, under the following procedure. A two-legged approach should be used as for other derivatives, requiring one entry at the time the underlying contract takes effect and a second at the time the underlying contract matures. For instance, a bought call option on a June three-month interest-rate future will in April be considered, on the basis of its delta-equivalent value, to be a long position with a five-month maturity and a short position with a two-month maturity.[36] The written option will be similarly slotted as a long position with a two-month maturity and a short position with a five-month maturity. Floating rate instruments with caps or floors will be treated as a combination of floating rate securities and a series of European-style options. For example, the holder of a three-year floating rate bond indexed to six month LIBOR with a cap of 15% will treat it as:

(1) a debt security that reprices in six months; and

(2) a series of five written call options on an FRA with a reference rate of 15%, each with a negative sign at the time the underlying FRA takes effect and a positive sign at the time the underlying FRA matures.[37]

Footnotes

[36] *A two-month call option on a bond future where delivery of the bond takes place in September would be considered in April as being long the bond and short a five-month deposit, both positions being delta-weighted.*

[37] *The rules applying to closely matched positions set out in MAR40.36 will also apply in this respect.*

40.79 The capital requirement for options with equities as the underlying will also be based on the delta-weighted positions that will be incorporated in the measure of equity risk described in MAR40.41 to MAR40.52. For purposes of this calculation each national market is to be treated as a separate underlying. The capital requirement for options on FX and gold positions will be based on the method for FX rate risk as set out in MAR40.53 to MAR40.62. For delta risk, the net delta-based equivalent of the foreign currency and gold options will be incorporated into the measurement of the exposure for the respective currency (or gold) position. The capital requirement for options on commodities will be based on the simplified or the maturity ladder approach for commodities risk as set out in MAR40.63 to MAR40.73. The delta-weighted positions will be incorporated in one of the measures described in that section.

40.80 In addition to the above capital requirements arising from delta risk, there are further capital requirements for gamma and vega risk. Banks using the delta-plus method will be required to calculate the gamma and vega for each option position (including hedge positions) separately. The capital requirements should be calculated in the following way:

(1) For each individual option a gamma impact should be calculated according to a Taylor series expansion as follows, where VU is the variation of the underlying of the option.

$$Gamma\,impact = \frac{1}{2} \times Gamma \times VU^2$$

(2) VU is calculated as follows:

(a) For interest rate options if the underlying is a bond, the market value of the underlying should be multiplied by the risk weights set out in MAR40.26. An equivalent calculation should be carried out where the underlying is an interest rate, again based on the assumed changes in the corresponding yield in MAR40.26.

(b) For options on equities and equity indices: the market value of the underlying should be multiplied by 8%.[38]

(c) For FX and gold options: the market value of the underlying should be multiplied by 8%.

(d) For options on commodities: the market value of the underlying should be multiplied by 15%.

(3) For the purpose of this calculation the following positions should be treated as the same underlying:

(a) for interest rates,[39] each time band as set out in MAR40.26;[40]

(b) for equities and stock indices, each national market;

(c) for foreign currencies and gold, each currency pair and gold; and

(d) for commodities, each individual commodity as defined in MAR40.67.

(4) Each option on the same underlying will have a gamma impact that is either positive or negative. These individual gamma impacts will be summed, resulting in a net gamma impact for each underlying that is either positive or negative. Only those net gamma impacts that are negative will be included in the capital requirement calculation.

(5) The total gamma risk capital requirement will be the sum of the absolute value of the net negative gamma impacts as calculated above.

(6) For volatility risk, banks will be required to calculate the capital requirements by multiplying the sum of the vega risks for all options on the same underlying, as defined above, by a proportional shift in volatility of ± 25%.

(7) The total capital requirement for vega risk will be the sum of the absolute value of the individual capital requirements that have been calculated for vega risk.

Footnotes

[38] *The basic rules set out here for interest rate and equity options do not attempt to capture specific risk when calculating gamma capital requirements. However, national authorities may wish to require specific banks to do so.*

[39] *Positions have to be slotted into separate maturity ladders by currency.*

[40] *Banks using the duration method should use the time bands as set out in MAR40.29.*

Scenario approach

40.81 More sophisticated banks may opt to base the market risk capital requirement for options portfolios and associated hedging positions on scenario matrix analysis.

This will be accomplished by specifying a fixed range of changes in the option portfolio's risk factors and calculating changes in the value of the option portfolio at various points along this grid. For the purpose of calculating the capital requirement, the bank will revalue the option portfolio using matrices for simultaneous changes in the option's underlying rate or price and in the volatility of that rate or price. A different matrix will be set up for each individual underlying as defined in MAR40.80 above. As an alternative, at the discretion of each national authority, banks that are significant traders in options will for interest rate options be permitted to base the calculation on a minimum of six sets of time bands. When using this method, not more than three of the time bands as defined in MAR40.26 and MAR40.29 should be combined into any one set.

40.82 The options and related hedging positions will be evaluated over a specified range above and below the current value of the underlying. The range for interest rates is consistent with the assumed changes in yield in MAR40.26. Those banks using the alternative method for interest rate options set out in MAR40.81 above should use, for each set of time bands, the highest of the assumed changes in yield applicable to the group to which the time bands belong.[41] The other ranges are ± 8% for equities,[42] ± 8% for FX and gold, and ± 15% for commodities. For all risk categories, at least seven observations (including the current observation) should be used to divide the range into equally spaced intervals.

Footnotes

[41] *If, for example, the time bands 3 to 4 years, 4 to 5 years and 5 to 7 years are combined the highest assumed change in yield of these three bands would be 0.75.*

[42] *The basic rules set out here for interest rate and equity options do not attempt to capture specific risk when calculating gamma capital requirements. However, national authorities may wish to require specific banks to do so.*

40.83 The second dimension of the matrix entails a change in the volatility of the underlying rate or price. A single change in the volatility of the underlying rate or price equal to a shift in volatility of + 25% and - 25% is expected to be sufficient in most cases. As circumstances warrant, however, the supervisory authority may choose to require that a different change in volatility be used and/or that intermediate points on the grid be calculated.

40.84 After calculating the matrix, each cell contains the net profit or loss of the option and the underlying hedge instrument. The capital requirement for each underlying will then be calculated as the largest loss contained in the matrix.

40.85 The application of the scenario analysis by any specific bank will be subject to supervisory consent, particularly as regards the precise way that the analysis is constructed. Banks' use of scenario analysis as part of the simplified standardised approach will also be subject to validation by the national authority, and to those of the qualitative standards for internal models as set out in MAR30.

40.86 Besides the options risks mentioned above, the Committee is conscious of the other risks also associated with options, eg rho (rate of change of the value of the option with respect to the interest rate) and theta (rate of change of the value of the option with respect to time). While not proposing a measurement system for those risks at present, it expects banks undertaking significant options business at the very least to monitor such risks closely. Additionally, banks will be permitted to incorporate rho into their capital calculations for interest rate risk, if they wish to do so.

MAR50

Credit valuation adjustment framework

This chapter sets out how to calculate capital requirements to cover credit valuation adjustment risk.

Version effective as of 01 Jan 2023

Changes to give effect to the target revisions to the CVA framework published on the 8 July 2020.

Definitions and application

50.1 The risk-weighted assets for credit value adjustment risk are determined by multiplying the capital requirements calculated as set out in this chapter by 12.5.

50.2 In the context of this document, CVA stands for credit valuation adjustment specified at a counterparty level. CVA reflects the adjustment of default risk-free prices of derivatives and securities financing transactions (SFTs) due to a potential default of the counterparty.

50.3 Unless explicitly specified otherwise, the term CVA in this document means regulatory CVA. Regulatory CVA may differ from CVA used for accounting purposes as follows:

(1) regulatory CVA excludes the effect of the bank's own default; and

(2) several constraints reflecting best practice in accounting CVA are imposed on calculations of regulatory CVA. .

50.4 CVA risk is defined as the risk of losses arising from changing CVA values in response to changes in counterparty credit spreads and market risk factors that drive prices of derivative transactions and SFTs.

50.5 The capital requirements for CVA risk must be calculated by all banks involved in covered transactions in both banking book and trading book. Covered transactions include:

(1) all derivatives except those transacted directly with a qualified central counterparty and except those transactions meeting the conditions of CRE54.14 to CRE54.16; and

(2) SFTs that are fair-valued by a bank for accounting purposes, if their supervisor determines that the bank's CVA loss exposures arising from SFT transactions are material. In case the bank deems the exposures immaterial, the bank must justify its assessment to its supervisory by providing relevant supporting documentation.

FAQ

FAQ1 *Are SFTs for which the accounting amount of CVA reserves is determined to be zero included in the scope of "SFTs that are fair-valued by a bank for accounting purposes"?*

For the purpose of CVA capital requirement, SFTs that are fair-valued for accounting purposes and for which a bank records zero for CVA reserves for accounting purposes are included in the scope of covered transactions if the CVA risk of those SFTs is deemed material as described in MAR50.5 (2).

50.6 The CVA risk capital requirements are calculated for a bank's "CVA portfolio" on a standalone basis. The CVA portfolio includes CVA for a bank's entire portfolio of covered transactions and eligible CVA hedges.

50.7 Two approaches are available for calculating CVA capital requirements: the standardised approach (SA-CVA) and the basic approach (BA-CVA). Banks must use the BA-CVA unless they receive approval from their relevant supervisory authority to use the SA-CVA.[1]

Footnotes

[1] *Note that this is in contrast to the application of the market risk approaches set out in MAR11, where banks do not need supervisory approval to use the standardised approach.*

50.8 Banks that have received approval of their supervisory authority to use the SA-CVA may carve out from the SA-CVA calculations any number of netting sets. CVA capital requirements for all carved-out netting sets must be calculated using the BA-CVA. When applying the carve-out, a legal netting set may also be split into two synthetic netting sets, one containing the carved-out transactions subject to the BA-CVA and the other subject to the SA-CVA, subject to one or both of the following conditions:

(1) the split is consistent with the treatment of the legal netting set used by the bank for calculating accounting CVA (eg where certain transactions are not processed by the front office/accounting exposure model); or

(2) supervisory approval to use the SA-CVA is limited and does not cover all transactions within a legal netting set.

50.9 Banks that are below the materiality threshold specified in MAR50.9(1) may opt not to calculate its CVA capital requirements using the SA-CVA or BA-CVA and instead choose an alternative treatment.

(1) Any bank whose aggregate notional amount of non-centrally cleared derivatives is less than or equal to 100 billion euro is deemed as being below the materiality threshold.

(2) Any bank below the materiality threshold may choose to set its CVA capital requirement equal to 100% of the bank's capital requirement for counterparty credit risk (CCR).

(3) CVA hedges are not recognised under this treatment.

(4) If chosen, this treatment must be applied to the bank's entire portfolio instead of the BA-CVA or the SA-CVA.

(5) A bank's relevant supervisory authority, however, can remove this option if it determines that CVA risk resulting from the bank's derivative positions materially contributes to the bank's overall risk.

50.10 Eligibility criteria for CVA hedges are specified in MAR50.17 to MAR50.19 for the BA-CVA and in MAR50.37 to MAR50.39 for the SA-CVA.

50.11 CVA hedging instruments can be external (ie with an external counterparty) or internal (ie with one of the bank's trading desks).

(1) All external CVA hedges (including both eligible and ineligible external CVA hedges) that are covered transactions must be included in the CVA calculation of the counterparty providing to the hedge.

(2) All eligible external CVA hedges must be excluded from a bank's market risk capital requirement calculations under MAR10 through MAR40.

(3) Ineligible external CVA hedges are treated as trading book instruments and are capitalised under MAR10 through MAR40.

(4) An internal CVA hedge involves two perfectly offsetting positions: one of the CVA desk and the opposite position of the trading desk:

(a) If an internal CVA hedge is ineligible, both positions belong to the trading book where they cancel each other, so there is no impact on either the CVA portfolio or the trading book.

(b) If an internal CVA hedge is eligible, the CVA desk's position is part of the CVA portfolio where it is capitalised as set out in this chapter, while the trading desk's position is part of the trading book where it is capitalised as set out in MAR10 through MAR40.

(5) If an internal CVA hedge involves an instrument that is subject to curvature risk, default risk charge or the residual risk add-on under the standardised approach as set out in MAR20 to MAR23, it can be eligible only if the trading desk that is the CVA desk's internal counterparty executes a transaction with an external counterparty that exactly offsets the trading desk's position with the CVA desk.

50.12 Banks that use the BA-CVA or the SA-CVA for calculating CVA capital requirements may cap the maturity adjustment factor at 1 for all netting sets contributing to CVA capital requirements when they calculate CCR capital requirements under the Internal Ratings Based (IRB) approach.

Basic approach for credit valuation adjustment risk

50.13 The BA-CVA calculations may be performed either via the reduced version or the full version. A bank under the BA-CVA approach can choose whether to implement the full version or the reduced version at its discretion. However, all banks using the BA-CVA must calculate the reduced version of BA-CVA capital requirements as the reduced BA-CVA is also part of the full BA-CVA capital calculations as a conservative means to limit hedging recognition.

(1) The full version recognises counterparty credit spread hedges and is intended for banks that hedge CVA risk.

(2) The reduced version eliminates the element of hedging recognition from the full version. The reduced version is designed to simplify BA-CVA implementation for less sophisticated banks that do not hedge CVA.

Reduced version of the BA-CVA (hedges are not recognised)

50.14 The capital requirements for CVA risk under the reduced version of the BA-CVA ($DS_{BA\text{-}CVA} \times K_{reduced}$, where the discount scalar $DS_{BA\text{-}CVA} = 0.65$) are calculated as follows (where the summations are taken over all counterparties that are within scope of the CVA charge), where:

(1) $SCVA_c$ is the CVA capital requirement that counterparty c would receive if considered on a stand-alone basis (referred to as "stand-alone CVA capital" below). See MAR50.15 for its calculation;

(2) $\rho = 50\%$. It is the supervisory correlation parameter. Its square, $\rho^2=25\%$, represents the correlation between credit spreads of any two counterparties.[2] In the formula below, the effect of ρ is to recognise the fact that the CVA risk to which a bank is exposed is less than the sum of the CVA risk for each counterparty, given that the credit spreads of counterparties are typically not perfectly correlated; and

(3) The first term under the square root in the formula below aggregates the systematic components of CVA risk, and the second term under the square root aggregates the idiosyncratic components of CVA risk.

$$K_{reduced} = \sqrt{\left(\rho \cdot \sum_C SCVA_C\right)^2 + \left(1-\rho^2\right) \cdot \sum_C SCVA_C^2}$$

Footnotes

[2] *One of the basic assumptions underlying the BA-CVA is that systematic credit spread risk is driven by a single factor. Under this assumption, ρ can be interpreted as the correlation between the credit spread of a counterparty and the single credit spread systematic factor.*

50.15 The stand-alone CVA capital requirements for counterparty c that are used in the formula in MAR50.14 ($SCVA_c$) are calculated as follows (where the summation is across all netting sets with the counterparty), where:

(1) RW_c is the risk weight for counterparty c that reflects the volatility of its credit spread. These risk weights are based on a combination of sector and credit quality of the counterparty as prescribed in MAR50.16.

(2) M_{NS} is the effective maturity for the netting set NS. For banks that have supervisory approval to use the IMM, M_{NS} is calculated as per CRE53.20 and CRE53.21, with the exception that the five year cap in CRE53.20 is not applied. For banks that do not have supervisory approval to use the IMM, M_{NS} is calculated according to CRE32.46 to CRE32.54, with the exception that the five-year cap in CRE32.46 is not applied.

(3) EAD_{NS} is the exposure at default (EAD) of the netting set NS, calculated in the same way as the bank calculates it for minimum capital requirements for CCR.

(4) DF_{NS} is a supervisory discount factor. It is 1 for banks using the IMM to calculate EAD, and is $\frac{1-e^{-0.05 \cdot M_{NS}}}{0.05 \cdot M_{NS}}$ for banks not using the IMM.[3]

(5) $\alpha = 1.4$.[4]

$$SCVA_C = \frac{1}{\alpha} \cdot RW_C \cdot \sum_{NS} M_{NS} \cdot EAD_{NS} \cdot DF_{NS}$$

Footnotes

[3] *DF is the supervisory discount factor averaged over time between today and the netting set's effective maturity date. The interest rate used for discounting is set at 5%, hence 0.05 in the formula. The product of EAD and effective maturity in the BA-CVA formula is a proxy for the area under the discounted expected exposure profile of the netting set. The IMM definition of effective maturity already includes this discount factor, hence DF is set to 1 for IMM banks. Outside IMM, the netting set' s effective maturity is defined as an average of actual trade maturities. This definition lacks discounting, so the supervisory discount factor is added to compensate for this.*

[4] *α is the multiplier used to convert Effective expected positive exposure (EEPE) to EAD in both SA-CCR and IMM. Its role in the calculation, therefore, is to convert the EAD of the netting set (EAD_{NS}) back to EEPE.*

50.16 The supervisory risk weights (RW_C) are given in Table 1. Credit quality is specified as either investment grade (IG), high yield (HY), or not rated (NR). Where there are no external ratings or where external ratings are not recognised within a jurisdiction, banks may, subject to supervisory approval, map the internal rating to an external rating and assign a risk weight corresponding to either IG or HY. Otherwise, the risk weights corresponding to NR is to be applied.

Table 1

Supervisory risk weights, $RW\text{-}_C$

Sector of counterparty	Credit quality of counterparty	
	IG	HY and NR
Sovereigns including central banks and multilateral development banks	0.5%	2.0%
Local government, government-backed non-financials, education and public administration	1.0%	4.0%
Financials including government-backed financials	5.0%	12.0%
Basic materials, energy, industrials, agriculture, manufacturing, mining and quarrying	3.0%	7.0%
Consumer goods and services, transportation and storage, administrative and support service activities	3.0%	8.5%
Technology, telecommunications	2.0%	5.5%
Health care, utilities, professional and technical activities	1.5%	5.0%
Other sector	5.0%	12.0%

Full version of the BA-CVA (hedges are recognised)

50.17 As set out in MAR50.13(1) the full version of the BA-CVA recognises the effect of counterparty credit spread hedges. Only transactions used for the purpose of mitigating the counterparty credit spread component of CVA risk, and managed as such, can be eligible hedges.

50.18 Only single-name credit default swaps (CDS), single-name contingent CDS and index CDS can be eligible CVA hedges.

50.19 Eligible single-name credit instruments must:

(1) reference the counterparty directly; or

(2) reference an entity legally related to the counterparty, where legally related refers to cases where the reference name and the counterparty are either a parent and its subsidiary or two subsidiaries of a common parent; or

(3) reference an entity that belongs to the same sector and region as the counterparty.

50.20 Banks that intend to use the full version of BA-CVA must calculate the reduced version ($K_{reduced}$) as well. Under the full version, capital requirements for CVA risk $DS_{BA\text{-}CVA} \times K_{full}$ is calculated as follows, where $DS_{BA\text{-}CVA}$ =0.65, and β=0.25 is the supervisory parameter that is used to provide a floor that limits the extent to which hedging can reduce the capital requirements for CVA risk:

$$K_{full} = \beta \cdot K_{reduced} + \left(1 - \beta\right) \cdot K_{hedged}$$

50.21 The part of capital requirements that recognises eligible hedges (K_{hedged}) is calculated as follows (where the summations are taken over all counterparties c that are within scope of the CVA charge), where:

(1) Both the stand-alone CVA capital ($SCVA_C$) and the correlation parameter (ρ) are defined in exactly the same way as for the reduced version calculation of the BA-CVA.

(2) SNH_C is a quantity that gives recognition to the reduction in CVA risk of the counterparty c arising from the bank's use of single-name hedges of credit spread risk. See MAR50.23 for its calculation.

(3) IH is a quantity that gives recognition to the reduction in CVA risk across all counterparties arising from the bank's use of index hedges. See MAR50.24 for its calculation.

(4) HMA_C is a quantity characterising hedging misalignment, which is designed to limit the extent to which indirect hedges can reduce capital requirements giver that they will not fully offset movements in a counterparty's credit spread. That is, with indirect hedges present, K_{hedged} cannot reach zero. See MAR50.25 for its calculation.

$$K_{hedged} = \sqrt{\left(\rho \cdot \sum_C \left(SCVA_C - SNH_C\right) - IH\right)^2 + \left(1-\rho^2\right) \cdot \sum_C \left(SCVA_C - SNH_C\right)^2 + \sum_C HMA_C}$$

50.22 The formula for K_{hedged} in MAR50.21 comprises three main terms as below:

(1) The first term $(\rho \cdot \sum_c (SCVA_c - SNH_c) - IH)^2$ aggregates the systematic components of CVA risk arising from the bank's counterparties, the single-name hedges and the index hedges.

(2) The second term $(1-\rho^2) \cdot \sum_c (SCVA_c - SNH_c)^2$ aggregates the idiosyncratic components of CVA risk arising from the bank's counterparties and the single-name hedges.

(3) The third term $\sum_c HMA_c$ aggregates the components of indirect hedges that are not aligned with counterparties' credit spreads.

50.23 The quantity SNH_c is calculated as follows (where the summation is across all single name hedges h that the bank has taken out to hedge the CVA risk of counterparty c), where:

(1) r_{hc} is the supervisory prescribed correlation between the credit spread of counterparty c and the credit spread of a single-name hedge h of counterparty c. The value of r_{hc} is set out in the Table 2 of MAR50.26. It is set at 100% if the hedge directly references the counterparty c, and set at lower values if it does not.

(2) M_h^{SN} is the remaining maturity of single-name hedge h.

(3) B_h^{SN} is the notional of single-name hedge h. For single-name contingent CDS, the notional is determined by the current market value of the reference portfolio or instrument.

(4) DF_h^{SN} is the supervisory discount factor calculated as $\frac{1-e^{-0.05 \cdot M_h^{SN}}}{0.05 \cdot M_h^{SN}}$.

(5) RW_h is the supervisory risk weight of single-name hedge h that reflects the volatility of the credit spread of the reference name of the hedging instrument. These risk weights are based on a combination of the sector and the credit quality of the reference name of the hedging instrument as prescribed in Table 1 of MAR50.16.

$$SNH_c = \sum_{h \in c} r_{hc} \cdot RW_h \cdot M_h^{SN} \cdot B_h^{SN} \cdot DF_h^{SN}$$

50.24 The quantity IH is calculated as follows (where the summation is across all index hedges i that the bank has taken out to hedge CVA risk), where:

(1) M_i^{ind} is the remaining maturity of index hedge i.

(2) B_i^{ind} is the notional of the index hedge i.

(3) DF_i^{ind} is the supervisory discount factor calculated as $\frac{1-e^{-0.05 \cdot M_i^{ind}}}{0.05 \cdot M_i^{ind}}$

(4) RW_i is the supervisory risk weight of the index hedge i. RW_i is taken from the Table 1 of MAR50.16 based on the sector and the credit quality of the index constituents and adjusted as follows:

(a) For an index where all index constituents belong to the same sector and are of the same credit quality, the relevant value in the Table 1 of MAR50.16 is multiplied by 0.7 to account for diversification of idiosyncratic risk within the index.

(b) For an index spanning multiple sectors or with a mixture of investment grade constituents and other grade constituents, the name-weighted average of the risk weights from the Table 1 of MAR50.16 should be calculated and then multiplied by 0.7.

$$IH = \sum_i RW_i \cdot M_i^{ind} \cdot B_i^{ind} \cdot DF_i^{ind}$$

50.25

The quantity HMA_C is calculated as follows (where the summation is across all single name hedges h that have been taken out to hedge the CVA risk of counterparty c), where r_{hc}, M_h^{SN}, B_h^{SN}, DF_h^{SN} and RW_h have the same definitions as set out in MAR50.23.

$$HMA_c = \sum_{h \in c} \left(1 - r_{hc}^2\right) \cdot \left(RW_h \cdot M_h^{SN} \cdot B_h^{SN} \cdot DF_h^{SN}\right)^2$$

50.26 The supervisory prescribed correlations r_{hc} between the credit spread of counterparty *c* and the credit spread of its single-name hedge *h* are set in Table 2 as follows:

Correlations between credit spread of counterparty and single-name hedge — Table 2

Single-name hedge *h* of counterparty *c*	Value of r_{hc}
references counterparty *c* directly	100%
has legal relation with counterparty *c*	80%
shares sector and region with counterparty *c*	50%

Standardised approach for credit valuation adjustment risk

50.27 The SA-CVA is an adaptation of the standardised approach for market risk set out in MAR20 to MAR23. The primary differences of the SA-CVA from the standardised approach for market risk are:

(1) the SA-CVA features a reduced granularity of market risk factors; and

(2) the SA-CVA does not include default risk and curvature risk.

50.28 Under the SA-CVA, capital requirements must be calculated and reported to supervisors at the same monthly frequency as for the market risk standardised approach. In addition, banks using the SA-CVA must have the ability to produce SA-CVA capital requirement calculations at the request of their supervisors and must accordingly provide the calculations.

50.29 The SA-CVA uses as inputs the sensitivities of regulatory CVA to counterparty credit spreads and market risk factors driving the values of covered transactions.

Sensitivities must be computed by banks in accordance with the prudent valuation standards set out in CAP50.

50.30 For a bank to be considered eligible for the use of SA-CVA by its relevant supervisor as set out in MAR50.7, the bank must meet the following criteria at the minimum.

(1) A bank must be able to model exposure and calculate, on at least a monthly basis, CVA and CVA sensitivities to the market risk factors specified in MAR50.54 to MAR50.77.

(2) A bank must have a CVA desk (or a similar dedicated function) responsible for risk management and hedging of CVA.

Regulatory CVA calculations

50.31 A bank must calculate regulatory CVA for each counterparty with which it has at least one covered position for the purpose of the CVA risk capital requirements.

50.32 Regulatory CVA at a counterparty level must be calculated according to the following principles. A bank must demonstrate its compliance to the principles to its relevant supervisor.

(1) Regulatory CVA must be calculated as the expectation of future losses resulting from default of the counterparty under the assumption that the bank itself is free from the default risk. In expressing the regulatory CVA, non-zero losses must have a positive sign. This is reflected in MAR50.52 where

WS_k^{Hdg} must be subtracted from WS_k^{CVA}

.

(2) The calculation must be based on at least the following three sets of inputs:

(a) term structure of market-implied probability of default (PD);

(b) market-consensus expected loss-given-default (ELGD);

(c) simulated paths of discounted future exposure.

(3) The term structure of market-implied PD must be estimated from credit spreads observed in the markets. For counterparties whose credit is not actively traded (ie illiquid counterparties), the market-implied PD must be

estimated from proxy credit spreads estimated for these counterparties according to the following requirements:

(a) A bank must estimate the credit spread curves of illiquid counterparties from credit spreads observed in the markets of the counterparty's liquid peers via an algorithm that discriminates on at least the following three variables: a measure of credit quality (eg rating), industry, and region.

(b) In certain cases, mapping an illiquid counterparty to a single liquid reference name can be allowed. A typical example would be mapping a municipality to its home country (ie setting the municipality credit spread equal to the sovereign credit spread plus a premium). A bank must justify to its supervisor each case of mapping an illiquid counterparty to a single liquid reference name.

(c) When no credit spreads of any of the counterparty's peers is available due to the counterparty's specific type (eg project finance, funds), a bank is allowed to use a more fundamental analysis of credit risk to proxy the spread of an illiquid counterparty. However, where historical PDs are used as part of this assessment, the resulting spread cannot be based on historical PD only - it must relate to credit markets.

(4) The market-consensus ELGD value must be the same as the one used to calculate the risk-neutral PD from credit spreads unless the bank can demonstrate that the seniority of the exposure resulting from covered positions differs from the seniority of senior unsecured bonds. Collateral provided by the counterparty does not change the seniority of the exposure.

(5) The simulated paths of discounted future exposure are produced by pricing all derivative transactions with the counterparty along simulated paths of relevant market risk factors and discounting the prices to today using risk-free interest rates along the path.

(6) All market risk factors material for the transactions with a counterparty must be simulated as stochastic processes for an appropriate number of paths defined on an appropriate set of future time points extending to the maturity of the longest transaction.

(7) For transactions with a significant level of dependence between exposure and the counterparty's credit quality, this dependence should be taken into account.

(8) For margined counterparties, collateral is permitted to be recognised as a risk mitigant under the following conditions:

(a) Collateral management requirements outlined in CRE53.39 and CRE53.40 are satisfied.

(b) All documentation used in collateralised transactions must be binding on all parties and legally enforceable in all relevant jurisdictions. Banks must have conducted sufficient legal review to verify this and have a well founded legal basis to reach this conclusion, and undertake such further review as necessary to ensure continuing enforceability.

(9) For margined counterparties, the simulated paths of discounted future exposure must capture the effects of margining collateral that is recognised as a risk mitigant along each exposure path. All the relevant contractual features such as the nature of the margin agreement (unilateral vs bilateral), the frequency of margin calls, the type of collateral, thresholds, independent amounts, initial margins and minimum transfer amounts must be appropriately captured by the exposure model. To determine collateral available to a bank at a given exposure measurement time point, the exposure model must assume that the counterparty will not post or return any collateral within a certain time period immediately prior to that time point. The assumed value of this time period, known as the margin period of risk (MPoR), cannot be less than a supervisory floor. For SFTs and client cleared transactions as specified in CRE54.12, the supervisory floor for the MPoR is equal to 4+N business days, where N is the re-margining period specified in the margin agreement (in particular, for margin agreements with daily or intra-daily exchange of margin, the minimum MPoR is 5 business days). For all other transactions, the supervisory floor for the MPoR is equal to 9+N business days.

50.33 The simulated paths of discounted future exposure are obtained via the exposure models used by a bank for calculating front office/accounting CVA, adjusted (if needed) to meet the requirements imposed for regulatory CVA calculation. Model calibration process (with the exception of the MPoR), market and transaction data used for regulatory CVA calculation must be the same as the ones used for accounting CVA calculation.

50.34 The generation of market risk factor paths underlying the exposure models must satisfy and a bank must demonstrate to its relevant supervisors its compliance to the following requirements:

(1) Drifts of risk factors must be consistent with a risk-neutral probability measure. Historical calibration of drifts is not allowed.

(2) The volatilities and correlations of market risk factors must be calibrated to market data whenever sufficient data exist in a given market. Otherwise, historical calibration is permissible.

(3) The distribution of modelled risk factors must account for the possible non-normality of the distribution of exposures, including the existence of leptokurtosis ("fat tails"), where appropriate.

50.35 Netting recognition is the same as in the accounting CVA calculations used by the bank. In particular, netting uncertainty can be modelled.

50.36 A bank must satisfy and demonstrate to its relevant supervisors its compliance to the following requirements:

(1) Exposure models used for calculating regulatory CVA must be part of a CVA risk management framework that includes the identification, measurement, management, approval and internal reporting of CVA risk. A bank must have a credible track record in using these exposure models for calculating CVA and CVA sensitivities to market risk factors.

(2) Senior management should be actively involved in the risk control process and must regard CVA risk control as an essential aspect of the business to which significant resources need to be devoted.

(3) A bank must have a process in place for ensuring compliance with a documented set of internal policies, controls and procedures concerning the operation of the exposure system used for accounting CVA calculations.

(4) A bank must have an independent control unit that is responsible for the effective initial and ongoing validation of the exposure models. This unit must be independent from business credit and trading units (including the CVA desk), must be adequately staffed and must report directly to senior management of the bank.

(5) A bank must document the process for initial and ongoing validation of its exposure models to a level of detail that would enable a third party to understand how the models operate, their limitations, and their key assumptions; and recreate the analysis. This documentation must set out the minimum frequency with which ongoing validation will be conducted as well as other circumstances (such as a sudden change in market behaviour) under which additional validation should be conducted. In addition, the documentation must describe how the validation is conducted with respect to data flows and portfolios, what analyses are used and how representative counterparty portfolios are constructed.

(6) The pricing models used to calculate exposure for a given path of market risk factors must be tested against appropriate independent benchmarks for a wide range of market states as part of the initial and ongoing model validation process. Pricing models for options must account for the non-linearity of option value with respect to market risk factors.

(7) An independent review of the overall CVA risk management process should be carried out regularly in the bank's own internal auditing process. This review should include both the activities of the CVA desk and of the independent risk control unit.

(8) A bank must define criteria on which to assess the exposure models and their inputs and have a written policy in place to describe the process to assess the performance of exposure models and remedy unacceptable performance.

(9) Exposure models must capture transaction-specific information in order to aggregate exposures at the level of the netting set. A bank must verify that transactions are assigned to the appropriate netting set within the model.

(10) Exposure models must reflect transaction terms and specifications in a timely, complete, and conservative fashion. The terms and specifications must reside in a secure database that is subject to formal and periodic audit. The transmission of transaction terms and specifications data to the exposure model must also be subject to internal audit, and formal reconciliation processes must be in place between the internal model and source data systems to verify on an ongoing basis that transaction terms and specifications are being reflected in the exposure system correctly or at least conservatively.

(11) The current and historical market data must be acquired independently of the lines of business and be compliant with accounting. They must be fed into the exposure models in a timely and complete fashion, and maintained in a secure database subject to formal and periodic audit. A bank must also have a well-developed data integrity process to handle the data of erroneous and/or anomalous observations. In the case where an exposure model relies on proxy market data, a bank must set internal policies to identify suitable proxies and the bank must demonstrate empirically on an ongoing basis that the proxy provides a conservative representation of the underlying risk under adverse market conditions.

Eligible hedges

50.37 Only whole transactions that are used for the purpose of mitigating CVA risk, and managed as such, can be eligible hedges. Transactions cannot be split into several effective transactions.

50.38 Eligible hedges can include:

(1) instruments that hedge variability of the counterparty credit spread; and

(2) instruments that hedge variability of the exposure component of CVA risk.

50.39 Instruments that are not eligible for the internal models approach for market risk under MAR30 to MAR33 (eg tranched credit derivatives) cannot be eligible CVA hedges.

Multiplier

50.40 Aggregated capital requirements can be scaled up by the multiplier m_{CVA}.

50.41 The multiplier m_{CVA} is set at 1. A bank's relevant supervisor may require a bank to use a higher value of m_{CVA} if the supervisor determines that the bank's CVA model risk warrants it (eg if the level of model risk for the calculation of CVA sensitivities is too high or the dependence between the bank's exposure to a counterparty and the counterparty's credit quality is not appropriately taken into account in its CVA calculations).

Calculations

50.42 The SA-CVA capital requirements are calculated as the sum of the capital requirements for delta and vega risks calculated for the entire CVA portfolio (including eligible hedges).

50.43 The capital requirements for delta risk are calculated as the simple sum of delta capital requirements calculated independently for the following six risk classes:

(1) interest rate risk;

(2) foreign exchange (FX) risk;

(3) counterparty credit spread risk;

(4) reference credit spread risk (ie credit spreads that drive the CVA exposure component);

(5) equity risk; and

(6) commodity risk.

50.44 If an instrument is deemed as an eligible hedge for credit spread delta risk, it must be assigned in its entirety (see MAR50.37) either to the counterparty credit spread or to the reference credit spread risk class. Instruments must not be split between the two risk classes.

50.45 The capital requirements for vega risk are calculated as the simple sum of vega capital requirements calculated independently for the following five risk classes. There is no vega capital requirements for counterparty credit spread risk.

(1) interest rate risk;

(2) FX risk;

(3) reference credit spread risk;

(4) equity risk; and

(5) commodity risk.

50.46 Delta and vega capital requirements are calculated in the same manner using the same procedures set out in MAR50.47 to MAR50.53.

50.47 For each risk class, (i) the sensitivity of the aggregate CVA, S_k^{CVA} , and (ii) the sensitivity of the market value of all eligible hedging instruments in the CVA portfolio, S_k^{Hdg} , to each risk factor k in the risk class are calculated. The sensitivities are defined as the ratio of the change of the value in question (ie (i) aggregate CVA or (ii) market value of all CVA hedges) caused by a small change of the risk factor's current value to the size of the change. Specific definitions for each risk class are set out in MAR50.54 to MAR50.77. These definitions include specific values of changes or shifts in risk factors. However, a bank may use smaller values of risk factor shifts if doing so is consistent with internal risk management calculations.

FAQ

FAQ1 *Are banks permitted under the SA-CVA to calculate CVA sensitivities via algorithmic techniques such as adjoint algorithmic differentiation (AAD)?*

Yes. A bank may use AAD and similar computational techniques to calculate CVA sensitivities under the SA-CVA if doing so is consistent with the bank's internal risk management calculations and the relevant validation standards described in the SA-CVA framework.

50.48 CVA sensitivities for vega risk are always material and must be calculated regardless of whether or not the portfolio includes options. When CVA sensitivities for vega risk are calculated, the volatility shift must apply to both types of volatilities that appear in exposure models:

(1) volatilities used for generating risk factor paths; and

(2) volatilities used for pricing options.

50.49 If a hedging instrument is an index, its sensitivities to all risk factors upon which the value of the index depends must be calculated. The index sensitivity to risk factor k must be calculated by applying the shift of risk factor k to all index constituents that depend on this risk factor and recalculating the changed value of the index. For example, to calculate delta sensitivity of S&P500 to large financial companies, a bank must apply the relevant shift to equity prices of all large financial companies that are constituents of S&P500 and re-compute the index.

50.50 For the following risk classes, a bank may choose to introduce a set of additional risk factors that directly correspond to qualified credit and equity indices. For delta risks, a credit or equity index is qualified if it satisfies liquidity and diversification conditions specified in MAR21.31; for vega risks, any credit or equity index is qualified. Under this option, a bank must calculate sensitivities of CVA and the eligible CVA hedges to the qualified index risk factors in addition to sensitivities to the non-index risk factors. Under this option, for a covered transaction or an eligible hedging instrument whose underlying is a qualified index, its contribution to sensitivities to the index constituents is replaced with its contribution to a single sensitivity to the underlying index. For example, for a portfolio consisting only of equity derivatives referencing only qualified equity indices, no calculation of CVA sensitivities to non-index equity risk factors is necessary. If more than 75% of constituents of a qualified index (taking into account the weightings of the constituents) are mapped to the same sector, the entire index must be mapped to that sector and treated as a single-name sensitivity in that bucket. In all other cases, the sensitivity must be mapped to the applicable index bucket.

(1) counterparty credit spread risk;

(2) reference credit spread risk; and

(3) equity risk.

50.51 The weighted sensitivities WS_k^{CVA} and WS_k^{Hdg} for each risk factor k are calculated by multiplying the net sensitivities S_k^{CVA} and S_k^{Hdg}, respectively, by the corresponding risk weight RW_k (the risk weights applicable to each risk class are specified in MAR50.54 to MAR50.77).

$$WS_k^{CVA} = RW_k s_k^{CVA}$$

$$WS_k^{Hdg} = RW_k s_k^{Hdg}$$

50.52 The net weighted sensitivity of the CVA portfolio $_{sk}$ to risk factor k is obtained by:[5]

$$WS_k = WS_k^{CVA} - WS_k^{Hdg}$$

Footnotes

[5] *Note that the formula in MAR50.52 is set out under the convention that the CVA is positive as specified in MAR50.32 (1). It intends to recognise the risk reducing effect of hedging. For example, when hedging the counterparty credit spread component of CVA risk for a specific counterparty by buying credit protection on the counterparty: if the counterparty's credit spread widens, the CVA (expressed as a positive value) increases resulting in the positive CVA sensitivity to the counterparty credit spread. At the same time, as the value of the hedge from the bank's perspective increases as well (as credit protection becomes more valuable), the sensitivity of the hedge is also positive. The positive weighted sensitivities of the CVA and its hedge offset each other using the formula with the minus sign. If CVA loss had been expressed as a negative value, the minus sign in MAR50.52 would have been replaced by a plus sign.*

50.53 For each risk class, the net sensitivities are aggregated as follows:

(1) The weighted sensitivities must be aggregated into a capital requirement K_b within each bucket b (the buckets and correlation parameters ρ_{kl} applicable to each risk class are specified in MAR50.54 to MAR50.77), where R is the hedging disallowance parameter, set at 0.01, that prevents the possibility of recognising perfect hedging of CVA risk.

$$K_b = \sqrt{\left(\sum_{k\in b} WS_k^2 + \sum_{k\in b}\sum_{l\in b, l\neq k} \rho_{kl} WS_k WS_l\right) + R\cdot\sum_{k\in b}\left(\left(WS_k^{Hdg}\right)^2\right)}$$

(2) Bucket-level capital requirements must then be aggregated across buckets within each risk class (the correlation parameters γbc applicable to each risk class are specified in MAR50.54 to MAR50.77). Note that this equation differs from the corresponding aggregation equation for market risk capital requirements in MAR21.4, including the multiplier m_{CVA}.

$$K = m_{CVA}\sqrt{\sum_b K_b^2 + \sum_b \sum_{b\neq c} \gamma_{bc} S_b S_c}$$

(3) In calculating K in above (2), S_b is defined as the sum of the weighted sensitivities WS_k for all risk factors k within bucket b, floored by $-K_b$ and capped by K_b, and the S_c is defined in the same way for all risk factors k in bucket c:

$$S_b = \max\left\{-K_b; \min\left(\sum_{k \in b} WS_k; K_b\right)\right\}$$

$$S_c = \max\left\{-K_c; \min\left(\sum_{k \in c} WS_k; K_c\right)\right\}$$

Interest rate buckets, risk factors, sensitivities, risk weights and correlations

50.54 For interest rate delta and vega risks, buckets must be set per individual currencies.

50.55 For interest rate delta and vega risks, cross-bucket correlation γ_{bc} is set at 0.5 for all currency pairs.

50.56 The interest rate delta risk factors for a bank's reporting currency and for the following currencies USD, EUR, GBP, AUD, CAD, SEK or JPY:

(1) The interest rate delta risk factors are the absolute changes of the inflation rate and of the risk-free yields for the following five tenors: 1 year, 2 years, 5 years, 10 years and 30 years.

(2) The sensitivities to the abovementioned risk-free yields are measured by changing the risk-free yield for a given tenor for all curves in a given currency by 1 basis point (0.0001 in absolute terms) and dividing the resulting change in the aggregate CVA (or the value of CVA hedges) by 0.0001. The sensitivity to the inflation rate is obtained by changing the inflation rate by 1 basis point (0.0001 in absolute terms) and dividing the resulting change in the aggregate CVA (or the value of CVA hedges) by 0.0001.

(3) The risk weights RW_k are set as follows:

Risk weight for interest rate risk (specified currencies) Table 3

Risk factor	1 year	2 years	5 years	10 years	30 years	Inflation
Risk weight	1.11%	0.93%	0.74%	0.74%	0.74%	1.11%

(4) The correlations between pairs of risk factors ρ_{kl} are set as follows:

Correlations for interest rate risk factors (specified currencies) Table 4

	1 year	2 years	5 years	10 years	30 years	Inflation
1 year	100%	91%	72%	55%	31%	40%
2 years		100%	87%	72%	45%	40%
5 years			100%	91%	68%	40%
10 years				100%	83%	40%
30 years					100%	40%
Inflation						100%

50.57 The interest rate delta risk factors for other currencies not specified in MAR50.56:

(1) The interest rate risk factors are the absolute change of the inflation rate and the parallel shift of the entire risk-free yield curve for a given currency.

(2) The sensitivity to the yield curve is measured by applying a parallel shift to all risk-free yield curves in a given currency by 1 basis point (0.0001 in absolute terms) and dividing the resulting change in the aggregate CVA (or the value of CVA hedges) by 0.0001. The sensitivity to the inflation rate is obtained by changing the inflation rate by 1 basis point (0.0001 in absolute terms) and dividing the resulting change in the aggregate CVA (or the value of CVA hedges) by 0.0001.

(3) The risk weights for both the risk-free yield curve and the inflation rate RW_k are set at 1.58%.

(4) The correlations between the risk-free yield curve and the inflation rate ρ_{kl} are set at 40%.

50.58 The interest rate vega risk factors for all currencies:

(1) The interest rate vega risk factors are a simultaneous relative change of all volatilities for the inflation rate and a simultaneous relative change of all interest rate volatilities for a given currency.

(2) The sensitivity to (i) the interest rate volatilities or (ii) inflation rate volatilities is measured by respectively applying a simultaneous shift to (i) all interest rate volatilities or (ii) inflation rate volatilities by 1% relative to their current values and dividing the resulting change in the aggregate CVA (or the value of CVA hedges) by 0.01.

(3) The risk weights for both the interest rate volatilities and the inflation rate volatilities RW_k are set to 100%.

(4) Correlations between the interest rate volatilities and the inflation rate volatilities ρ_{kl} are set at 40%.

Foreign exchange buckets, risk factors, sensitivities, risk weights and correlations

50.59 For FX delta and vega risks, buckets must be set per individual currencies except for a bank's own reporting currency.

50.60 For FX delta and vega risks, the cross-bucket correlation γ_{bc} is set at 0.6 for all currency pairs.

50.61 The FX delta risk factors for all currencies:

(1) The single FX delta risk factor is defined as the relative change of the FX spot rate between a given currency and a bank's reporting currency, where the FX spot rate is the current market price of one unit of another currency expressed in the units of the bank's reporting currency.

(2) Sensitivities to FX spot rates are measured by shifting the exchange rate between the bank's reporting currency and another currency (ie the value of one unit of another currency expressed in units of the reporting currency) by 1% relative to its current value and dividing the resulting change in the aggregate CVA (or the value of CVA hedges) by 0.01. For transactions that reference an exchange rate between a pair of non-reporting currencies, the sensitivities to the FX spot rates between the bank's reporting currency and each of the referenced non-reporting currencies must be measured.[6]

(3) The risk weights for all exchange rates between the bank's reporting currency and another currency are set at 11%.

Footnotes

[6] *For example, if a EUR-reporting bank holds an instrument that references the USD-GBP exchange rate, the bank must measure CVA sensitivity both to the EUR-GBP exchange rate and to the EUR-USD exchange rate.*

50.62 The FX vega risk factors for all currencies:

(1) The single FX vega risk factor is a simultaneous relative change of all volatilities for an exchange rate between a bank's reporting currency and another given currency.

(2) The sensitivities to the FX volatilities are measured by simultaneously shifting all volatilities for a given exchange rate between the bank's reporting currency and another currency by 1% relative to their current values and dividing the resulting change in the aggregate CVA (or the value of CVA hedges) by 0.01. For transactions that reference an exchange rate between a pair of non-reporting currencies, the volatilities of the FX spot rates between the bank's reporting currency and each of the referenced non-reporting currencies must be measured.

(3) The risk weights for FX volatilities RW_k are set to 100%.

Counterparty credit spread buckets, risk factors, sensitivities, risk weights and correlations

50.63 Counterparty credit spread risk is not subject to vega risk capital requirements. Buckets for delta risk are set as follows:

(1) Buckets 1 to 7 are defined for factors that are not qualified indices as set out in MAR50.50;

(2) Bucket 8 is set for the optional treatment of qualified indices. Under the optional treatment, only instruments that reference qualified indices can be assigned to bucket 8, while all single-name and all non-qualified index hedges must be assigned to buckets 1 to 7 for calculations of CVA sensitivities and sensitivities. For any instrument referencing an index assigned to buckets 1 to 7, the look-through approach must be used (ie, sensitivity of the hedge to each index constituent must be calculated).

Buckets for counterparty credit spread delta risk — Table 5

Bucket number	Sector
1	a) Sovereigns including central banks, multilateral development banks
	b) Local government, government-backed non-financials, education and public administration
2	Financials including government-backed financials
3	Basic materials, energy, industrials, agriculture, manufacturing, mining and quarrying
4	Consumer goods and services, transportation and storage, administrative and support service activities
5	Technology, telecommunications
6	Health care, utilities, professional and technical activities
7	Other sector
8	Qualified Indices

50.64 For counterparty credit spread delta risk, the cross-bucket correlations γ_{bc} are set as follows:

Cross-bucket correlations for counterparty credit spread delta risk — Table 6

Bucket	1	2	3	4	5	6	7	8
1	100%	10%	20%	25%	20%	15%	0%	45%
2		100%	5%	15%	20%	5%	0%	45%
3			100%	20%	25%	5%	0%	45%
4				100%	25%	5%	0%	45%
5					100%	5%	0%	45%
6						100%	0%	45%
7							100%	0%
8								100%

50.65 The counterparty credit spread delta risk factors for a given bucket:

(1) The counterparty credit spread delta risk factors are absolute shifts of credit spreads of individual entities (counterparties and reference names for counterparty credit spread hedges) and qualified indices (if the optional treatment is chosen) for the following tenors: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(2) For each entity and each tenor point, the sensitivities are measured by shifting the relevant credit spread by 1 basis point (0.0001 in absolute terms) and dividing the resulting change in the aggregate CVA (or the value of CVA hedges) by 0.0001.

(3) The risk weights RW_k are set as follows depending on the entity's bucket, where IG, HY and NR represent "investment grade", "high yield" and "not rated" as specified for the BA-CVA in MAR50.16. The same risk weight for a given bucket and given credit quality applies to all tenors.

Risk weights for counterparty credit spread delta risk — Table 7

Bucket	1 a)	1 b)	2	3	4	5	6	7	8
IG names	0.5%	1.0%	5.0%	3.0%	3.0%	2.0%	1.5%	5.0%	1.5%
HY and NR names	2.0%	4.0%	12.0%	7.0%	8.5%	5.5%	5.0%	12.0%	5.0%

(4) For buckets 1 to 7, the correlation parameter ρ_{kl} between two weighted sensitivities WS_k and WS_l is calculated as follows, where:

(a) ρ_{tenor} is equal to 100% if the two tenors are the same and 90% otherwise;

(b) ρ_{name} is equal to 100% if the two names are the same, 90% if the two names are distinct, but legally related and 50% otherwise;

(c) $\rho_{quality}$ is equal to 100% if the credit quality of the two names is the same (ie IG and IG or HY/NR and HY/NR) and 80% otherwise.

$$\rho_{kl} = \rho_{tenor} \cdot \rho_{name} \cdot \rho_{quality}$$

(5) For bucket 8, the correlation parameter ρ_{kl} between two weighted sensitivities WS_k and WS_l is calculated as follows, where:

(a) ρ_{tenor} is equal to 100% if the two tenors are the same and 90% otherwise;

(b) ρ_{name} is equal to 100% if the two indices are the same and of the same series, 90% if the two indices are the same, but of distinct series, and 80% otherwise;

(c) $\rho_{quality}$ is equal to 100% if the credit quality of the two indices is the same (ie IG and IG or HY and HY) and 80% otherwise.

$$\rho_{kl} = \rho_{tenor} \cdot \rho_{name} \cdot \rho_{quality}$$

Reference credit spread buckets, risk factors, sensitivities, risk weights and correlations

50.66 Reference credit spread risk is subject to both delta and vega risk capital requirements. Buckets for delta and vega risks are set as follows, where IG, HY and NR represent "investment grade", "high yield" and "not rated" as specified for the BA-CVA in MAR50.16:

Buckets for reference credit spread risk — Table 8

Bucket number	Credit quality	Sector
1	IG	Sovereigns including central banks, multilateral development banks
2		Local government, government-backed non-financials, education and public administration
3		Financials including government-backed financials
4		Basic materials, energy, industrials, agriculture, manufacturing, mining and quarrying
5		Consumer goods and services, transportation and storage, administrative and support service activities
6		Technology, telecommunications
7		Health care, utilities, professional and technical activities
8	HY and NR	Sovereigns including central banks, multilateral development banks
9		Local government, government-backed non-financials, education and public administration
10		Financials including government-backed financials
11		Basic materials, energy, industrials, agriculture, manufacturing, mining and quarrying
12		Consumer goods and services, transportation and storage, administrative and support service activities
13		Technology, telecommunications
14		Health care, utilities, professional and technical activities
15	(Not applicable)	Other sector
16	IG	Qualified Indices
17	HY	Qualified Indices

50.67 For reference credit spread delta and vega risks, the cross-bucket correlations γ_{bc} are set as follows:

(1) The cross-bucket correlations γ_{bc} between buckets of the same credit quality (ie either IG or HY/NR) are set as follows:

Cross-bucket correlations for reference credit spread risk — Table 9

Bucket	1/8	2/9	3/10	4/11	5/12	6/13	7/14	15	16	17
1/8	100%	75%	10%	20%	25%	20%	15%	0%	45%	45%
2/9		100%	5%	15%	20%	15%	10%	0%	45%	45%
3/10			100%	5%	15%	20%	5%	0%	45%	45%
4/11				100%	20%	25%	5%	0%	45%	45%
5/12					100%	25%	5%	0%	45%	45%
6/13						100%	5%	0%	45%	45%
7/14							100%	0%	45%	45%
15								100%	0%	0%
16									100%	75%
17										100%

(2) For cross-bucket correlations γ_{bc} between buckets 1 to 14 of different credit quality (ie IG and HY/NR), the correlations γ_{bc} specified in MAR50.67(1) are divided by 2.

50.68 Reference credit spread delta risk factors for a given bucket:

(1) The single reference credit spread delta risk factor is a simultaneous absolute shift of the credit spreads of all tenors for all reference names in the bucket.

(2) The sensitivity to reference credit spread delta risk is measured by simultaneously shifting the credit spreads of all tenors for all reference names in the bucket by 1 basis point (0.0001 in absolute terms) and dividing the resulting change in the aggregate CVA (or the value of CVA hedges) by 0.0001.

(3) The risk weights RW_k are set as follows depending on the reference name's bucket:

Risk weights for reference credit spread delta risk — Table 10

IG bucket	1	2	3	4	5	6	7	8	9
Risk weight	0.5%	1.0%	5.0%	3.0%	3.0%	2.0%	1.5%	2.0%	4.0%

HY/NR bucket	10	11	12	13	14	15	16	17	
Risk weight	12.0%	7.0%	8.5%	5.5%	5.0%	12.0%	1.5%	5.0%	

50.69 Reference credit spread vega risk factors for a given bucket:

(1) The single reference credit spread vega risk factor is a simultaneous relative shift of the volatilities of credit spreads of all tenors for all reference names in the bucket.

(2) The sensitivity to the reference credit spread vega risk factor is measured by simultaneously shifting the volatilities of credit spreads of all tenors for all reference names in the bucket by 1% relative to their current values and dividing the resulting change in the aggregate CVA (or the value of CVA hedges) by 0.01.

(3) Risk weights for reference credit spread volatilities RW_k are set to 100%.

Equity buckets, risk factors, sensitivities, risk weights and correlations

50.70 For equity delta and vega risks, buckets are set as follows, where:

(1) Market capitalisation ("market cap") is defined as the sum of the market capitalisations of the same legal entity or group of legal entities across all stock markets globally. The reference to "group of legal entities" covers cases where the listed entity is a parent company of a group of legal entities.

Under no circumstances should the sum of the market capitalisations of multiple related listed entities be used to determine whether a listed entity is "large market cap" or "small market cap".

(2) "Large market cap" is defined as a market capitalisation equal to or greater than USD 2 billion and "small market cap" is defined as a market capitalisation of less than USD 2 billion.

(3) The advanced economies are Canada, the United States, Mexico, the euro area, the non-euro area western European countries (the United Kingdom, Norway, Sweden, Denmark and Switzerland), Japan, Oceania (Australia and New Zealand), Singapore and Hong Kong SAR.

(4) To assign a risk exposure to a sector, banks must rely on a classification that is commonly used in the market for grouping issuers by industry sector. The bank must assign each issuer to one of the sector buckets in the table above and it must assign all issuers from the same industry to the same sector. Risk positions from any issuer that a bank cannot assign to a sector in this fashion must be assigned to the "other sector" (ie bucket 11). For multinational multi-sector equity issuers, the allocation to a particular bucket must be done according to the most material region and sector in which the issuer operates.

Buckets for equity risk — Table 11

Bucket number	Size	Region	Sector
1	Large	Emerging market economies	Consumer goods and services, transportation and storage, administrative and support service activities, healthcare, utilities
2			Telecommunications, industrials
3			Basic materials, energy, agriculture, manufacturing, mining and quarrying
4			Financials including government-backed financials, real estate activities, technology
5		Advanced economies	Consumer goods and services, transportation and storage, administrative and support service activities, healthcare, utilities
6			Telecommunications, industrials
7			Basic materials, energy, agriculture, manufacturing, mining and quarrying
8			Financials including government-backed financials, real estate activities, technology
9	Small	Emerging market economies	All sectors described under bucket numbers 1, 2, 3, and 4
10		Advanced economies	All sectors described under bucket numbers 5, 6, 7, and 8
11	(Not applicable)		Other sector
12			Qualified Indices

	Large cap, advanced economies	
13	Other	Qualified Indices

50.71 For equity delta and vega risks, cross-bucket correlation γ_{bc} is set at 15% for all cross-bucket pairs that fall within bucket numbers 1 to 10. The cross-bucket correlation between buckets 12 and 13 is set at 75% and the cross bucket correlation between buckets 12 or 13 and any of the buckets 1 to 10 is 45%. γ_{bc} is set at 0% for all cross-bucket pairs that include bucket 11.

50.72 Equity delta risk factors for a given bucket:

(1) The single equity delta risk factor is a simultaneous relative shift of equity spot prices for all reference names in the bucket.

(2) The sensitivity to the equity delta risk factor is measured by simultaneously shifting the equity spot prices for all reference names in the bucket by 1% relative to their current values and dividing the resulting change in the aggregate CVA (or the value of CVA hedges) by 0.01.

(3) Risk weights RW_k are set as follows depending on the reference name's bucket:

Risk weights for equity delta risk — Table 12

Bucket number	Risk weight
1	55%
2	60%
3	45%
4	55%
5	30%
6	35%
7	40%
8	50%
9	70%
10	50%
11	70%
12	15%
13	25%

50.73 Equity vega risk factors for a given bucket:

(1) The single equity vega risk factor is a simultaneous relative shift of the volatilities for all reference names in the bucket.

(2) The sensitivity to the equity vega risk factor is measured by simultaneously shifting the volatilities for all reference names in the bucket by 1% relative to their current values and dividing the resulting change in the aggregate CVA (or the value of CVA hedges) by 0.01.

(3) The risk weights for equity volatilities RW_k are set to 78% for large market capitalisation buckets and to 100% for the other buckets.

Commodity buckets, risk factors, sensitivities, risk weights and correlations

50.74 For commodity delta and vega risks, buckets are set as follows:

Buckets for commodity risk Table 13

Bucket number	Commodity group	Examples
1	Energy – Solid combustibles	coal, charcoal, wood pellets, nuclear fuel (such as uranium)
2	Energy – Liquid combustibles	crude oil (such as Light-sweet, heavy, West Texas Intermediate and Brent); biofuels (such as bioethanol and biodiesel); petrochemicals (such as propane, ethane, gasoline, methanol and butane); refined fuels (such as jet fuel, kerosene, gasoil, fuel oil, naphtha, heating oil and diesel)
3	Energy – Electricity and carbon trading	electricity (such as spot, day-ahead, peak and off-peak); carbon emissions trading (such as certified emissions reductions, in-delivery month EU allowance, Regional Greenhouse Gas Initiative CO2 allowance and renewable energy certificates)
4	Freight	dry-bulk route (such as Capesize, Panamax, Handysize and Supramax); liquid-bulk/gas shipping route (such as Suezmax, Aframax and very large crude carriers)
5	Metals – non-precious	base metal (such as aluminium, copper, lead, nickel, tin and zinc); steel raw materials (such as steel billet, steel wire, steel coil, steel scrap and steel rebar, iron ore, tungsten, vanadium, titanium and tantalum); minor metals (such as cobalt, manganese, molybdenum)
6	Gaseous combustibles	natural gas; liquefied natural gas
7	Precious metals (including gold)	gold; silver; platinum; palladium
8	Grains & oilseed	corn; wheat; soybean (such as soybean seed, soybean oil and soybean meal); oats; palm oil; canola; barley; rapeseed (such as rapeseed seed, rapeseed oil, and rapeseed meal); red bean, sorghum; coconut oil; olive oil; peanut oil; sunflower oil; rice
9	Livestock & dairy	cattle (such live and feeder); hog; poultry; lamb; fish; shrimp; dairy (such as milk, whey, eggs, butter and cheese)
10	Softs and other agriculturals	

		cocoa; coffee (such as arabica and robusta); tea; citrus and orange juice; potatoes; sugar; cotton; wool; lumber and pulp; rubber
11	Other commodity	industrial minerals (such as potash, fertiliser and phosphate rocks), rare earths; terephthalic acid; flat glass

50.75 For commodity delta and vega risks, cross-bucket correlation γ_{bc} is set at 20% for all cross-bucket pairs that fall within bucket numbers 1 to 10. γ_{bc} is set at 0% for all cross-bucket pairs that include bucket 11.

50.76 Commodity delta risk factors for a given bucket:

(1) The single commodity delta risk factor is a simultaneous relative shift of the commodity spot prices for all commodities in the bucket.

(2) The sensitivities to commodity delta risk factors are measured by simultaneously shifting the spot prices of all commodities in the bucket by 1% relative to their current values and dividing the resulting change in the aggregate CVA (or the value of CVA hedges) by 0.01.

(3) The risk weights RW_k are set as follows depending on the reference name's bucket:

Risk weights for commodity delta risk — Table 14

Bucket number	1	2	3	4	5	6	7	8	9	10	11
RW	30%	35%	60%	80%	40%	45%	20%	35%	25%	35%	50%

50.77 Commodity vega risk factors for a given bucket:

(1) The single commodity vega risk factor is a simultaneous relative shift of the volatilities for all commodities in the bucket.

(2) The sensitivity to the commodity vega risk factor is measured by simultaneously shifting the volatilities for all commodities in the bucket by 1% relative to their current values and dividing the resulting change in the aggregate CVA (or the value of CVA hedges) by 0.01.

(3) The risk weights for commodity volatilities RW_k are set to 100%.

MAR90

Transitional arrangements

This chapter sets out transitional arrangements for the Pillar 1 consequences of the outcomes of the P&L attribution test that apply until 1 January 2023.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework, updated to take account of the revised implementation date announced on 27 March 2020.

90.1 Banks are required to conduct the profit and loss (P&L) attribution (PLA) test beginning 1 January 2023 as set out in MAR32.3. The outcomes of the PLA test will be used for Pillar 2 purposes beginning 1 January 2023. The Pillar 1 capital requirement consequences of assignment to the PLA test amber zone or PLA test red zone, as set out in MAR32.43, MAR32.44 and MAR33.43, will apply beginning 1 January 2024.

MAR99

Guidance on use of the internal models approach

This chapter sets out application guidance for backtesting requirements and principles for risk factor modellability under the internal models approach for market risk capital requirements.

Version effective as of 01 Jan 2023

Reflects revisions to internal models approach and updated to take account of the revised implementation date announced on 27 March 2020.

Trading desk-level backtesting

99.1 An additional consideration in specifying the appropriate risk measures and trading outcomes for profit and loss (P&L) attribution test and backtesting arises because the internally modelled risk measurement is generally based on the sensitivity of a static portfolio to instantaneous price shocks. That is, end-of-day trading positions are input into the risk measurement model, which assesses the possible change in the value of this static portfolio due to price and rate movements over the assumed holding period.

99.2 While this is straightforward in theory, in practice it complicates the issue of backtesting. For instance, it is often argued that neither expected shortfall nor value-at-risk measures can be compared against actual trading outcomes, since the actual outcomes will reflect changes in portfolio composition during the holding period. According to this view, the inclusion of fee income together with trading gains and losses resulting from changes in the composition of the portfolio should not be included in the definition of the trading outcome because they do not relate to the risk inherent in the static portfolio that was assumed in constructing the value-at-risk measure.

99.3 This argument is persuasive with regard to the use of risk measures based on price shocks calibrated to longer holding periods. That is, comparing the liquidity-adjusted time horizon 99th percentile risk measures from the internal models capital requirement with actual liquidity-adjusted time horizon trading outcomes would probably not be a meaningful exercise. In particular, in any given multi-day period, significant changes in portfolio composition relative to the initial positions are common at major trading institutions. For this reason, the backtesting framework described here involves the use of risk measures calibrated to a one-day holding period. Other than the restrictions mentioned in this paper, the test would be based on how banks model risk internally.

99.4 Given the use of one-day risk measures, it is appropriate to employ one-day trading outcomes as the benchmark to use in the backtesting programme. The same concerns about "contamination" of the trading outcomes discussed above continue to be relevant, however, even for one-day trading outcomes. That is, there is a concern that the overall one-day trading outcome is not a suitable point of comparison, because it reflects the effects of intraday trading, possibly including fee income that is booked in connection with the sale of new products.

99.5 On the one hand, intraday trading will tend to increase the volatility of trading outcomes and may result in cases where the overall trading outcome exceeds the risk measure. This event clearly does not imply a problem with the methods used to calculate the risk measure; rather, it is simply outside the scope of what the measure is intended to capture. On the other hand, including fee income may

similarly distort the backtest, but in the other direction, since fee income often has annuity-like characteristics. Since this fee income is not typically included in the calculation of the risk measure, problems with the risk measurement model could be masked by including fee income in the definition of the trading outcome used for backtesting purposes.

99.6 To the extent that backtesting programmes are viewed purely as a statistical test of the integrity of the calculation of the risk measures, it is appropriate to employ a definition of daily trading outcome that allows for an uncontaminated test. To meet this standard, banks must have the capability to perform the tests based on the hypothetical changes in portfolio value that would occur were end-of-day positions to remain unchanged.

99.7 Backtesting using actual daily P&Ls is also a useful exercise since it can uncover cases where the risk measures are not accurately capturing trading volatility in spite of being calculated with integrity.

99.8 For these reasons, the Committee requires banks to develop the capability to perform these tests using both hypothetical and actual trading outcomes. In combination, the two approaches are likely to provide a strong understanding of the relation between calculated risk measures and trading outcomes. The total number of backtesting exceptions for the purpose of the thresholds in MAR32.9 must be calculated as the maximum of the exceptions generated under hypothetical or actual trading outcomes.

Bank-wide backtesting

99.9 To place the definitions of three zones of the bank-wide backtesting in proper perspective, however, it is useful to examine the probabilities of obtaining various numbers of exceptions under different assumptions about the accuracy of a bank' s risk measurement model.

99.10 Three zones have been delineated and their boundaries chosen in order to balance two types of statistical error:

(1) the possibility that an accurate risk model would be classified as inaccurate on the basis of its backtesting result, and

(2) the possibility that an inaccurate model would not be classified that way based on its backtesting result.

99.11 Table 1 reports the probabilities of obtaining a particular number of exceptions from a sample of 250 independent observations under several assumptions about the actual percentage of outcomes that the model captures (ie these are binomial probabilities). For example, the left-hand portion of Table 1 sets out probabilities associated with an accurate model (that is, a true coverage level of 99%). Under these assumptions, the column labelled "exact" reports that exactly five exceptions can be expected in 6.7% of the samples.

Probabilities of exceptions from 250 independent observations Table 1

	Model is accurate		Model is inaccurate: possible alternative levels of coverage							
	Coverage = 99%		Coverage = 98%		Coverage = 97%		Coverage = 96%		Coverage = 95%	
	Exact	Type 1	Exact	Type 2	Exact	Type 2	Exact	Type 2	Exact	Type 2
0	8.1%	100.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
1	20.5%	91.9%	3.3%	0.6%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
2	25.7%	71.4%	8.3%	3.9%	1.5%	0.4%	0.2%	0.0%	0.0%	0.0%
3	21.5%	45.7%	14.0%	12.2%	3.8%	1.9%	0.7%	0.2%	0.1%	0.0%
4	13.4%	24.2%	17.7%	26.2%	7.2%	5.7%	1.8%	0.9%	0.3%	0.1%
5	6.7%	10.8%	17.7%	43.9%	10.9%	12.8%	3.6%	2.7%	0.9%	0.5%
6	2.7%	4.1%	14.8%	61.6%	13.8%	23.7%	6.2%	6.3%	1.8%	1.3%
7	1.0%	1.4%	10.5%	76.4%	14.9%	37.5%	9.0%	12.5%	3.4%	3.1%
8	0.3%	0.4%	6.5%	86.9%	14.0%	52.4%	11.3%	21.5%	5.4%	6.5%
9	0.1%	0.1%	3.6%	93.4%	11.6%	66.3%	12.7%	32.8%	7.6%	11.9%
10	0.0%	0.0%	1.8%	97.0%	8.6%	77.9%	12.8%	45.5%	9.6%	19.5%
11	0.0%	0.0%	0.8%	98.7%	5.8%	86.6%	11.6%	58.3%	11.1%	29.1%
12	0.0%	0.0%	0.3%	99.5%	3.6%	92.4%	9.6%	69.9%	11.6%	40.2%
13	0.0%	0.0%	0.1%	99.8%	2.0%	96.0%	7.3%	79.5%	11.2%	51.8%
14	0.0%	0.0%	0.0%	99.9%	1.1%	98.0%	5.2%	86.9%	10.0%	62.9%
15	0.0%	0.0%	0.0%	100.0%	0.5%	99.1%	3.4%	92.1%	8.2%	72.9%

Notes to Table 1: The table reports both exact probabilities of obtaining a certain number of exceptions from a sample of 250 independent observations under several assumptions about the true level of coverage, as well as type 1 or type 2 error probabilities derived from these exact probabilities.

The left-hand portion of the table pertains to the case where the model is accurate and its true level of coverage is 99%. Thus, the probability of any given observation being an

exception is 1% (100% – 99% = 1%). The column labelled "exact" reports the probability of obtaining exactly the number of exceptions shown under this assumption in a sample of 250 independent observations. The column labelled "type 1" reports the probability that using a given number of exceptions as the cut-off for rejecting a model will imply erroneous rejection of an accurate model using a sample of 250 independent observations. For example, if the cut-off level is set at five or more exceptions, the type 1 column reports the probability of falsely rejecting an accurate model with 250 independent observations is 10.8%.

The right-hand portion of the table pertains to models that are inaccurate. In particular, the table concentrates of four specific inaccurate models, namely models whose true levels of coverage are 98%, 97%, 96% and 95% respectively. For each inaccurate model, the exact column reports the probability of obtaining exactly the number of exceptions shown under this assumption in a sample of 250 independent observations. The type 2 columns report the probability that using a given number of exceptions as the cut-off for rejecting a model will imply erroneous acceptance of an inaccurate model with the assumed level of coverage using a sample of 250 independent observations. For example, if the cut-off level is set at five or more exceptions, the type 2 column for an assumed coverage level of 97% reports the probability of falsely accepting a model with only 97% coverage with 250 independent observations is 12.8%.

99.12 The right-hand portion of the table reports probabilities associated with several possible inaccurate models, namely models whose true levels of coverage are 98%, 97%, 96%, and 95%, respectively. Thus, the column labelled “exact” under an assumed coverage level of 97% shows that five exceptions would then be expected in 10.9% of the samples.

99.13 Table 1 also reports several important error probabilities. For the assumption that the model covers 99% of outcomes (the desired level of coverage), the table reports the probability that selecting a given number of exceptions as a threshold for rejecting the accuracy of the model will result in an erroneous rejection of an accurate model (type 1 error). For example, if the threshold is set as low as one exception, then accurate models will be rejected fully 91.9% of the time, because they will escape rejection only in the 8.1% of cases where they generate zero exceptions. As the threshold number of exceptions is increased, the probability of making this type of error declines.

99.14 Under the assumptions that the model’s true level of coverage is not 99%, the table reports the probability that selecting a given number of exceptions as a threshold for rejecting the accuracy of the model will result in an erroneous acceptance of a model with the assumed (inaccurate) level of coverage (type 2 error). For example, if the model’s actual level of coverage is 97%, and the threshold for rejection is set at seven or more exceptions, the table indicates that this model would be erroneously accepted 37.5% of the time.

99.15 The results in Table 1 also demonstrate some of the statistical limitations of backtesting. In particular, there is no threshold number of exceptions that yields both a low probability of erroneously rejecting an accurate model and a low probability of erroneously accepting all of the relevant inaccurate models. It is for this reason that the Committee has rejected an approach that contains only a single threshold.

99.16 Given these limitations, the Committee has classified outcomes for the backtesting of the bank-wide model into three categories. In the first category, the test results are consistent with an accurate model, and the possibility of erroneously accepting an inaccurate model is low (ie backtesting "green zone"). At the other extreme, the test results are extremely unlikely to have resulted from an accurate model, and the probability of erroneously rejecting an accurate model on this basis is remote (ie backtesting "red zone"). In between these two cases, however, is a zone where the backtesting results could be consistent with either accurate or inaccurate models, and the supervisor should encourage a bank to present additional information about its model before taking action (ie backtesting "amber zone").

99.17 Table 2 sets out the Committee's agreed boundaries for these zones and the presumptive supervisory response for each backtesting outcome, based on a sample of 250 observations. For other sample sizes, the boundaries should be deduced by calculating the binomial probabilities associated with true coverage of 99%, as in Table 1. The backtesting amber zone begins at the point such that the probability of obtaining that number or fewer exceptions equals or exceeds 95%. Table 2 reports these cumulative probabilities for each number of exceptions. For 250 observations, it can be seen that five or fewer exceptions will be obtained 95.88% of the time when the true level of coverage is 99%. Thus, the backtesting amber zone begins at five exceptions. Similarly, the beginning of the backtesting red zone is defined as the point such that the probability of obtaining that number or fewer exceptions equals or exceeds 99.99%. Table 2 shows that for a sample of 250 observations and a true coverage level of 99%, this occurs with 10 exceptions.

Backtesting zone boundaries Table 2

Backtesting zone	Number of exceptions	Backtesting-dependent multiplier (to be added to any qualitative add-on per MAR33.44)	Cumulative probability
Green	0	1.50	8.11%
	1	1.50	28.58%
	2	1.50	54.32%
	3	1.50	75.81%
	4	1.50	89.22%
Amber	5	1.70	95.88%
	6	1.76	98.63%
	7	1.83	99.60%
	8	1.88	99.89%
	9	1.92	99.97%
Red	10 or more	2.00	99.99%

Notes to Table 2: The table defines the backtesting green, amber and red zones that supervisors will use to assess backtesting results in conjunction with the internal models approach to market risk capital requirements. The boundaries shown in the table are based on a sample of 250 observations. For other sample sizes, the amber zone begins at the point where the cumulative probability equals or exceeds 95%, and the red zone begins at the point where the cumulative probability equals or exceeds 99.99%.

The cumulative probability is simply the probability of obtaining a given number or fewer exceptions in a sample of 250 observations when the true coverage level is 99%. For example, the cumulative probability shown for four exceptions is the probability of obtaining between zero and four exceptions.

Note that these cumulative probabilities and the type 1 error probabilities reported in Table 1 do not sum to one because the cumulative probability for a given number of exceptions includes the possibility of obtaining exactly that number of exceptions, as does the type 1 error probability. Thus, the sum of these two probabilities exceeds one by the amount of the probability of obtaining exactly that number of exceptions.

99.18 The backtesting green zone needs little explanation. Since a model that truly provides 99% coverage would be quite likely to produce as many as four exceptions in a sample of 250 outcomes, there is little reason for concern raised by backtesting results that fall in this range. This is reinforced by the results in Table 1, which indicate that accepting outcomes in this range leads to only a small chance of erroneously accepting an inaccurate model.

99.19 The range from five to nine exceptions constitutes the backtesting amber zone. Outcomes in this range are plausible for both accurate and inaccurate models, although Table 1 suggests that they are generally more likely for inaccurate models than for accurate models. Moreover, the results in Table 1 indicate that the presumption that the model is inaccurate should grow as the number of exceptions increases in the range from five to nine.

99.20 Table 2 sets out the Committee's agreed guidelines for increases in the multiplication factor applicable to the internal models capital requirement, resulting from backtesting results in the backtesting amber zone.

99.21 These particular values reflect the general idea that the increase in the multiplication factor should be sufficient to return the model to a 99th percentile standard. For example, five exceptions in a sample of 250 imply only 98% coverage. Thus, the increase in the multiplication factor should be sufficient to transform a model with 98% coverage into one with 99% coverage. Needless to say, precise calculations of this sort require additional statistical assumptions that are not likely to hold in all cases. For example, if the distribution of trading outcomes is assumed to be normal, then the ratio of the 99th percentile to the 98th percentile is approximately 1.14, and the increase needed in the multiplication factor is therefore approximately 1.13 for a multiplier of 1. If the actual distribution is not normal, but instead has "fat tails", then larger increases may be required to reach the 99th percentile standard. The concern about fat tails was also an important factor in the choice of the specific increments set out in Table 2.

Examples of the application of the principles for risk factor modellability

99.22 Although supervisors may use discretion regarding the types of evidence required of banks to provide risk factor modellability, the following are examples of the types of evidence that banks may be required to provide.

(1) Regression diagnostics for multi-factor beta models. In addition to showing that indices or other regressors are appropriate for the region, asset class and credit quality (if applicable) of an instrument, banks must be prepared to demonstrate that the coefficients used in multi-factor models are adequate

to capture both general market risk and idiosyncratic risk. If the bank assumes that the residuals from the multi-factor model are uncorrelated with each other, the bank should be prepared to demonstrate that the modellable residuals are uncorrelated. Further, the factors in the multi-factor model must be appropriate for the region and asset class of the instrument and must explain the general market risk of the instrument. This must be demonstrated through goodness-of-fit statistics (eg an adjusted-R2 coefficient) and other diagnostics on the coefficients. Most importantly, where the estimated coefficients are not used (ie the parameters are judgment-based), the bank must describe how the coefficients are chosen and why they cannot be estimated, and demonstrate that the choice does not underestimate risk. In general, risk factors are not considered modellable in cases where parameters are set by judgment.

(2) Recovery of price from risk factors. The bank must periodically demonstrate and document that the risk factors used in its risk model can be fed into front office pricing models and recover the actual prices of the assets. If the recovered prices substantially deviate from the actual prices, this can indicate a problem with prices used to derive the risk factors and call into question the validity of data inputs for risk purposes. In such cases, supervisors may determine that the risk factor is non-modellable.

(3) Risk pricing is periodically reconciled with front office and back office prices. While banks are free to use price data from external sources, these external prices should periodically be reconciled with internal prices (from both front office and back office) to ensure they do not deviate substantially, and that they are not consistently biased in any fashion. Results of these reconciliations should be made available to supervisors, including statistics on the differences of the risk price from front office and back office prices. It is standard practice for banks to conduct reconciliation of front office and back office prices; the risk prices must be included as part of the reconciliation of the front office and whenever there is a potential for discrepancy. If the discrepancy is large, supervisors may determine that the risk factor is non-modellable.

(4) Risk factor backtesting. Banks must periodically demonstrate the appropriateness of their modelling methodology by comparing the risk factor returns forecast produced by the risk management model with actual returns produced by front office prices. Alternatively, a bank could backtest hypothetical portfolios that are substantively dependent on key risk factors

(or combinations thereof). This risk factor backtesting is intended to confirm that risk factors accurately reflect the volatility and correlations of the instruments in the risk model. Hypothetical backtesting can be effective in identifying whether risk factors in question adequately reflect volatility and correlations when the portfolio of instruments is chosen to highlight specific products.

(5) Risk factors generated from parameterised models. For options, implied volatility surfaces are often built using a parameterised model based on single-name underlyings and/or option index RPOs and/or market quotes. Liquid options at moneyness, tenor and option expiry points may be used to calibrate level, volatility, drift and correlation parameters for a single-name or benchmark volatility surface. Once these parameters are set, they are derived risk factors in their own right that must be updated and recalibrated periodically as new data arrive and trades occur. In the event that these risk factors are used to proxy for other single-name option surface points, there must be an additional-basis non-modellable risk factor overlay for any potential deviations.

OPE

Calculation of RWA for operational risk

This standard describes how to calculate capital requirements for operational risk.

OPE10

Definitions and application

This chapter defines operational risk and the components of the Business Indicator used to calculate capital requirements for operational risk. In addition, this chapter describes the application within a banking group of the standardised approach for measuring operational risk capital requirements.

Version effective as of 01 Jan 2023

Reflects revised standardised approach introduced in the December 2017 Basel III publication (including the revised implementation date announced on 27 March 2020) and removal of internal model approaches. FAQ published on 30 March 2023 added.

Definition of operational risk

10.1 Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. This definition includes legal risk,[1] but excludes strategic and reputational risk.

Footnotes

[1] *Legal risk includes, but is not limited to, exposure to fines, penalties, or punitive damages resulting from supervisory actions, as well as private settlements.*

Definition of Business Indicator components

10.2 Table 1 defines the components of the Business Indicator (BI).

Business Indicator definitions — Table 1

BI component	Income statement or balance sheet items	Description	Typical sub-items
Interest, lease and dividend	Interest income	Interest income from all financial assets and other interest income (includes interest income from financial and operating leases and profits from leased assets)	• Interest income from loans and advances, assets available for sale, assets held to maturity, trading assets, financial leases and operational leases • Interest income from hedge accounting derivatives • Other interest income • Profits from leased assets
	Interest expenses	Interest expenses from all financial liabilities and other interest expenses (includes interest expense from financial and operating leases, depreciation and impairment of, and losses from, operating leased assets)	• Interest expenses from deposits, debt securities issued, financial leases, and operating leases • Interest expenses from hedge accounting derivatives • Other interest expenses • Losses from leased assets • Depreciation and impairment of operating leased assets
		Total gross outstanding loans, advances, interest bearing securities (including	

	Interest earning assets (balance sheet item)	government bonds), and lease assets measured at the end of each financial year	
	Dividend income	Dividend income from investments in stocks and funds not consolidated in the bank's financial statements, including dividend income from non-consolidated subsidiaries, associates and joint ventures.	
	Fee and commission income	Income received from providing advice and services. Includes income received by the bank as an outsourcer of financial services.	Fee and commission income from: • Securities (issuance, origination, reception, transmission, execution of orders on behalf of customers) • Clearing and settlement; Asset management; Custody; Fiduciary transactions; Payment services; Structured finance; Servicing of securitisations; Loan commitments and guarantees given; and foreign transactions
		Expenses paid for receiving advice and services. Includes outsourcing fees paid by the bank for the supply of financial services, but not	Fee and commission expenses from: • Clearing and settlement; Custody; Servicing of

	Fee and commission expenses	outsourcing fees paid for the supply of non-financial services (eg logistical, IT, human resources)	securitisations; Loan commitments and guarantees received; and Foreign transactions
Services	Other operating income	Income from ordinary banking operations not included in other BI items but of similar nature (income from operating leases should be excluded)	• Rental income from investment properties • Gains from non-current assets and disposal groups classified as held for sale not qualifying as discontinued operations (IFRS 5.37)
	Other operating expenses	Expenses and losses from ordinary banking operations not included in other BI items but of similar nature and from operational loss events (expenses from operating leases should be excluded)	• Losses from non-current assets and disposal groups classified as held for sale not qualifying as discontinued operations (IFRS 5.37) • Losses incurred as a consequence of operational loss events (eg fines, penalties, settlements, replacement cost of damaged assets), which have not been provisioned /reserved for in previous years

			• Expenses related to establishing provisions /reserves for operational loss events
Financial	Net profit (loss) on the trading book	• Net profit/loss on trading assets and trading liabilities (derivatives, debt securities, equity securities, loans and advances, short positions, other assets and liabilities) • Net profit/loss from hedge accounting • Net profit/loss from exchange differences	
	Net profit (loss) on the banking book	• Net profit/loss on financial assets and liabilities measured at fair value through profit and loss • Realised gains/losses on financial assets and liabilities not measured at fair value through profit and loss (loans and advances, assets available for sale, assets held to maturity, financial liabilities measured at amortised cost) • Net profit/loss from hedge accounting • Net profit/loss from exchange differences	

FAQ

FAQ1 *Should credit obligations on non-accrued status (eg non-performing loans) be classified as interest-earning assets for purposes of the calculation of Interest, Leases, and Dividend Component of the BI?*

Yes. All outstanding credit obligations in the balance sheet, including credit obligations on non-accrued status (eg non-performing loans), should be included in interest-earning assets for the purposes of the calculation of Interest, Leases, and Dividend Component of the BI.

10.3 The following profit and loss items do not contribute to any of the items of the BI:

(1) Income and expenses from insurance or reinsurance businesses.

(2) Premiums paid and reimbursements/payments received from insurance or reinsurance policies purchased.

(3) Administrative expenses, including staff expenses, outsourcing fees paid for the supply of non-financial services (eg logistical, human resources, information technology – IT), and other administrative expenses (eg IT, utilities, telephone, travel, office supplies, postage).

(4) Recovery of administrative expenses including recovery of payments on behalf of customers (eg taxes debited to customers).

(5) Expenses of premises and fixed assets (except when these expenses result from operational loss events).

(6) Depreciation/amortisation of tangible and intangible assets (except depreciation related to operating lease assets, which should be included in financial and operating lease expenses).

(7) Provisions/reversal of provisions (eg on pensions, commitments and guarantees given) except for provisions related to operational loss events.

(8) Expenses due to share capital repayable on demand.

(9) Impairment/reversal of impairment (eg on financial assets, non-financial assets, investments in subsidiaries, joint ventures and associates).

(10) Changes in goodwill recognised in profit or loss.

(11) Corporate income tax (tax based on profits including current tax and deferred).

FAQ

FAQ1 *Should income and expenses from insurance activities where the bank acts as an intermediary (rather than the insurance provider) be excluded from the Business Indicator?*

No. When the bank acts as an insurance intermediary and, therefore, is not the insurance provider (ie the risk taker), the related income and expenses are not excluded from the Business Indicator. On the other hand, income and expenses from the bank's insurance or reinsurance business (ie relating to activities where a bank acts as the insurance provider) are excluded.

Application of the standardised approach within a banking group

10.4 At the consolidated level, the standardised approach calculations use fully consolidated BI figures, which net all the intragroup income and expenses. The calculations at a sub-consolidated level use BI figures for the banks consolidated at that particular sub-level. The calculations at the subsidiary level use the BI figures from the subsidiary.

10.5 Similar to bank holding companies, when BI figures for sub-consolidated or subsidiary banks reach bucket 2, these banks are required to use loss experience in the standardised approach calculations. A sub-consolidated bank or a subsidiary bank uses only the losses it has incurred in the standardised approach calculations (and does not include losses incurred by other parts of the bank holding company).

10.6 In case a subsidiary of a bank belonging to bucket 2 or higher does not meet the qualitative standards for the use of the Loss Component, this subsidiary must calculate the standardised approach capital requirements by applying 100% of the BI Component. In such cases supervisors may require the subsidiary to apply an internal loss multiplier which is greater than 1.

OPE25

Standardised approach

This chapter sets out the standardised approach for calculating operational risk capital requirements.

Version effective as of 01 Jan 2023

Updated to include the FAQs published on 5 June 2020 and the FAQ on climate-related financial risks published on 8 December 2022. FAQs published on 30 March 2023 added.

Introduction

25.1 The standardised approach methodology is based on the following components:

(1) the Business Indicator (BI) which is a financial-statement-based proxy for operational risk;

(2) the Business Indicator Component (BIC), which is calculated by multiplying the BI by a set of regulatory determined marginal coefficients (α_i); and

(3) the Internal Loss Multiplier (ILM), which is a scaling factor that is based on a bank's average historical losses and the BIC.

25.2 Operational risk capital requirements (ORC) are calculated by multiplying the BIC and the ILM, as shown in the formula below. Risk-weighted assets (RWA) for operational risk are equal to 12.5 times ORC.

$$ORC = BIC \times ILM$$

Components of the standardised approach

25.3 The BI comprises three components: the interest, leases and dividend component (ILDC); the services component (SC), and the financial component (FC).

25.4 The BI is defined as:

$$BI = ILDC + SC + FC$$

25.5 ILDC, SC and FC are defined in the formulae below, where a bar above a term indicates that it is calculated as the average over three years: t, t-1 and t-2:[1]

$$ILDC = min\left(\overline{Abs\left(interest\ income - interest\ expense\right)}, 2.25\% \times \overline{interest\ earning\ assets}\right) + \overline{dividend\ income}$$

$$SC = max\left(\overline{other\ operating\ income}, \overline{other\ operating\ expense}\right) + max\left(\overline{fee\ income}, \overline{fee\ expense}\right)$$

$$FC = \overline{Abs\left(Net\ P\ \&\ L\ trading\ book\right)} + \overline{Abs\left(Net\ P\ \&\ L\ banking\ book\right)}$$

Footnotes

[1] *The absolute value of net items (eg interest income – interest expense) should be calculated first year by year. Only after this year by year calculation should the average of the three years be calculated.*

25.6 The definitions for each of the components of the BI are provided in OPE10.

25.7 To calculate the BIC, the BI is multiplied by the marginal coefficients (α_i). The marginal coefficients increase with the size of the BI as shown in Table 1. For banks in the first bucket (ie with a BI less than or equal to €1bn) the BIC is equal to BI x 12%. The marginal increase in the BIC resulting from a one unit increase in the BI is 12% in bucket 1, 15% in bucket 2 and 18% in bucket 3.[2]

BI ranges and marginal coefficients — Table 1

Bucket	BI range (in €bn)	BI marginal coefficients (α_i)
1	≤1	12%
2	1 < BI ≤30	15%
3	> 30	18%

Footnotes

[2] *For example, given a BI = €35bn, the BIC = (1 x 12%) + (30-1) x 15% + (35-30) x 18% = €5.37bn.*

25.8 A bank's internal operational risk loss experience affects the calculation of operational risk capital through the ILM. The ILM is defined as below, where the Loss Component (LC) is equal to 15 times average annual operational risk losses incurred over the previous 10 years:

$$ILM = \ln\left(\exp(1) - 1 + \left(\frac{LC}{BIC}\right)^{0.8}\right)$$

25.9 The ILM is equal to one where the loss and business indicator components are equal. Where the LC is greater than the BIC, the ILM is greater than one. That is, a bank with losses that are high relative to its BIC is required to hold higher capital due to the incorporation of internal losses into the calculation methodology. Conversely, where the LC is lower than the BIC, the ILM is less than one. That is, a bank with losses that are low relative to its BIC is required to hold lower capital due to the incorporation of internal losses into the calculation methodology.

25.10 The calculation of average losses in the LC must be based on 10 years of high-quality annual loss data. The qualitative requirements for loss data collection are outlined in OPE25.14 to OPE25.34. As part of the transition to the standardised approach, banks that do not have 10 years of high-quality loss data may use a minimum of five years of data to calculate the LC.[3] Banks that do not have five years of high-quality loss data must calculate the capital requirement based solely on the BIC. Supervisors may however require a bank to calculate capital requirements using fewer than five years of losses if the ILM is greater than 1 and supervisors believe the losses are representative of the bank's operational risk exposure.

Footnotes

[3] *This treatment is not expected to apply to banks that previously used the Advanced Measurement Approaches for determining operational risk capital requirements under the Basel II framework.*

25.11 For banks in bucket 1 (ie with BI ≤ €1 billion), internal loss data does not affect the capital calculation. That is, the ILM is equal to 1, so that operational risk capital is equal to the BIC (=12% x BI). At national discretion, supervisors may allow the inclusion of internal loss data into the framework for banks in bucket 1, subject to meeting the loss data collection requirements specified in OPE25.14 to OPE25.34. In addition, at national discretion, supervisors may set the value of ILM equal to 1 for all banks in their jurisdiction. In case this discretion is exercised, banks would still be subject to the full set of disclosure requirements summarised in OPE25.35.

Minimum standards for the use of loss data under the standardised approach

25.12 Banks with a BI greater than €1bn are required to use loss data as a direct input into the operational risk capital calculations. The soundness of data collection and the quality and integrity of the data are crucial to generating capital outcomes aligned with the bank's operational loss exposure. The minimum loss data standards are outlined in OPE25.14 to OPE25.34. National supervisors should review the quality of banks' loss data periodically.

25.13 Banks which do not meet the loss data standards are required to hold capital that is at a minimum equal to 100% of the BIC. In such cases supervisors may require the bank to apply an ILM which is greater than 1. The exclusion of internal loss data due to non-compliance with the loss data standards, and the application of any resulting multipliers, must be publicly disclosed in accordance with the Pillar 3 requirements.

General criteria on loss data identification, collection and treatment

25.14 The proper identification, collection and treatment of internal loss data are essential prerequisites to capital calculation under the standardised approach. The general criteria for the use of the LC are as follows.

25.15 Internally generated loss data calculations used for regulatory capital purposes must be based on a 10-year observation period. If ten years of good quality loss data are not available when the bank first moves to the standardised approach, a shorter observation period is acceptable on an exceptional basis (with a minimum observation period of five years). Note that all years of good-quality data available beyond five years must be included.

25.16 Internal loss data are most relevant when clearly linked to a bank's current business activities, technological processes and risk management procedures. Therefore, a bank must have documented procedures and processes for the identification, collection and treatment of internal loss data. Such procedures and processes must be subject to validation before the use of the loss data within the operational risk capital requirement measurement methodology, and to regular independent reviews by internal and/or external audit functions.

25.17 For risk management purposes, and to assist in supervisory validation and/or review, a supervisor may request a bank to map its historical internal loss data into the relevant Level 1 supervisory categories as defined in Table 2 and to provide this data to supervisors. The bank must document criteria for allocating losses to the specified event types.

Detailed loss event type classification Table 2

Event-type category (Level 1)	Definition	Categories (Level 2)	Activity examples (Level 3)
Internal fraud	Losses due to acts of a type intended to defraud, misappropriate property or circumvent regulations, the law or company policy, excluding diversity/ discrimination events, which involves at least one internal party	Unauthorised activity	Transactions not reported (intentional) Transaction type unauthorised (with monetary loss) Mismarking of position (intentional)
		Theft and fraud	Fraud / credit fraud / worthless deposits Theft / extortion / embezzlement / robbery Misappropriation of assets Malicious destruction of assets Forgery Check kiting Smuggling Account takeover / impersonation etc Tax non-compliance / evasion (wilful) Bribes / kickbacks Insider trading (not on firm's account)
External fraud	Losses due to acts of a type intended to defraud, misappropriate property or circumvent the law, by a third party	Theft and fraud	Theft / robbery Forgery Check kiting
		Systems security	Hacking damage Theft of information (with monetary loss)

Employment practices and workplace safety	Losses arising from acts inconsistent with employment, health or safety laws or agreements, from payment of personal injury claims, or from diversity / discrimination events	Employee relations	Compensation, benefit, termination issues Organised labour activity
		Safe environment	General liability (slip and fall etc) Employee health and safety rules events Workers compensation
		Diversity and discrimination	All discrimination types
Clients, products and business practices	Losses arising from an unintentional or negligent failure to meet a professional obligation to specific clients (including fiduciary and suitability requirements), or from the nature or design of a product.	Suitability, disclosure and fiduciary	Fiduciary breaches / guideline violations Suitability / disclosure issues (know-your-customer etc) Retail customer disclosure violations Breach of privacy Aggressive sales Account churning Misuse of confidential information Lender liability
		Improper business or market practices	Antitrust Improper trade / market practices Market manipulation Insider trading (on firm's account) Unlicensed activity Money laundering
		Product flaws	Product defects (unauthorised etc) Model errors

		Selection, sponsorship and exposure	Failure to investigate client per guidelines Exceeding client exposure limits
		Advisory activities	Disputes over performance of advisory activities
Damage to physical assets	Losses arising from loss or damage to physical assets from natural disaster or other events	Disasters and other events	Natural disaster losses Human losses from external sources (terrorism, vandalism)
Business disruption and system failures	Losses arising from disruption of business or system failures	Systems	Hardware Software Telecommunications Utility outage / disruptions
Execution, delivery and process management	Losses from failed transaction processing or process management, from relations with trade counterparties and vendors	Transaction capture, execution and maintenance	Miscommunication Data entry, maintenance or loading error Missed deadline or responsibility Model / system misoperation Accounting error / entity attribution error Other task misperformance Delivery failure Collateral management failure Reference data maintenance
		Monitoring and reporting	Failed mandatory reporting obligation Inaccurate external report (loss incurred)

		Customer intake and documentation	Client permissions / disclaimers missing Legal documents missing / incomplete
		Customer / client account management	Unapproved access given to accounts Incorrect client records (loss incurred) Negligent loss or damage of client assets
		Trade counterparties	Non-client counterparty misperformance Miscellaneous non-client counterparty disputes
		Vendors and suppliers	Outsourcing Vendor disputes

FAQ

FAQ1 *How could banks ensure that losses stemming from climate-related financial risks are identifiable?*

Losses due to natural disasters map to the event type category "Damage to physical assets" from Table 2. However, climate-related financial risks may also cause operational risk losses in other event type categories. For example, if a bank is perceived to misrepresent sustainability-related practices or the sustainability-related features of its investment products, it could lead to litigation cases (event type category "Clients, products and business practices"). A power cut as a consequence of climate-related financial risks could cause an interruption to a bank's services and communications (event type category "Business disruption and system failures"). Where feasible, losses whose root cause could stem from climate-related risk drivers could be identifiable from the loss database, for example, by using a flag.

25.18

A bank's internal loss data must be comprehensive and capture all material activities and exposures from all appropriate subsystems and geographic locations. The minimum threshold for including a loss event in the data collection and calculation of average annual losses is set at €20,000. At national discretion, for the purpose of the calculation of average annual losses, supervisors may increase the threshold to €100,000 for banks in buckets 2 and 3 (ie where the BI is greater than €1 billion).

FAQ

FAQ1 *Should operational loss events from outsourced activities be included in the operational loss dataset?*

For operational losses from outsourced activities, the financial impacts of events that the bank is responsible for should be included in the dataset as operational losses. The financial impacts of events that are paid by the outsourcer (rather than by the bank) are not operational losses to the bank.

FAQ2 *When building the loss data set, which exchange rate should be used to convert losses from foreign subsidiaries of a banking organisation into domestic currency?*

Loss impacts denominated in a foreign currency should be converted using the same exchange rate that is used to convert them in the banking organisation's financial statements of the period the loss impacts were accounted for.

FAQ3 *How should the minimum threshold for including a loss event in the Loss Component dataset be applied for events which result in multiple accounting impacts?*

Some operational loss events result in multiple accounting impacts, which can be loss impacts or recoveries. To determine whether an operational loss event must be included in the Loss Component calculation dataset, the net loss amount of the event should be calculated by summing all of the event's loss impacts inside the ten-year calculation window and subtracting all recoveries inside the ten-year calculation window. The accounting date of the impacts is used to determine whether they are inside the ten year calculation window. If the event's net total loss amount is equal to or above EUR 20,000 (or equal to or above EUR 100,000 if that national discretion is used), the loss event must be included in the calculation dataset. Note that a loss

event may not result in a net loss amount above EUR 20,000 (EUR 100,000) in any individual year and still have to be included in the Loss Component calculation dataset as long as the cumulative impact of the loss event in the ten year window is equal to or above EUR 20,000 (EUR 100,000).

As an example, consider a bank determining its capital requirements using a Loss Component calculation window of 2012 to 2021, and assume this bank is subject to a EUR 20,000 loss threshold. Suppose one loss event results in a loss impact of EUR 16,000 in 2012 and EUR 7,000 in 2013. This loss event must be included in the calculation dataset because its total impact inside the calculation window is EUR 23,000. On the other hand, a loss event that resulted in a loss impact of EUR 1,000,000 in 2010 (outside of the calculation window), a loss impact of EUR 300,000 in 2013 (inside the calculation window), and a recovery of EUR 500,000 in 2015 (inside the calculation window) should not be included in the calculation dataset because its net impact inside the calculation window is negative, and thus less than EUR 20,000.

25.19 Aside from information on gross loss amounts, the bank must collect information about the reference dates of operational risk events, including the date when the event happened or first began ("date of occurrence"), where available; the date on which the bank became aware of the event ("date of discovery"); and the date (or dates) when a loss event results in a loss, reserve or provision against a loss being recognised in the bank's profit and loss (P&L) accounts ("date of accounting"). In addition, the bank must collect information on recoveries of gross loss amounts as well as descriptive information about the drivers or causes of the loss event.[4] The level of detail of any descriptive information should be commensurate with the size of the gross loss amount.

Footnotes

[4] *Tax effects (eg reductions in corporate income tax liability due to operational losses) are not recoveries for purposes of the standardised approach for operational risk.*

25.20 Operational loss events related to credit risk and that are accounted for in credit RWA should not be included in the loss data set. Operational loss events that relate to credit risk but are not accounted for in credit RWA should be included in the loss data set.

25.21

Operational risk losses related to market risk are treated as operational risk for the purposes of calculating minimum regulatory capital under this framework and will therefore be subject to the standardised approach for operational risk.

25.22 Banks must have processes to independently review the comprehensiveness and accuracy of loss data.

Specific criteria on loss data identification, collection and treatment

25.23 Building an acceptable loss data set from the available internal data requires that the bank develop policies and procedures to address several features, including gross loss definition, reference date and grouped losses.

25.24 Gross loss is a loss before recoveries of any type. Net loss is defined as the loss after taking into account the impact of recoveries. The recovery is an independent occurrence, related to the original loss event, separate in time, in which funds or inflows of economic benefits are received from a third party.[5]

Footnotes

[5] *Examples of recoveries are payments received from insurers, repayments received from perpetrators of fraud, and recoveries of misdirected transfers.*

25.25 Banks must be able to identify the gross loss amounts, non-insurance recoveries, and insurance recoveries for all operational loss events. Banks should use losses net of recoveries (including insurance recoveries) in the loss dataset. However, recoveries can be used to reduce losses only after the bank receives payment. Receivables do not count as recoveries. Verification of payments received to net losses must be provided to supervisors upon request.

25.26 The following items must be included in the gross loss computation of the loss data set:

(1) Direct charges, including impairments and settlements, to the bank's P&L accounts and write-downs due to the operational risk event;

(2) Costs incurred as a consequence of the event including external expenses with a direct link to the operational risk event (eg legal expenses directly related to the event and fees paid to advisors, attorneys or suppliers) and costs of repair or replacement, incurred to restore the position that was prevailing before the operational risk event;

(3) Provisions or reserves accounted for in the P&L against the potential operational loss impact;

(4) Losses stemming from operational risk events with a definitive financial impact, which are temporarily booked in transitory and/or suspense accounts and are not yet reflected in the P&L ("pending losses").[6] Material pending losses should be included in the loss data set within a time period commensurate with the size and age of the pending item; and

(5) Negative economic impacts booked in a financial accounting period, due to operational risk events impacting the cash flows or financial statements of previous financial accounting periods ("timing losses").[7] Material "timing losses" should be included in the loss data set when they are due to operational risk events that span more than one financial accounting period and give rise to legal risk.

Footnotes

[6] *For instance, in some countries, the impact of some events (eg legal events, damage to physical assets) may be known and clearly identifiable before these events are recognised through the establishment of a reserve. Moreover, the way this reserve is established (eg the date of discovery) can vary across banks or countries.*

[7] *Timing impacts typically relate to the occurrence of operational risk events that result in the temporary distortion of an institution's financial accounts (eg revenue overstatement, accounting errors and mark-to-market errors). While these events do not represent a true financial impact on the institution (net impact over time is zero), if the error continues across more than one financial accounting period, it may represent a material misrepresentation of the institution's financial statements.*

FAQ

FAQ1 *When an operational loss event results in a provision and, later, that provision turns into a charge-off, should both be summed in calculating the operational loss resulting from an operational loss event? For example, if a bank takes a €1 million provision for a legal event in 2018 and then settles the legal event for €1.2 million in 2019, should both be summed to calculate the operational loss resulting from the operational loss event?*

No. The €1 million provision is an operational loss included in 2018 and the additional €200 thousand is an operational loss in 2019 (equal to the €1.2 million settlement in 2019 minus the €1 million provision in 2018). There should be no double counting of the same financial impacts in the calculation of operational losses. When a bank makes a provision due to an operational loss event, such provision must be considered an operational loss immediately for the calculation of the Loss Component. When a charge-off (such as a settlement) eventually takes place later, only the difference between the initial provision and the charge-off (if any) should be added to the operational loss calculation.

FAQ2 *When a bank refunds a client that was overbilled due to an operational failure, can the initial overbilling be used to net out the refund?*

When a bank refunds a client that was overbilled due to an operational failure, if the refund is provided in the same financial accounting period as the overbilling took place and thus no misrepresentation of the institution's financial statements occurs, there is no operational loss. If the refund occurs in a subsequent financial accounting period to the overbilling, it is a timing loss; any operational loss event that exceeds the threshold of EUR 20,000 (or EUR 100,000 if the national supervisor has used the national discretion to set this higher threshold) should be included in the loss dataset. In this case, the prior overbilling is not a recovery.

FAQ3 *How should the costs relating to a bank asset that is damaged or destroyed be defined?*

In a case where a bank asset is damaged or destroyed and without prejudice of additional indirect losses, the losses related to the asset value and the costs of repair or replacement depend on how the bank proceeds in addressing that damage or destruction:

(a) In cases where an asset of the bank is damaged or destroyed and the bank does not replace or repair it, the operational loss amount

corresponds to the reduction in the book value of the asset plus any residual clean-up or disposal costs

(b) In cases where an asset of the bank is damaged or destroyed and the bank decides to replace it or repair it fully, then the operational loss amount is the cost of replacing or repairing the asset plus any residual clean-up or disposal costs.

(c) In cases where an asset of the bank is damaged and the bank decides to repair it partially (ie the asset has less book value after repair than prior to the operational loss event), then the operational loss amount is the cost of repairing the asset plus the loss of book value of the asset after the repair relative to its pre-operational loss event book value plus any residual clean-up or disposal costs.

FAQ4 What is the threshold of materiality for timing losses and pending losses?

Like other operational losses, timing losses and pending losses must be included in the operational loss event dataset if they are associated with an operational loss event that exceeds €20,000 (€100,000 upon national discretion) for banks in buckets 2 and 3.

25.27 The following items should be excluded from the gross loss computation of the loss data set:

(1) Costs of general maintenance contracts on property, plant or equipment;

(2) Internal or external expenditures to enhance the business after the operational risk losses: upgrades, improvements, risk assessment initiatives and enhancements; and

(3) Insurance premiums.

25.28 Banks must use the date of accounting for building the loss data set. The bank must use a date no later than the date of accounting for including losses related to legal events in the loss data set. For legal loss events, the date of accounting is the date when a legal reserve is established for the probable estimated loss in the P&L.

25.29 Losses caused by a common operational risk event or by related operational risk events over time, but posted to the accounts over several years, should be allocated to the corresponding years of the loss database, in line with their accounting treatment.

FAQ

FAQ1 *What are the conditions for losses (and recoveries) to be grouped into a single operational loss event?*

All operational losses caused by a common underlying trigger or root cause should be grouped into one operational loss event in a bank's operational loss event dataset. Two examples of losses with a common underlying trigger or root cause, which should be grouped into a single loss event:

1. *A natural disaster causes losses in multiple locations and/or across an extended time period.*
2. *A breach of a bank's information security results in the disclosure of confidential customer information. As a result, multiple customers incur fraud-related losses that the bank must reimburse. This is sometimes accompanied by remediation expenses such as credit card re-issue or credit history monitoring services.*

Banks should have a clear, well-documented policy for determining the criteria for multiple losses to be grouped into an operational loss event. In addition, processes should be in place to ensure that there is a firm-wide understanding of the loss event grouping policy, that there is appropriate sharing of loss event data across businesses to implement the policy effectively and that there are adequate controls (including independent review) to assess ongoing compliance with the policy.

Exclusion of losses from the Loss Component

25.30 Banking organisations may request supervisory approval to exclude certain operational loss events that are no longer relevant to the banking organisation's risk profile. The exclusion of internal loss events should be rare and supported by strong justification. In evaluating the relevance of operational loss events to the bank's risk profile, supervisors will consider whether the cause of the loss event could occur in other areas of the bank's operations. Taking settled legal exposures and divested businesses as examples, supervisors expect the organisation's analysis to demonstrate that there is no similar or residual legal exposure and that the excluded loss experience has no relevance to other continuing activities or products.

FAQ

FAQ1 *Upon supervisory approval to exclude losses, when should this exclusion take effect?*

The calculation of the loss component of the operational risk capital (ORC) should recognise the effect of exclusion immediately after the supervisory approval. If supervisors only require the operational risk standardised approach calculation to be updated annually, but the exclusion is approved prior to an intermediate (eg, quarterly) update of the bank's total risk-weighted assets that precedes the annual update of the operational risk standardised approach, banks should report the revised operational risk risk-weighted assets in the first update of total risk-weighted assets post-exclusion.

FAQ2 *Can operational risk losses resulting from the reform of benchmark reference rates be excluded from the operational risk charge based on OPE25.30?*

Banks may suffer operational risk losses related to the reform of benchmark reference rates, particularly if they do not adequately prepare for the transition to the new rates. For example, losses may be incurred over an extended period of time if banks fail to identify and remediate relevant legacy contracts prior to the discontinuation of a benchmark rate. Operational risk losses relating to the reform of benchmark reference rates do not fulfil the criteria for exclusion from the calculation of operational risk capital requirements laid out in OPE25.30 (ie characterised as one-off, no longer relevant, no residual exposure). It should, however, be noted that not all costs related to the implementation of benchmark rate reforms represent operational risk losses (eg legal fees to alter contracts to prepare for the new reference

rates in accordance with relevant legal rules; or costs related to adjustments to IT systems). To minimise the risk of operational risk losses, banks should consider the effects of benchmark rate reform on their businesses in a timely manner and make the necessary preparations for the transition to the alternative rates. In doing so, they should maintain a close dialogue with their supervisory authorities regarding their plans and transition progress, including any identified impediments.

25.31 The total loss amount and number of exclusions must be disclosed in accordance with the Pillar 3 requirements with appropriate narratives, including total loss amount and number of exclusions.

25.32 A request for loss exclusions is subject to a materiality threshold to be set by the supervisor (for example, the excluded loss event should be greater than 5% of the bank's average losses). In addition, losses can only be excluded after being included in a bank's operational risk loss database for a minimum period (for example, three years), to be specified by the supervisor. Losses related to divested activities will not be subject to a minimum operational risk loss database retention period.

Exclusions of divested activities from the Business Indicator

25.33 Banking organisations may request supervisory approval to exclude divested activities from the calculation of the BI. Such exclusions must be disclosed in accordance with the Pillar 3 requirements.

FAQ

FAQ1 *Upon supervisory approval to exclude activities from the BI, when should this exclusion take effect?*

Divested activities should be excluded from the calculation of the BI amount used for the calculation of operational risk capital (ORC) immediately after the supervisory approval. If supervisors only require the operational risk standardised approach calculation to be updated annually, but the exclusion is approved prior to an intermediate (eg, quarterly) update of the bank's total risk-weighted assets that precedes the annual update of the operational risk standardised approach, banks should report the revised operational risk risk-weighted assets in the first update of total risk-weighted assets post-exclusion.

Inclusion of losses and BI items related to mergers and acquisitions

25.34 The scope of losses and BI items used to calculate the operational risk capital requirements must include acquired businesses and merged entities over the period prior to the acquisition/merger that is relevant to the calculation of the standardised approach (ten years for losses and three years for BI).

FAQ

FAQ1 *Upon a merger or an acquisition, when should the inclusion of the losses and BI items of the merged entity or acquired businesses take effect?*

Losses and BI items from merged entities or acquired businesses should be included in the calculation of operational risk capital (ORC) immediately after the merger/acquisition, and should be reported in the first update of the bank's total risk-weighted assets that comes after the merger/acquisition.

Disclosure

25.35 All banks with a BI greater than €1bn, or which use internal loss data in the calculation of operational risk capital, are required to disclose their annual loss data for each of the ten years in the ILM calculation window in accordance with the Pillar 3 requirements. This includes banks in jurisdictions that have opted to set ILM equal to one. Loss data is required to be reported net of recoveries, both before and after loss exclusions. All banks are required to disclose each of the BI sub-items for each of the three years of the BI component calculation window in accordance with the Pillar 3 requirements.

LEV

Leverage ratio

This standard describes the simple, transparent, non-risk-based leverage ratio. This measure intends to restrict the build-up of leverage in the banking sector and reinforce the risk-based requirements with a simple, non-risk-based "backstop" measure.

LEV10

Definitions and application

This chapter describes the scope of consolidation to be used in calculating the leverage ratio.

Version effective as of 01 Jan 2023

Reflects revised standardised approach introduced in the December 2017 Basel III publication (including the revised implementation date announced on 27 March 20200) and removal of internal model approaches.

Scope of consolidation

10.1 The leverage ratio framework follows the same scope of regulatory consolidation, including consolidation criteria, as is used for the risk-based capital framework.[1] This is set out in the SCO standard.

Footnotes

[1] *For example, if proportional consolidation is applied for regulatory consolidation under the risk-based framework, the same criteria shall be applied for leverage ratio purposes.*

10.2 Where a banking, financial, insurance or commercial entity is outside the scope of regulatory consolidation, only the investment in the capital of such entities (ie only the carrying value of the investment, as opposed to the underlying assets and other exposures of the investee) is to be included in the leverage ratio exposure measure. However, investments in the capital of such entities that are deducted from Tier 1 capital as set out in LEV30.3 may be excluded from the leverage ratio exposure measure.

LEV20

Calculation

This chapter describes how to calculate the leverage ratio and the minimum requirements.

Version effective as of 01 Jan 2023

Calculation frequency specified for reporting and disclosure purposes. Also takes account of the revised implementation date announced on 27 March 2020.

20.1 The Basel III leverage ratio is intended to:

(1) restrict the build-up of leverage in the banking sector to avoid destabilising deleveraging processes that can damage the broader financial system and the economy; and

(2) reinforce the risk-based capital requirements with a simple, non-risk-based "backstop" measure.

20.2 The Basel Committee is of the view that a simple leverage ratio framework is critical and complementary to the risk-based capital framework and that the leverage should adequately capture both the on- and off-balance sheet sources of banks' leverage.

20.3 The leverage ratio is defined as the capital measure (the numerator) divided by the exposure measure (the denominator), with this ratio expressed as a percentage:

$$Leverage\ ratio = \frac{capital\ measure}{exposure\ measure}$$

20.4 The capital measure for the leverage ratio is Tier 1 capital – comprising Common Equity Tier 1 and/or Additional Tier 1 instruments – as defined in CAP10. In other words, the capital measure used for the leverage ratio at any particular point in time is the Tier 1 capital measure applicable at that time under the risk-based framework. The exposure measure for the leverage ratio is defined in LEV30.

20.5 A bank's total leverage ratio exposure measure is the sum of the following exposures, as defined in LEV30:[1]

(1) on-balance sheet exposures (excluding on-balance sheet derivative and securities financing transaction exposures);

(2) derivative exposures;

(3) securities financing transaction exposures; and

(4) off-balance sheet items.

Footnotes

[1] *Jurisdictions are free to apply the revised definition of the exposure measure at an earlier date than 1 January 2023.*

20.6

Both the capital measure and the exposure measure are to be calculated on a quarter-end basis. However, banks may, subject to supervisory approval, use more frequent calculations (eg daily or monthly averaging) as long as they do so consistently.

20.7 Banks must meet a 3% leverage ratio minimum requirement at all times.

LEV30

Exposure measurement

This chapter defines the exposure measure used for calculating the leverage ratio. This generally follows the accounting values, complemented by specific treatments for exposures related to derivative transactions, securities financing transactions and off-balance-sheet items.

Version effective as of 01 Jan 2023

Refinements particularly affecting derivatives and off-balance-sheet exposures and a national discretion on the treatment of central bank reserves, as set out in the December 2017 publication of Basel III and the June 2019 publication on client cleared derivatives. Takes account of the revised implementation date announced on 27 March 2020.

Introduction

30.1 The leverage ratio exposure measure generally follows gross accounting values.

FAQ

FAQ1 *How should long settlement transactions (LSTs) and failed trades be treated in the Basel III leverage ratio?*

LSTs and "failed trades" are terms that are in use in the risk-based framework. For the purposes of the Basel III leverage ratio framework, such transactions have to be treated according to their accounting classification. For example, if an LST is classified as a derivative according to the applicable accounting standards, the Basel III leverage ratio exposure measure has to be calculated according to LEV30.13 to LEV30.35. Similarly, if a failed trade is classified as a receivable according to the applicable accounting standards, the exposure measure has to be calculated according to LEV30.8 to LEV30.12 related to "on-balance sheet exposures". Securities financing transactions that have failed to settle are excluded from the described treatment and their exposure measure must be calculated according to LEV30.36 to LEV30.44 on securities financing transaction exposures.

30.2 Unless specified differently below, banks must not take account of physical or financial collateral, guarantees or other credit risk mitigation techniques to reduce the leverage ratio exposure measure, nor may banks net assets and liabilities.

30.3 To ensure consistency, any item deducted from Tier 1 capital according to the Basel III framework and regulatory adjustments other than those related to liabilities may be deducted from the leverage ratio exposure measure. Three examples follow:

(1) where a banking, financial or insurance entity is not included in the regulatory scope of consolidation as set out in LEV10, the amount of any investment in the capital of that entity that is totally or partially deducted from Common Equity Tier 1 (CET1) capital or from Additional Tier 1 capital of the bank following the corresponding deduction approach in CAP30.29 to CAP30.34 may also be deducted from the leverage ratio exposure measure;

(2) for banks using the internal ratings-based (IRB) approach to determining capital requirements for credit risk, CAP10.19 requires any shortfall in the stock of eligible provisions relative to expected loss amounts to be deducted

from CET1 capital. The same amount may be deducted from the leverage ratio exposure measure; and

(3) prudent valuation adjustments for exposures to less liquid positions, other than those related to liabilities, that are deducted from Tier 1 capital as in CAP50 may be deducted from the leverage ratio exposure measure.

30.4 Liability items must not be deducted from the leverage ratio exposure measure. For example, gains/losses on fair valued liabilities or accounting value adjustments on derivative liabilities due to changes in the bank's own credit risk as described in CAP30.15 must not be deducted from the leverage ratio exposure measure.

30.5 With regard to traditional securitisations, an originating bank may exclude securitised exposures from its leverage ratio exposure measure if the securitisation meets the operational requirements for the recognition of risk transference according to CRE40.24. Banks meeting these conditions must include any retained securitisation exposures in their leverage ratio exposure measure. In all other cases, eg traditional securitisations that do not meet the operational requirements for the recognition of risk transference or synthetic securitisations, the securitised exposures must be included in the leverage ratio exposure measure.

30.6 Banks and supervisors should be particularly vigilant to transactions and structures that have the result of inadequately capturing banks' sources of leverage. Examples of concerns that might arise in such leverage ratio exposure measure minimising transactions and structures may include: securities financing transactions (SFTs) where exposure to the counterparty increases as the counterparty's credit quality decreases or securities financing transactions in which the credit quality of the counterparty is positively correlated with the value of the securities received in the transaction (ie the credit quality of the counterparty falls when the value of the securities falls); banks that normally act as principal but adopt an agency model to transact in derivatives and SFTs in order to benefit from the more favourable treatment permitted for agency transactions under the leverage ratio framework; collateral swap trades structured to mitigate inclusion in the leverage ratio exposure measure; or use of structures to move assets off the balance sheet. This list of examples is by no means exhaustive. Where supervisors are concerned that such transactions are not adequately captured in the leverage ratio exposure measure or may lead to a potentially destabilising deleveraging process, they should carefully scrutinise these transactions and consider a range of actions to address such concerns.

Supervisory actions may include requiring enhancements in banks' management of leverage, imposing operational requirements (eg additional reporting to supervisors) and/or requiring that the relevant exposure is adequately capitalised through a Pillar 2 capital charge. These examples of supervisory actions are merely indicative and by no means exhaustive.

30.7 At national discretion, and to facilitate the implementation of monetary policies, a jurisdiction may temporarily exempt central bank reserves from the leverage ratio exposure measure in exceptional macroeconomic circumstances. To maintain the same level of resilience provided by the leverage ratio, a jurisdiction applying this discretion must also increase the calibration of the minimum leverage ratio requirement commensurately to offset the impact of exempting central bank reserves. In addition, in order to maintain the comparability and transparency of the Basel III leverage ratio framework, banks will be required to disclose the impact of any temporary exemption alongside ongoing public disclosure of the leverage ratio without application of such exemption.

On-balance sheet exposures

30.8 Banks must include all balance sheet assets in their leverage ratio exposure measure, including on-balance sheet derivatives collateral and collateral for SFTs, with the exception of on-balance sheet derivative and SFT assets that are covered in LEV30.13 to LEV30.44.[1]

Footnotes

[1] *Where a bank according to its operative accounting framework recognises fiduciary assets on the balance sheet, these assets can be excluded from the leverage ratio exposure measure provided that the assets meet the IFRS 9 criteria for derecognition and, where applicable, IFRS 10 for deconsolidation.*

FAQ

FAQ1 *Where the underlying asset being leased is a tangible asset, should a right of use (ROU) asset be included in risk-based capital and leverage ratio denominators?*

Yes, a ROU asset should be included in the risk-based capital and leverage denominators. The intent of the revisions to the lease accounting standards was to more appropriately reflect the economics of leasing transactions, including both the lessee's obligation to make future lease payments, as well as a ROU asset reflecting the lessee's control over the leased item's economic benefits during the lease term.

30.9 On-balance sheet, non-derivative assets are included in the leverage ratio exposure measure at their accounting values less deductions for associated specific provisions. In addition, general provisions or general loan-loss reserves as defined in CAP10.18 which have reduced Tier 1 capital may be deducted from the leverage ratio exposure measure.[2]

Footnotes

[2] *Although CAP10.18 specifies the treatment of general provisions /general loan-loss reserves for banks using the standardised approach for credit risk, for the purposes of the leverage ratio exposure measure the definition of general provisions/general loan-loss reserves specified in CAP10.18 applies to all banks regardless of whether they use the standardised approach or the IRB approach for credit risk for their risk-based capital calculations.*

30.10 The accounting for regular-way purchases or sales[3] of financial assets that have not been settled (hereafter "unsettled trades") differs across and within accounting frameworks, with the result that those unsettled trades can be accounted for either on the trade date (trade date accounting) or on the settlement date (settlement date accounting). For the purpose of the leverage ratio exposure measure, banks using trade date accounting must reverse out any

offsetting between cash receivables for unsettled sales and cash payables for unsettled purchases of financial assets that may be recognised under the applicable accounting framework, but may offset between those cash receivables and cash payables (regardless of whether such offsetting is recognised under the applicable accounting framework) if the following conditions are met:

(1) the financial assets bought and sold that are associated with cash payables and receivables are fair valued through income and included in the bank's regulatory trading book as specified by RBC25.1 to RBC25.13; and

(2) the transactions of the financial assets are settled on a delivery-versus-payment (DvP) basis.

Footnotes

[3] *For the purposes of this treatment, "regular-way purchases or sales" are purchases or sales of financial assets under contracts for which the terms require delivery of the assets within the time frame established generally by regulation or convention in the marketplace concerned.*

30.11 Banks using settlement date accounting will be subject to the treatment set out in LEV30.45 to LEV30.49.

30.12 Cash pooling refers to arrangements involving treasury products whereby a bank combines the credit and/or debit balances of several individual participating customer accounts into a single account balance to facilitate cash and/or liquidity management. For purposes of the leverage ratio exposure measure, where a cash pooling arrangement entails a transfer at least on a daily basis of the credit and /or debit balances of the individual participating customer accounts into a single account balance, the individual participating customer accounts are deemed to be extinguished and transformed into a single account balance upon the transfer provided the bank is not liable for the balances on an individual basis upon the transfer. Thus, the basis of the leverage ratio exposure measure for such a cash pooling arrangement is the single account balance and not the individual participating customer accounts. When the transfer of credit and/or debit balances of the individual participating customer accounts does not occur daily, for purposes of the leverage ratio exposure measure, extinguishment and

transformation into a single account balance is deemed to occur and this single account balance may serve as the basis of the leverage ratio exposure measure provided all of the following conditions are met. In the event the conditions below are not met, the individual balances of the participating customer accounts must be reflected separately in the leverage ratio exposure measure.

(1) In addition to providing for the several individual participating customer accounts, the cash pooling arrangement provides for a single account, into which the balances of all individual participating customer accounts can be transferred and thus extinguished.

(2) The bank

(a) has a legally enforceable right to transfer the balances of the individual participating customer accounts into a single account so that the bank is not liable for the balances on an individual basis; and

(b) at any point in time, the bank must have the discretion and be in a position to exercise this right.

(3) The bank's supervisor does not deem as inadequate the frequency by which the balances of individual participating customer accounts are transferred to a single accont.

(4) There are no maturity mismatches among the balances of the individual participating customer accounts included in the cash pooling arrangement or all balances are either overnight or on demand.

(5) The bank charges or pays interest and/or fees based on the combined balance of the individual participating customer accounts included in the cash pooling arrangement.

Derivative exposures

30.13 For the purpose of the leverage ratio exposure measure, exposures to derivatives are included by means of two components:

(1) replacement cost (RC); and

(2) potential future exposure (PFE).

30.14 Banks must calculate their exposures associated with all derivative transactions, including where a bank sells protection using a credit derivative, as a scalar multiplier alpha set at 1.4 times the sum of the RC[4] and the PFE, as described in LEV30.15 to LEV30.16. If the derivative exposure is covered by an eligible bilateral netting contract as specified in LEV30.17 to LEV30.20, a specific treatment may be applied. Written credit derivatives are subject to an additional treatment, as set out in LEV30.30 to LEV30.35.

Footnotes

[4] *If, under a bank's national accounting standards, there is no accounting measure of exposure for certain derivative instruments because they are held (completely) off-balance sheet, the bank must use the sum of positive fair values of these derivatives as the replacement cost.*

30.15 The amount to be included in the leverage ratio exposure measure is calculated according to the formula below. For derivative transactions not covered by an eligible bilateral netting contract as specified in LEV30.17 to LEV30.20, the amount to be included in the leverage ratio exposure measure is determined, for each transaction separately. When an eligible bilateral netting contract is in place as specified in LEV30.17 to LEV30.20, the formula below is applied at the netting set level as described in LEV30.16.

$$exposure\ measure\ =\ alpha \times \left(RC + PFE\right)$$

30.16 In the formula in LEV30.15:

(1) alpha is 1.4;

(2) RC is the replacement cost measured as follows, where:

(a) V is the market value of the individual derivative transaction or of the derivative transactions in a netting set;

(b) CVM_r is the cash variation margin received that meets the conditions set out in LEV30.24 and for which the amount has not already reduced the market value of the derivative transaction V under the bank's operative accounting standard; and

(c) CVM_p is the cash variation margin provided by the bank and that meets the same conditions.

$$RC = \max\left(V - CVM_r + CVM_p, 0\right)$$

(3) PFE is an amount for PFE calculated according to CRE52.20 to CRE52.76.

(a) For the purposes of the leverage ratio framework, the multiplier is fixed at one.

(b) When calculating the aggregate add-on component, for all margined transactions the maturity factor set out in CRE52.48 to CRE52.53 may be used.

(c) As written options create an exposure to the underlying, they must be included in the leverage ratio exposure measure, even if certain written options are permitted the zero exposure at default treatment allowed in the risk-based framework.

$$PFE = multiplier \times AddOn^{aggregate}$$

30.17 Banks may net transactions subject to novation under which any obligation between a bank and its counterparty to deliver a given currency on a given value date is automatically amalgamated with all other obligations for the same currency and value date, legally substituting one single amount for the previous gross obligations.

30.18 Banks may also net transactions subject to any legally valid form of bilateral netting not covered in LEV30.17, including other forms of novation.

30.19 In both cases described in LEV30.17 and LEV30.18, a bank will need to satisfy its national supervisors that it has:

(1) a netting contract or agreement with the counterparty that creates a single legal obligation, covering all included transactions, such that the bank would have either a claim to receive or obligation to pay only the net sum of the

positive and negative mark-to-market values of included individual transactions in the event that a counterparty fails to perform due to any of the following: default, bankruptcy, liquidation or similar circumstances;

(2) written and reasoned legal opinions that, in the event of a legal challenge, the relevant courts and administrative authorities would find the bank's exposure to be such a net amount under:

(a) the law of the jurisdiction in which the counterparty is chartered and, if the foreign branch of a counterparty is involved, then also under the law of jurisdiction in which the branch is located;

(b) the law that governs the individual transactions; and

(c) the law that governs any contract or agreement necessary to effect the netting.

(3) The national supervisor, after consultation when necessary with other relevant supervisors, must be satisfied that the netting is enforceable under the laws of each of the relevant jurisdictions;[5] and

(4) procedures in place to ensure that the legal characteristics of netting arrangements are kept under review in the light of possible changes in relevant law.

Footnotes

[5] *Thus, if any of these supervisors are dissatisfied about enforceability under its laws, the netting contract or agreement will not meet the condition and neither counterparty could obtain supervisory benefit.*

30.20 Contracts containing walkaway clauses will not be eligible for netting for the purpose of calculating the leverage ratio exposure measure pursuant to this framework. A walkaway clause is a provision that permits a non-defaulting counterparty to make only limited payments, or no payment at all, to the estate of a defaulter, even if the defaulter is a net creditor.

30.21 Collateral received in connection with derivative contracts has two countervailing effects on leverage:

(1) it reduces counterparty exposure; but

(2) it can also increase the economic resources at the disposal of the bank, as the bank can use the collateral to leverage itself.

30.22 Collateral received in connection with derivative contracts does not necessarily reduce the leverage inherent in a bank's derivative position, which is generally the case if the settlement exposure arising from the underlying derivative contract is not reduced. As a general principle of the Basel III leverage ratio framework, collateral received may not be netted against derivative exposures whether or not netting is permitted under the bank's operative accounting or risk-based framework. Hence, when calculating the exposure amount by applying LEV30.14 to LEV30.16, a bank must not reduce the leverage ratio exposure measure amount by any collateral received from the counterparty. This implies that the RC cannot be reduced by collateral received and that the multiplier referenced in LEV30.16 is fixed at one for the purpose of the PFE calculation. However, the maturity factor in the PFE add-on calculation can recognise the PFE-reducing effect from the regular exchange of variation margin as specified in LEV30.16.

30.23 Similarly, with regard to collateral provided, banks must gross up their leverage ratio exposure measure by the amount of any derivatives collateral provided where the provision of that collateral has reduced the value of their balance sheet assets under their operative accounting framework.

30.24 In the treatment of derivative exposures for the purpose of the leverage ratio exposure measure, the cash portion of variation margin exchanged between counterparties may be viewed as a form of pre-settlement payment if the following conditions are met:

(1) For trades not cleared through a qualifying central counterparty (QCCP)[6] the cash received by the recipient counterparty is not segregated. Cash variation margin would satisfy the non-segregation criterion if the recipient counterparty has no restrictions by law, regulation, or any agreement with the counterparty on the ability to use the cash received (ie the cash variation margin received is used as its own cash).

(2) Variation margin is calculated and exchanged on at least a daily basis based on mark-to-market valuation of derivative positions. To meet this criterion, derivative positions must be valued daily and cash variation margin must be transferred at least daily to the counterparty or to the counterparty's account, as appropriate. Cash variation margin exchanged on the morning of the subsequent trading day based on the previous, end-of-day market values would meet this criterion.

(3) The variation margin is received in a currency specified in the derivative contract, governing master netting agreement (MNA), credit support annex to the qualifying MNA or as defined by any netting agreement with a central counterparty (CCP).

(4) Variation margin exchanged is the full amount that would be necessary to extinguish the mark-to-market exposure of the derivative subject to the threshold and minimum transfer amounts applicable to the counterparty.[7]

(5) Derivative transactions and variation margins are covered by a single MNA between the legal entities that are the counterparties in the derivative transaction. The MNA must explicitly stipulate that the counterparties agree to settle net any payment obligations covered by such a netting agreement, taking into account any variation margin received or provided if a credit event occurs involving either counterparty. The MNA must be legally enforceable and effective (ie it satisfies the conditions in LEV30.19 to LEV30.20) in all relevant jurisdictions, including in the event of default and bankruptcy or insolvency. For the purposes of this paragraph, the term "MNA" includes any netting agreement that provides legally enforceable rights of offset[8] and a Master MNA may be deemed to be a single MNA.

Footnotes

[6] *A QCCP is defined as in CRE50.3.*

[7] *In situations where a margin dispute arises, the amount of non-disputed variation margin that has been exchanged can be recognised.*

[8] *This is to take into account the fact that, for netting agreements employed by CCPs, no standardisation has currently emerged that would be comparable with respect to over-the-counter netting agreements for bilateral trading.*

30.25 If the conditions in LEV30.24 are met, the cash portion of variation margin received may be used to reduce the replacement cost portion of the leverage ratio exposure measure, and the receivables assets from cash variation margin provided may be deducted from the leverage ratio exposure measure as follows:

(1) In the case of cash variation margin received, the receiving bank may reduce the replacement cost (but not the PFE component) of the exposure amount of the derivative asset as specified in LEV30.16.

(2) In the case of cash variation margin provided to a counterparty, the posting bank may deduct the resulting receivable from its leverage ratio exposure measure where the cash variation margin has been recognised as an asset under the bank's operative accounting framework, and instead include the cash variation margin provided in the calculation of the derivative replacement cost as specified in LEV30.16.

30.26 Where a bank acting as clearing member (CM)[9] offers clearing services to clients, the CM's trade exposures to the CCP that arise when the CM is obligated to reimburse the client for any losses suffered due to changes in the value of its transactions in the event that the CCP defaults must be captured by applying the same treatment that applies to any other type of derivative transaction. However, if the CM, based on the contractual arrangements with the client, is not obligated to reimburse the client for any losses suffered in the event that a QCCP defaults, the CM need not recognise the resulting trade exposures to the QCCP in the leverage ratio exposure measure. In addition, where a bank provides clearing services as a "higher-level client" within a multi-level client structure,[10] the bank need not recognise in its leverage ratio exposure measure the resulting trade exposures to the CM or to an entity that serves as a higher-level client to the bank in the leverage ratio exposure measure if it meets all of the following conditions:

(1) The offsetting transactions are identified by the QCCP as higher-level client transactions and collateral to support them is held by the QCCP and/or the CM, as applicable, under arrangements that prevent any losses to the higher level client due to:

(a) the default or insolvency of the CM,

(b) the default or insolvency of the CM's other clients, and

(c) the joint default or insolvency of the CM and any of its other clients.[11]

(2) The bank must have conducted a sufficient legal review (and undertake such further review as necessary to ensure continuing enforceability) and have a well founded basis to conclude that, in the event of legal challenge, the relevant courts and administrative authorities would find that such arrangements mentioned above would be legal, valid, binding and enforceable under relevant laws of the relevant jurisdiction(s).

(3) Relevant laws, regulation, rules and contractual or administrative arrangements provide that the offsetting transactions with the defaulted or insolvent CM are highly likely to continue to be indirectly transacted through the QCCP, or by the QCCP, if the CM defaults or becomes insolvent.[12] In such circumstances, the higher-level client positions and collateral with the QCCP will be transferred at market value unless the higher-level client requests to close out the position at market value.

(4) The bank is not obligated to reimburse its client for any losses suffered in the event of default of either the CM or the QCCP.

Footnotes

[9] *For the purposes of this paragraph, the terms "clearing member", "trade exposures", "central counterparty" and "qualifying central counterparty" are defined as in CRE50. In addition, for the purposes of this paragraph, the term "trade exposures" includes initial margin irrespective of whether or not it is posted in a manner that makes it remote from the insolvency of the CCP.*

[10] *A multi-level client structure is one in which banks can centrally clear as indirect clients; that is, when clearing services are provided to the bank by an institution which is not a direct clearing member, but is itself a client of a CM or another clearing client. The term "higher-level client" refers to the institution that provides clearing services.*

[11] *That is, upon the insolvency of the CM, there is no legal impediment (other than the need to obtain a court order to which the client is entitled) to the transfer of the collateral belonging to clients of a defaulting CM to the QCCP, to one of more other surviving CMs or to the client or the client's nominee.*

[12] *If there is a clear precedent for transactions being ported at a QCCP and industry intent for this practice to continue, then these factors must be considered when assessing if trades are highly likely to be ported. The fact that QCCP documentation does not prohibit client trades from being ported is not sufficient to say they are highly likely to be ported.*

30.27 Pursuant to LEV30.26, for derivative exposures associated with the bank's offering of client clearing services, the RC and the PFE of the exposure to the client (or the exposure to the "lower level client" in the case of a multi-level client structure) may be calculated according to CRE52.13 to CRE52.77.[13] For the determination of

RC and PFE, the amount of initial margin received by the bank from its client that may be included in the values of C and NICA should be limited to the amount that is subject to appropriate segregation by the bank as defined in the relevant jurisdiction.

Footnotes

[13] *The term "lower level client" refers to the institution that clears through that client.*

30.28 Where a client enters directly into a derivative transaction with the CCP and the CM guarantees the performance of its client's derivative trade exposures to the CCP, the bank acting as the CM for the client to the CCP must calculate its related leverage ratio exposure resulting from the guarantee as a derivative exposure as set out in LEV30.14 to LEV30.25, as if it had entered directly into the transaction with the client, including with regard to the receipt or provision of cash variation margin.

30.29 For the purposes of LEV30.26 and LEV30.28, an entity affiliated to the bank acting as a CM may be considered a client if it is outside the relevant scope of regulatory consolidation at the level at which the leverage ratio is applied. In contrast, if an affiliate entity falls within the regulatory scope of consolidation, the trade between the affiliate entity and the CM is eliminated in the course of consolidation but the CM still has a trade exposure to the CCP. In this case, the transaction with the CCP will be considered proprietary and the exemption in LEV30.26 will not apply.

30.30 In addition to the counterparty credit risk (CCR) exposure arising from the fair value of the contracts, written credit derivatives create a notional credit exposure arising from the creditworthiness of the reference entity. The Committee therefore believes that it is appropriate to treat written credit derivatives consistently with cash instruments (eg loans, bonds) for the purposes of the leverage ratio exposure measure.

30.31 In order to capture the credit exposure to the underlying reference entity, in addition to the above treatment for derivatives and related collateral, the effective notional amount referenced by a written credit derivative is to be included in the leverage ratio exposure measure unless the written credit derivative is included in a transaction cleared on the behalf of a client of the bank

acting as a CM (or acting as a clearing services provider in a multi-level client structure as referenced in LEV30.26) and the transaction meets the requirements of LEV30.26 for the exclusion of trade exposures to the QCCP (or, in the case of a multi-level client structure, the requirements of LEV30.26 for the exclusion of trade exposures to the CM or the QCCP). The "effective notional amount" is obtained by adjusting the notional amount to reflect the true exposure of contracts that are leveraged or otherwise enhanced by the structure of the transaction. Further, the effective notional amount of a written credit derivative may be reduced by any negative change in fair value amount that has been incorporated into the calculation of Tier 1 capital with respect to the written credit derivative.[14] The resulting amount may be further reduced by the effective notional amount of a purchased credit derivative on the same reference name, provided that:

(1) the credit protection purchased through credit derivatives is otherwise subject to the same or more conservative material terms as those in the corresponding written credit derivative. This ensures that if a bank provides written protection via some type of credit derivative, the bank may only recognise offsetting from another purchased credit derivative to the extent that the purchased protection is certain to deliver a payment in all potential future states. Material terms include the level of subordination, optionality, credit events, reference and any other characteristics relevant to the valuation of the derivative;[15]

(2) the remaining maturity of the credit protection purchased through credit derivatives is equal to or greater than the remaining maturity of the written credit derivative;

(3) the credit protection purchased through credit derivatives is not purchased from a counterparty whose credit quality is highly correlated with the value of the reference obligation in the sense specified in CRE53.48;[16]

(4) in the event that the effective notional amount of a written credit derivative is reduced by any negative change in fair value reflected in the bank's Tier 1 capital, the effective notional amount of the offsetting credit protection purchased through credit derivatives must also be reduced by any resulting positive change in fair value reflected in Tier 1 capital; and

(5) the credit protection purchased through credit derivatives is not included in a transaction that has been cleared on behalf of a client (or that has been cleared by the bank in its role as a clearing services provider in a multi-level client services structure as referenced in LEV30.26) and for which the effective notional amount referenced by the corresponding written credit derivative is excluded from the leverage ratio exposure measure according to this paragraph.

Footnotes

[14] *For example, if a written credit derivative had a positive fair value of 20 on one date and has a negative fair value of 10 on a subsequent reporting date, the effective notional amount of the credit derivative may be reduced by 10. The effective notional amount cannot be reduced by 30. However, if on the subsequent reporting date the credit derivative has a positive fair value of five, the effective notional amount cannot be reduced at all. This treatment is consistent with the rationale that the effective notional amounts included in the exposure measure may be capped at the level of the maximum potential loss, which means that the maximum potential loss at the reporting date is the notional amount of the credit derivative minus any negative fair value that has already reduced Tier 1 capital.*

[15] *For example, the application of the same material terms condition would result in the following treatments. First, in the case of single name credit derivatives, the credit protection purchased through credit derivatives is on a reference obligation which ranks pari passu with or is junior to the underlying reference obligation of the written credit derivative. Credit protection purchased through credit derivatives that references a subordinated position may offset written credit derivatives on a more senior position of the same reference entity as long as a credit event on the senior reference asset would result in a credit event on the subordinated reference asset. Second, for tranched products, the credit protection purchased through credit derivatives must be on a reference obligation with the same level of seniority.*

[16] *Specifically, the credit quality of the counterparty must not be positively correlated with the value of the reference obligation (ie the credit quality of the counterparty falls when the value of the reference obligation falls and the value of the purchased credit derivative increases). In making this determination, there does not need to exist a legal connection between the counterparty and the underlying reference entity.*

FAQ

FAQ1 *Please confirm the following interpretations for the purposes of offsetting: (a) when a purchased credit derivative transaction exists, the effective notional amount of the written credit derivative may be reduced by any negative change in fair value reflected in Tier 1 capital provided that the effective notional amount of the offsetting purchased credit derivative is also reduced by any resulting positive change in fair value reflected in Tier 1 capital; and (b) when a purchased credit derivative transaction exists, and the effective notional amount of the purchased credit derivative has not been reduced by any resulting positive change in fair value reflected in Tier 1 capital, then the effective notional amount of the written credit derivative may only be offset if the effective notional amount of that written credit derivative has not been reduced by any negative change in fair value reflected in Tier 1 capital.*

The interpretations in the question are correct.

FAQ2 *Would tranched junior position hedges through credit derivatives that meet the following criteria be eligible for offsetting: (i) the junior and senior tranches are on the same pool of reference entities; (ii) the level of seniority of the debt of each of the reference entities in the portfolio is the same; (iii) the designated credit events for the credit protection sold on the senior tranche, and purchased on the junior tranche, are the same; and (iv) the anticipated economic recovery on the junior tranched protection purchased is equal to or greater than the anticipated economic loss on the senior tranched protection sold?*

No. As described in LEV30.33, credit protection purchased through a credit derivative on a pool of reference assets cannot offset a written credit derivative unless both instruments reference the same pool of reference assets and the level of subordination of both transactions is identical.

FAQ3 *If a bank writes credit protection through a credit derivative for a client and enters into a back-to-back trade with a CCP whereby it purchases credit protection through a credit derivative on the same name, may that purchased credit protection be used to offset the written protection for the purposes of the Basel III leverage ratio?*

Yes. A bank may offset the effective notional amount of a written credit derivative sold to a client by means of a credit derivative on the same underlying name purchased from a CCP provided that the criteria in LEV30.31 are met.

30.32 For the purposes of LEV30.31, the term "written credit derivative" refers to a broad range of credit derivatives through which a bank effectively provides credit protection and is not limited solely to credit default swaps and total return swaps. For example, all options where the bank has the obligation to provide credit protection under certain conditions qualify as "written credit derivatives". The effective notional amount of such options sold by the bank may be offset by the effective notional amount of options by which the bank has the right to purchase credit protection which fulfils the conditions of LEV30.31. For example, the condition of same or more conservative material terms as those in the corresponding written credit derivatives as referenced in LEV30.31 can be considered met only when the strike price of the underlying purchased credit protection is equal to or lower than the strike price of the underlying sold credit protection.

30.33 For the purposes of LEV30.31, two reference names are considered identical only if they refer to the same legal entity. Credit protection on a pool of reference names purchased through credit derivatives may offset credit protection sold on individual reference names if the credit protection purchased is economically equivalent to purchasing credit protection separately on each of the individual names in the pool (this would, for example, be the case if a bank were to purchase credit protection on an entire securitisation structure). If a bank purchases credit protection on a pool of reference names through credit derivatives, but the credit protection purchased does not cover the entire pool (ie the protection covers only a subset of the pool, as in the case of an nth-to-default credit derivative or a securitisation tranche), then the written credit derivatives on the individual reference names may not be offset. However, such purchased credit protection may offset written credit derivatives on a pool provided that the credit protection purchased through credit derivatives covers the entirety of the subset of the pool on which the credit protection has been sold.

30.34 Where a bank purchases credit protection through a total return swap and records the net payments received as net income, but does not record offsetting deterioration in the value of the written credit derivative (either through reductions in fair value or by an addition to reserves) in Tier 1 capital, the credit protection will not be recognised for the purpose of offsetting the effective notional amounts related to written credit derivatives.

30.35 Since written credit derivatives are included in the leverage ratio exposure measure at their effective notional amounts, and are also subject to amounts for PFE, the leverage ratio exposure measure for written credit derivatives may be overstated. Banks may therefore choose to exclude from the netting set for the PFE calculation the portion of a written credit derivative which is not offset according to LEV30.31 and for which the effective notional amount is included in the leverage ratio exposure measure.

FAQ

FAQ1 *What does the phrase "which is not offset according to LEV30.31" in LEV30.35 mean? Does it refer to the case where neither of the two deductions in the effective notional amount from an offsetting purchased credit derivative, detailed in LEV30.31, is included?*

The condition in LEV30.35 regarding the removal of a PFE add-on associated with a written credit derivative from the Basel III leverage ratio exposure measure refers only to the offset by credit protection purchased through a credit derivative according to LEV30.31 and not to the reduction of the effective notional amount as a result of the negative change in fair value that has reduced Tier 1 capital.

Securities financing transaction exposures

30.36 SFTs[17] are included in the leverage ratio exposure measure according to the treatment described below. The treatment recognises that secured lending and borrowing in the form of SFTs is an important source of leverage, and ensures consistent international implementation by providing a common measure for dealing with the main differences in the operative accounting frameworks.

Footnotes

[17] *SFTs are transactions such as repurchase agreements, reverse repurchase agreements, security lending and borrowing, and margin lending transactions, where the value of the transactions depends on market valuations and the transactions are often subject to margin agreements.*

30.37

General treatment (bank acting as principal): the sum of the amounts in LEV30.37 (1) and LEV30.37(2) is to be included in the leverage ratio exposure measure:

(1) Gross SFT assets[18] recognised for accounting purposes (ie with no recognition of accounting netting),[19] adjusted as follows:

(a) excluding from the leverage ratio exposure measure the value of any securities received under an SFT, where the bank has recognised the securities as an asset on its balance sheet;[20] and

(b) cash payables and cash receivables in SFTs with the same counterparty may be measured net if all the following criteria are met:

(i) transactions have the same explicit final settlement date; in particular, transactions with no explicit end date but which can be unwound at any time by either party to the transaction are not eligible;

(ii) the right to set off the amount owed to the counterparty with the amount owed by the counterparty is legally enforceable both currently in the normal course of business and in the event of the counterparty's default, insolvency or bankruptcy; and

(iii) the counterparties intend to settle net, settle simultaneously, or the transactions are subject to a settlement mechanism that results in the functional equivalent of net settlement - that is, the cash flows of the transactions are equivalent, in effect, to a single net amount on the settlement date. To achieve such equivalence, both transactions are settled through the same settlement system and the settlement arrangements are supported by cash and/or intraday credit facilities intended to ensure that settlement of both transactions will occur by the end of the business day and any issues arising from the securities legs of the SFTs do not interfere with the completion of the net settlement of the cash receivables and payables. In particular, this latter condition means that the failure of any single securities transaction in the settlement mechanism may delay settlement of only the matching cash leg or create an obligation to the settlement mechanism, supported by an associated credit facility. If there is a failure of the securities leg of a transaction in such a mechanism at the end of the window for settlement in the settlement mechanism, then this transaction and its matching cash leg must be split out from the netting set and treated gross.[21]

(2) A measure of CCR calculated as the current exposure without an add-on for PFE, calculated as follows. For the purposes of this subparagraph, the term "counterparty" includes not only the counterparty of the bilateral repo transactions but also triparty repo agents that receive collateral in deposit and manage the collateral in the case of triparty repo transactions. Therefore, securities deposited at triparty repo agents are included in "total value of securities and cash lent to a counterparty" (E) up to the amount effectively lent to the counterparty in a repo transaction. However, excess collateral that has been deposited at triparty agents but that has not been lent out may be excluded.

(a) Where a qualifying MNA[22] is in place, the current exposure (E*) is the greater of zero and the total fair value of securities and cash lent to a counterparty for all transactions included in the qualifying MNA ($\sum E_i$), less the total fair value of cash and securities received from the counterparty for those transactions ($\sum C_i$). This is illustrated in the following formula:

$$E^* = \max\left(0, \left(\sum E_i - \sum C_i\right)\right)$$

(b) Where no qualifying MNA is in place, the current exposure for transactions with a counterparty must be calculated on a transaction-by-transaction basis - that is, each transaction i is treated as its own netting set, as shown in the following formula:

$$E_i^* = \max\left(0, \left(E_i - C_i\right)\right)$$

(c) E_i^* may be set to zero if:

(i) E_i is the cash lent to a counterparty;

(ii) this transaction is treated as its own netting set; and

(iii) the associated cash receivable is not eligible for the netting treatment in LEV30.37(1).

Footnotes

[18] *For SFT assets subject to novation and cleared through QCCPs, "gross SFT assets recognised for accounting purposes" are replaced by the final contractual exposure, ie the exposure to the QCCP after the process of novation has been applied, given that pre-existing contracts have been replaced by new legal obligations through the novation process. However, banks can only net cash receivables and cash payables with a QCCP if the criteria in LEV30.37(1) are met. Any other netting permitted by the QCCP is not permitted for the purposes of the Basel III leverage ratio.*

[19] *Gross SFT assets recognised for accounting purposes must not recognise any accounting netting of cash payables against cash receivables (eg as currently permitted under the IFRS and US GAAP accounting frameworks). This regulatory treatment has the benefit of avoiding inconsistencies from netting which may arise across different accounting regimes.*

[20] *This may apply, for example, under US GAAP where securities received under an SFT may be recognised as assets if the recipient has the right to rehypothecate but has not done so.*

[21] *Specifically, the criteria in LEV30.37(1)(b)(iii) are not intended to preclude a DvP settlement mechanism or other type of settlement mechanism, provided that the settlement mechanism meets the functional requirements set out in LEV30.37(1)(b)(iii). For example, a settlement mechanism may meet these functional requirements if any failed transactions (ie the securities that failed to transfer and the related cash receivable or payable) can be re-entered in the settlement mechanism until they are settled.*

[22] *A "qualifying" MNA is one that meets the requirements under LEV30.38 to LEV30.39.*

30.38 The effects of bilateral netting agreements[23] for covering SFTs will be recognised on a counterparty-by-counterparty basis if the agreements are legally enforceable in each relevant jurisdiction upon the occurrence of an event of default and regardless of whether the counterparty is insolvent or bankrupt. In addition, netting agreements must:

(1) provide the non-defaulting party with the right to terminate and close out in a timely manner all transactions under the agreement upon an event of default, including in the event of insolvency or bankruptcy of the counterparty;

(2) provide for the netting of gains and losses on transactions (including the value of any collateral) terminated and closed out under it so that a single net amount is owed by one party to the other;

(3) allow for the prompt liquidation or setoff of collateral upon the event of default; and

(4) be, together with the rights arising from provisions required in LEV30.38(1) and LEV30.38(3) above, legally enforceable in each relevant jurisdiction upon the occurrence of an event of default regardless of the counterparty's insolvency or bankruptcy.

Footnotes

[23] *The provisions related to qualifying MNAs for SFTs are intended for the calculation of the CCR measure of SFTs as set out in LEV30.37(2) only.*

30.39 Netting across positions held in the banking book and trading book will only be recognised when the netted transactions fulfil the following conditions:

(1) all transactions are marked to market daily; and

(2) the collateral instruments used in the transactions are recognised as eligible financial collateral in the banking book.

30.40 Leverage may remain with the lender of the security in an SFT whether or not sale accounting is achieved under the operative accounting framework. As such, where sale accounting is achieved for an SFT under the bank's operative accounting framework, the bank must reverse all sales-related accounting entries, and then calculate its exposure as if the SFT had been treated as a financing transaction under the operative accounting framework (ie the bank must include the sum of amounts in LEV30.37(1) and LEV30.37(2) for such an SFT) for the purpose of determining its leverage ratio exposure measure.

30.41 A bank acting as agent in an SFT generally provides an indemnity or guarantee to only one of the two parties involved, and only for the difference between the value of the security or cash its customer has lent and the value of collateral the borrower has provided. In this situation, the bank is exposed to the counterparty of its customer for the difference in values rather than to the full exposure to the underlying security or cash of the transaction (as is the case where the bank is one of the principals in the transaction).

30.42 Where a bank acting as agent in an SFT provides an indemnity or guarantee to a customer or counterparty for any difference between the value of the security or cash the customer has lent and the value of collateral the borrower has provided and the bank does not own or control the underlying cash or security resource, then the bank will be required to calculate its leverage ratio exposure measure by applying only LEV30.37(2).[24]

Footnotes

[24] *Where, in addition to the conditions in LEV30.37 to LEV30.43, a bank acting as an agent in an SFT does not provide an indemnity or guarantee to any of the involved parties, the bank is not exposed to the SFT and therefore need not recognise those SFTs in its leverage ratio exposure measure.*

30.43 A bank acting as agent in an SFT and providing an indemnity or guarantee to a customer or counterparty will be considered eligible for the exceptional treatment set out in LEV30.42 only if the bank's exposure to the transaction is limited to the guaranteed difference between the value of the security or cash its customer has lent and the value of the collateral the borrower has provided. In situations where the bank is further economically exposed (ie beyond the guarantee for the difference) to the underlying security or cash in the transaction, [25] a further exposure equal to the full amount of the security or cash must be included in the leverage ratio exposure measure.

Footnotes

[25] *For example, due to the bank managing collateral received in the bank's name or on its own account rather than on the customer's or borrower's account (eg by on-lending or managing unsegregated collateral, cash or securities). However, this does not apply to client omnibus accounts that are used by agent lenders to hold and manage client collateral provided that client collateral is segregated from the bank's proprietary assets and the bank calculates the exposure on a client-by-client basis.*

30.44 Where a bank acting as agent provides an indemnity or guarantee to both parties involved in an SFT (ie securities lender and securities borrower), the bank will be required to calculate its leverage ratio exposure measure in accordance with LEV30.37 to LEV30.43 separately for each party involved in the transaction.

Off-balance sheet items

30.45 This section explains the treatment of off-balance sheet (OBS) items for inclusion in the leverage ratio exposure measure. These treatments reflect those defined in CRE20 and CRE52, as well as treatments unique to the leverage ratio framework. OBS items include commitments (including liquidity facilities), whether or not unconditionally cancellable, direct credit substitutes, acceptances, standby letters of credit and trade letters of credit. If the OBS item is treated as a derivative exposure per the bank's relevant accounting standard, then the item must be measured as a derivative exposure for the purpose of the leverage ratio exposure measure. In this case, the bank does not need to apply the OBS item treatment to the exposure.

30.46 In CRE20, OBS items are converted under the standardised approach for credit risk into credit exposure equivalents through the use of credit conversion factors (CCFs). For the purpose of determining the exposure amount of OBS items for the leverage ratio, the CCFs set out in LEV30.49 to LEV30.56 must be applied to the notional amount.

30.47 For the purposes of the leverage ratio, OBS items will be converted into credit exposures by multiplying the committed but undrawn amount by a CCF. For these purposes, commitment means any contractual arrangement that has been offered by the bank and accepted by the client to extend credit, purchase assets or issue credit substitutes. It includes any such arrangement that can be unconditionally cancelled by the bank at any time without prior notice to the obligor.[26] It also includes any such arrangement that can be cancelled by the bank if the obligor fails to meet conditions set out in the facility document, including conditions that must be met by the obligor prior to any initial or subsequent drawdown arrangement.

Footnotes

[26] *At national discretion, a jurisdiction may exempt certain arrangements from the definition of commitments provided that the following conditions are met: (i) the bank receives no fees or commissions to establish or maintain the arrangements; (ii) the client is required to apply to the bank for the initial and each subsequent drawdown; (iii) the bank has full authority, regardless of the fulfilment by the client of the conditions set out in the facility documentation, over the execution of each drawdown; and (iv) the bank's decision on the execution of each drawdown is only made after assessing the creditworthiness of the client immediately prior to drawdown. Exempted arrangements that met the above criteria are confined to certain arrangements for corporates and small or medium-sized entities, where counterparties are closely monitored on an ongoing basis.*

30.48 In addition, specific and general provisions set aside against OBS exposures that have decreased Tier 1 capital may be deducted from the credit exposure equivalent amount of those exposures (ie the exposure amount after the application of the relevant CCF). However, the resulting total off-balance sheet equivalent amount for OBS exposures cannot be less than zero.

30.49 A 100% CCF will be applied to the following items:

(1) Direct credit substitutes, eg general guarantees of indebtedness (including standby letters of credit serving as financial guarantees for loans and securities) and acceptances (including endorsements with the character of acceptances).

(2) Forward asset purchases, forward forward deposits and partly paid shares and securities, which represent commitments with certain drawdown.

(3) The exposure amount associated with unsettled financial asset purchases (ie the commitment to pay) where regular-way unsettled trades are accounted for at settlement date. Banks may offset commitments to pay for unsettled purchases and cash to be received for unsettled sales provided that the following conditions are met:

(a) the financial assets bought and sold that are associated with cash payables and receivables are fair valued through income and included in the bank's regulatory trading book as specified by RBC25.1 to RBC25.13; and

(b) the transactions of the financial assets are settled on a DvP basis.

(4) Off-balance sheet items that are credit substitutes not explicitly included in any other category.

30.50 A 50% CCF will be applied to note issuance facilities and revolving underwriting facilities regardless of the maturity of the underlying facility.

30.51 A 50% CCF will be applied to certain transaction-related contingent items (eg performance bonds, bid bonds, warranties and standby letters of credit related to particular transactions).

30.52 A 40% CCF will be applied to commitments, regardless of the maturity of the underlying facility, unless they qualify for a lower CCF.

30.53 A 20% CCF will be applied to both the issuing and confirming banks of short-term self-liquidating trade letters of credit arising from the movement of goods (eg documentary credits collateralised by the underlying shipment).

30.54 A 10% CCF will be applied to commitments that are unconditionally cancellable at any time by the bank without prior notice, or that effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness. National supervisors should evaluate various factors in the jurisdiction, which may constrain banks' ability to cancel the commitment in practice, and consider applying a higher CCF to certain commitments as appropriate.

30.55 Where there is an undertaking to provide a commitment on an off-balance sheet item, banks are to apply the lower of the two applicable CCFs.[27]

Footnotes

[27] *For example, if a bank has a commitment to open short-term self-liquidating trade letters of credit arising from the movement of goods, a 20% CCF will be applied (instead of a 40% CCF); and if a bank has an unconditionally cancellable commitment described in CRE20.100 to issue direct credit substitutes, a 10% CCF will be applied (instead of a 100% CCF).*

30.56 OBS securitisation exposures must be treated as per CRE40.20(2).

LEV40

Leverage ratio requirements for global systemically important banks

This chapter describes the leverage ratio buffer requirements applying to global systemically important banks.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework, reflects the requirements introduced in the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020.

40.1 To maintain the relative roles of the risk-based capital and leverage ratio requirements, banks identified as global systemically important banks (G-SIBs) according to SCO40 must also meet a leverage ratio buffer requirement. Consistent with the capital measure required to meet the leverage ratio minimum described in LEV20.4, G-SIBs must meet the leverage ratio buffer with Tier 1 capital.

40.2 The leverage ratio buffer will be set at 50% of a G-SIB's higher loss-absorbency risk-based requirements. For example, a G-SIB subject to a 2% higher loss-absorbency requirement would be subject to a 1% leverage ratio buffer requirement.

40.3 The design of the leverage ratio buffer is akin to the capital buffers in the risk-based framework. As such, the leverage ratio buffer will include minimum capital conservation ratios divided in five ranges. Capital distribution constraints will be imposed on a G-SIB which does not meet its leverage ratio buffer requirement.

40.4 The capital distribution constraints imposed on G-SIBs will depend on the G-SIB's Common Equity Tier 1 (CET1) risk-based ratio and its leverage ratio. A G-SIB which meets both its CET1 risk-based capital requirements (defined as a 4.5% minimum requirement, a 2.5% capital conservation buffer, the G-SIB higher loss-absorbency requirement and countercyclical capital buffer if applicable) and its Tier 1 leverage ratio requirement (defined as a 3% leverage ratio minimum requirement and the G-SIB leverage ratio buffer) will not be subject to minimum capital conservation standards. A G-SIB which does not meet one of these requirements will be subject to the associated minimum capital conservation standards. A G-SIB which does not meet both requirements will be subject to the higher minimum capital conservation standard related to its risk-based capital requirement or leverage ratio.

40.5 As an example, the table below shows the minimum capital conservation standards for the CET1 risk-based requirements and Tier 1 leverage ratio requirements of a G-SIB in the first bucket of the higher loss-absorbency requirements (ie where a 1% risk-based G-SIB capital buffer applies).

CET1 risk-based ratio	Tier 1 leverage ratio	Minimum capital conservation ratios (expressed as a percentage of earnings)
4.5%–5.375%	3%–3.125%	100%
> 5.375%–6.25%	> 3.125%–3.25%	80%
> 6.25%–7.125%	> 3.25%–3.375%	60%
> 7.125%–8%	> 3.375%–3.50%	40%
> 8.0%	> 3.50%	0%

LEV90

Transition

This chapter describes transitional arrangements that apply to the leverage ratio buffer requirement for global systemically important banks.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework. Sets out the transitional arrangements for the G-SIB leverage ratio buffer introduced in the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020.

90.1 The leverage ratio buffer requirement on 1 January 2023 shall be based on the Financial Stability Board's 2021 list of global systemically important banks (G-SIBs), based on end-2020 data. For banks that are subsequently identified as G-SIBs or which are no longer identified as G-SIBs, the same transitional arrangements will apply as in the higher loss-absorbency requirement framework.

90.2 The leverage ratio buffer requirement will be updated annually to reflect the annual updated list of G-SIB requirements. G-SIBs subject to a revised higher loss-absorbency requirement would also be subject to a revised leverage ratio buffer requirement, calibrated at 50% of the former requirement. Both requirements would follow the same implementation arrangements. Jurisdictions may impose a higher leverage ratio buffer requirement.

LCR

Liquidity Coverage Ratio

This standard describes the Liquidity Coverage Ratio, a measure which promotes the short-term resilience of a bank's liquidity risk profile.

LCR10

Definitions and application

This chapter describes the scope of application of the Liquidity Coverage Ratio (LCR), the treatment of home / host liquidity requirements and liquidity transfer restrictions, and the currency in which the LCR should be met and reported.

Version effective as of 15 Dec 2019

First version in format of consolidated framework.

Scope of application

10.1 The application of the requirements of the liquidity coverage ratio (LCR) standard, set out in LCR, and the liquidity monitoring metrics, set out in SRP50, follow the existing scope of application set out in SCO10.1 to SCO10.4. The LCR standard and monitoring tools should be applied to all internationally active banks on a consolidated basis, but may be used for other banks and on any subset of entities of internationally active banks as well to ensure greater consistency and a level playing field between domestic and cross-border banks. The LCR standard and monitoring tools should be applied consistently wherever they are applied.

10.2 National supervisors should determine which investments in banking, securities and financial entities of a banking group that are not consolidated per LCR10.1 should be considered significant, taking into account the liquidity impact of such investments on the group under the LCR standard. Normally, a non-controlling investment (eg a joint venture or minority-owned entity) can be regarded as significant if the banking group will be the main liquidity provider of such investment in times of stress (for example, when the other shareholders are non-banks or where the bank is operationally involved in the day-to-day management and monitoring of the entity's liquidity risk). National supervisors should agree with each relevant bank on a case-by-case basis on an appropriate methodology for how to quantify such potential liquidity draws, in particular, those arising from the need to support the investment in times of stress out of reputational concerns for the purpose of calculating the LCR. To the extent that such liquidity draws are not included elsewhere, they should be treated under "Other contingent funding obligations", as described in LCR40.70.

10.3 Regardless of the scope of application of the LCR, in keeping with Principle 6 as outlined in the Principles for Sound Liquidity Risk Management and Supervision, a bank should actively monitor and control liquidity risk exposures and funding needs at the level of individual legal entities, foreign branches and subsidiaries, and the group as a whole, taking into account legal, regulatory and operational limitations to the transferability of liquidity.

Differences in home / host liquidity requirements

10.4 While most of the parameters in the LCR standard are internationally "harmonised", national differences in liquidity treatment may occur in those items subject to national discretion (eg deposit run-off rates, contingent funding obligations, market valuation changes on derivative transactions) and where more stringent parameters are adopted by some supervisors.

10.5

When calculating the LCR on a consolidated basis, a cross-border banking group should apply the liquidity parameters adopted in the home jurisdiction to all legal entities being consolidated except for the treatment of retail / small business deposits that should follow the relevant parameters adopted in host jurisdictions in which the entities (branch or subsidiary) operate. This approach will enable the stressed liquidity needs of legal entities of the group (including branches of those entities) operating in host jurisdictions to be more suitably reflected, given that deposit run-off rates in host jurisdictions are more influenced by jurisdiction-specific factors such as the type and effectiveness of deposit insurance schemes in place and the behaviour of local depositors.

10.6 Home requirements for retail and small business deposits should apply to the relevant legal entities (including branches of those entities) operating in host jurisdictions if:

(1) there are no host requirements for retail and small business deposits in the particular jurisdictions;

(2) those entities operate in host jurisdictions that have not implemented the LCR; or

(3) the home supervisor decides that home requirements should be used that are stricter than the host requirements.

Treatment of liquidity transfer restrictions

10.7 As noted in LCR30.21, as a general principle, no excess liquidity should be recognised by a cross-border banking group in its consolidated LCR if there is reasonable doubt about the availability of such liquidity. Liquidity transfer restrictions (eg ring-fencing measures, non-convertibility of local currency, foreign exchange controls) in jurisdictions in which a banking group operates will affect the availability of liquidity by inhibiting the transfer of high-quality liquid assets (HQLA) and fund flows within the group. The consolidated LCR should reflect such restrictions in a manner consistent with LCR30.21. For example, the eligible HQLA that are held by a legal entity being consolidated to meet its local LCR requirements (where applicable) can be included in the consolidated LCR to the extent that such HQLA are used to cover the total net cash outflows of that entity, notwithstanding that the assets are subject to liquidity transfer restrictions. If the HQLA held in excess of the total net cash outflows are not transferable, such surplus liquidity should be excluded from the LCR calculation.

10.8 For practical reasons, the liquidity transfer restrictions to be accounted for in the consolidated ratio are confined to existing restrictions imposed under applicable laws, regulations and supervisory requirements.[1] A banking group should have processes in place to capture all liquidity transfer restrictions to the extent practicable, and to monitor the rules and regulations in the jurisdictions in which the group operates and assess their liquidity implications for the group as a whole.

Footnotes

[1] *There are a number of factors that can impede cross-border liquidity flows of a banking group, many of which are beyond the control of the group and some of these restrictions may not be clearly incorporated into law or may become visible only in times of stress.*

Currencies

10.9 As outlined in LCR30.29, while the LCR must be met on a consolidated basis and reported in a common currency, supervisors and banks should also be aware of the liquidity needs in each significant currency. As indicated in the LCR standard, the currencies of the stock of HQLA should be similar in composition to the operational needs of the bank. Banks and supervisors cannot assume that currencies will remain transferable and convertible in a stress period, even for currencies that in normal times are freely transferable and highly convertible.

LCR20

Calculation

This chapter explains how to calculate the Liquidity Coverage Ratio, the minimum requirement and banks' reporting obligations.

Version effective as of 15 Dec 2019

Updated to include the FAQs on climate-related financial risks published on 8 December 2022.

20.1 The Committee has developed the Liquidity Coverage Ratio (LCR) to promote the short-term resilience of the liquidity risk profile of banks by ensuring that they have sufficient high-quality liquid assets (HQLA) to survive a significant stress scenario lasting 30 calendar days.

20.2 The scenario for this standard entails a combined idiosyncratic and market-wide shock that would result in:

(1) the run-off of a proportion of retail deposits;

(2) a partial loss of unsecured wholesale funding;

(3) a partial loss of secured, short-term financing with certain collateral and counterparties;

(4) additional contractual outflows that would arise from a downgrade in the bank's public credit rating by up to and including three notches, including collateral posting requirements;

(5) increases in market volatilities that impact the quality of collateral or potential future exposure of derivative positions and thus require larger collateral haircuts or additional collateral, or lead to other liquidity needs;

(6) unscheduled draws on committed but unused credit and liquidity facilities that the bank has provided to its clients; and

(7) the potential need for the bank to buy back debt or honour non-contractual obligations in the interest of mitigating reputational risk.

20.3 This stress test should be viewed as a minimum supervisory requirement for banks. Banks are expected to conduct their own stress tests to assess the level of liquidity they should hold beyond this minimum, and construct their own scenarios that could cause difficulties for their specific business activities. Such internal stress tests should incorporate longer time horizons than the one mandated by this standard. Banks should share the results of these additional stress tests with supervisors.

FAQ

FAQ1 *Should banks consider climate-related financial risks in conducting their own stress tests to assess the level of liquidity they should hold beyond the LCR minimum?*

Banks should consider material climate-related financial risks in their internal liquidity stress tests to assess their potential impact on net cash outflows or the value of liquidity buffer assets. These assessments may inform the level of liquidity they should hold beyond the LCR minimum. Material climate-related financial risks may be incorporated into internal liquidity adequacy assessment processes iteratively and progressively as the methodologies and data used to analyse these risks mature over time and analytical gaps are addressed.

20.4 The LCR has two components:

(1) value of the stock of HQLA in stressed conditions; and

(2) total net cash outflows, calculated according to the scenario parameters outlined in LCR30 and LCR40.

$$\frac{\textit{Stock of HQLA}}{\textit{Total net cash outflows over the next 30 calendar days}} \geq 100\%$$

20.5 The LCR builds on traditional liquidity "coverage ratio" methodologies used internally by banks to assess exposure to contingent liquidity events. The total net cash outflows for the scenario are to be calculated for 30 calendar days into the future. The standard requires that, absent a situation of financial stress, the value of the ratio be no lower than 100% (ie the stock of HQLA should at least equal total net cash outflows) on an ongoing basis because the stock of unencumbered HQLA is intended to serve as a defence against the potential onset of liquidity stress., During periods of stress, however, it would be entirely appropriate for banks to use their stock of HQLA, thereby falling below the minimum. Supervisors will subsequently assess this situation and will give guidance on usability according to the circumstances.

20.6 In particular, supervisory decisions regarding a bank's use of its HQLA should be guided by consideration of the core objective and definition of the LCR. Supervisors should exercise judgement in their assessment and account not only for prevailing macrofinancial conditions, but also consider forward-looking assessments of macroeconomic and financial conditions. In determining a response, supervisors should be aware that some actions could be procyclical if applied in circumstances of market-wide stress. Supervisors should seek to take these considerations into account on a consistent basis across jurisdictions.

(1) Supervisors should assess conditions at an early stage, and take actions if deemed necessary, to address potential liquidity risk.

(2) Supervisors should allow for differentiated responses to a reported LCR below 100%. Any potential supervisory response should be proportionate with the drivers, magnitude, duration and frequency of the reported shortfall.

(3) Supervisors should assess a number of firm- and market-specific factors in determining the appropriate response, as well as other considerations related to both domestic and global frameworks and conditions. Potential considerations include, but are not limited to:

(a) the reason(s) that the LCR fell below 100%. This includes use of the stock of HQLA, an inability to roll over funding or large unexpected draws on contingent obligations. In addition, the reasons may relate to overall credit, funding and market conditions, including liquidity in credit, asset and funding markets, affecting individual banks or all institutions, regardless of their own condition;

(b) the extent to which the reported decline in the LCR is due to a firm-specific or market-wide shock;

(c) a bank's overall health and risk profile, including activities, positions with respect to other supervisory requirements, internal risk systems, controls and other management processes, among others;

(d) the magnitude, duration and frequency of the reported decline of HQLA;

(e) the potential for contagion to the financial system and additional restricted flow of credit or reduced market liquidity due to actions to maintain an LCR of 100%; and

(f) the availability of other sources of contingent funding such as central bank funding,[1] or other actions by prudential authorities.

(4) Supervisors should have a range of tools at their disposal to address a reported LCR below 100%. Banks may use their stock of HQLA in both idiosyncratic and systemic stress events, although the supervisory response may differ between the two.

(a) At a minimum, a bank should present an assessment of its liquidity position, including the factors that contributed to its LCR falling below 100%, the measures that have been and will be taken and the expectations on the potential length of the situation. Enhanced reporting to supervisors should be commensurate with the duration of the shortfall.

(b) If appropriate, supervisors could also require actions by a bank to reduce its exposure to liquidity risk, strengthen its overall liquidity risk management, or improve its contingency funding plan.

(c) However, in a situation of sufficiently severe system-wide stress, effects on the entire financial system should be considered. Potential measures to restore liquidity levels should be discussed, and should be executed over a period of time considered appropriate to prevent additional stress on the bank and on the financial system as a whole.

(5) Supervisors' responses should be consistent with the overall approach to the prudential framework.

Footnotes

[1] *The Sound Principles require that a bank develop a contingency funding plan (CFP) that clearly sets out strategies for addressing liquidity shortfalls, in both firm-specific and market-wide situations of stress. A CFP should, among other things, "reflect central bank lending programmes and collateral requirements, including facilities that form part of normal liquidity management operations (eg the availability of seasonal credit)."*

FAQ

FAQ1 *Should supervisors consider climate-related financial risks in decisions regarding a bank's use of HQLA?*

Supervisors should consider material climate-related financial risks among the range of other considerations in determining a response to a bank's use of its HQLA. For example, climate-related financial risks may impact both prevailing and forward-looking assessments of macroeconomic and financial conditions that are relevant in addressing a reported LCR below 100%, consistent with the overall approach to the prudential framework.

20.7 The LCR should be used on an ongoing basis to help monitor and control liquidity risk. The LCR must be reported to supervisors at least monthly, with the operational capacity to increase the frequency to weekly or even daily in stressed situations at the discretion of the supervisors. The time lag in reporting should be as short as feasible and ideally should not surpass two weeks.

20.8 Banks are expected to inform supervisors of their LCR and their liquidity profile on an ongoing basis. Banks must also notify supervisors immediately if their LCR has fallen, or is expected to fall, below 100%.

LCR30

High-quality liquid assets

This chapter defines the qualifying criteria for high-quality liquid assets.

Version effective as of 15 Dec 2019

Updated to include the following FAQ: LCR30.1 FAQ1.

Introduction

30.1 The numerator of the Liquidity Coverage Ratio (LCR) is the "stock of high-quality liquid assets (HQLA)". Under the standard, banks must hold a stock of unencumbered HQLA to cover the total net cash outflows (as defined in LCR40) over a 30-day period under the stress scenario prescribed in LCR20. In order to qualify as HQLA, assets should be liquid in markets during a time of stress and, ideally, be central bank eligible. The following paragraphs set out the characteristics that such assets should generally possess and the operational requirements that they should satisfy.[1]

Footnotes

[1] *Refer to the sections on "Definition of HQLA" (LCR30.30 to LCR30.47) and "Operational requirements" (LCR30.13 to LCR30.28) for the characteristics that an asset must meet to be part of the stock of HQLA and the definition of "unencumbered" respectively.*

FAQ

FAQ1 *Regarding the reform of benchmark reference rates, what guidance can the Committee provide on the assessment of eligibility of instruments as HQLA?*

Solely for the purpose of implementing benchmark rate reforms, when a type of instrument that references an interbank offered rate (IBOR) and has historically qualified as eligible HQLA is being replaced with an equivalent type of instrument that references an alternative references rate, supervisors can take into account anticipated increases in the liquidity of the replacement instrument during the transition period when determining whether it qualifies as HQLA.

Characteristics of HQLA

30.2 Assets are considered to be HQLA if they can be easily and immediately converted into cash at little or no loss of value. The liquidity of an asset depends on the underlying stress scenario, the volume to be monetised and the timeframe considered. Nevertheless, there are certain assets that are more likely to generate funds without incurring large discounts in sale or repurchase agreement (repo) markets due to fire-sales even in times of stress. This section outlines the factors that influence whether or not the market for an asset can be relied upon to raise liquidity when considered in the context of possible stresses. These factors should assist supervisors in determining which assets, despite meeting the criteria from LCR30.40 to LCR30.45, are not sufficiently liquid in private markets to be included in the stock of HQLA.

30.3 As outlined by the characteristics described below, the test of whether liquid assets are of "high quality" is that, by way of sale or repo, their liquidity-generating capacity is assumed to remain intact even in periods of severe idiosyncratic and market stress. Lower-quality assets typically fail to meet that test. An attempt by a bank to raise liquidity from lower-quality assets under conditions of severe market stress would entail acceptance of a large fire-sale discount or haircut to compensate for high market risk. That may not only erode the market's confidence in the bank, but would also generate mark-to-market losses for banks holding similar instruments and add to the pressure on their liquidity position, thus encouraging further fire sales and declines in prices and market liquidity. In these circumstances, private market liquidity for such instruments is likely to disappear quickly.

30.4 HQLA (except Level 2B assets as defined below in LCR30.44 to LCR30.46) should ideally be eligible at central banks[2] for intraday liquidity needs and overnight liquidity facilities. In the past, central banks have provided a further backstop to the supply of banking system liquidity under conditions of severe stress. Central bank eligibility should thus provide additional confidence that banks are holding assets that could be used in events of severe stress without damaging the broader financial system. That in turn would raise confidence in the safety and soundness of liquidity risk management in the banking system.

Footnotes

[2] *In most jurisdictions, HQLA should be central bank eligible in addition to being liquid in markets during stressed periods. In jurisdictions where central bank eligibility is limited to an extremely narrow list of assets, a supervisor may allow unencumbered, non-central bank eligible assets that meet the qualifying criteria for Level 1 or Level 2 assets to count as part of its stock (see Definition of HQLA beginning from LCR30.30).*

30.5 However, central bank eligibility does not by itself constitute the basis for the categorisation of an asset as HQLA.

Fundamental characteristics

30.6 Low risk: assets that are less risky tend to have higher liquidity. High credit standing of the issuer and a low degree of subordination increase an asset's liquidity. Low sensitivity to interest rate and market risk, low legal risk, low inflation risk and denomination in a convertible currency with low foreign exchange risk all enhance an asset's liquidity.

30.7 Ease and certainty of valuation: an asset's liquidity increases if market participants are more likely to agree on its valuation. Assets with more standardised, homogenous and simple structures tend to be more fungible, promoting liquidity. The pricing formula of a high-quality liquid asset must be easy to calculate and not depend on strong assumptions. The inputs into the pricing formula must also be publicly available. In practice, this should exclude most structured or exotic products.

30.8 Low correlation with risky assets: the stock of HQLA should not be subject to wrong-way (highly correlated) risk. For example, assets issued by financial institutions are more likely to be illiquid in times of liquidity stress in the banking sector.

30.9 Listed on a developed and recognised exchange: being listed increases an asset's transparency.

Market-related characteristics:

30.10 Active and sizable market: the asset should have active outright sale or repo markets at all times. This means that:

(1) There should be historical evidence of market breadth and market depth. This could be demonstrated by low bid-ask spreads, high trading volumes,

and a large and diverse number of market participants. Diversity of market participants reduces market concentration and increases the reliability of the liquidity in the market.

(2) There should be robust market infrastructure in place. The presence of multiple committed market makers increases liquidity as quotes will most likely be available for buying or selling HQLA.

30.11 Low volatility: Assets whose prices remain relatively stable and are less prone to sharp price declines over time will have a lower probability of triggering forced sales to meet liquidity requirements. Volatility of traded prices and spreads over benchmarks are simple proxy measures of market volatility. There should be historical evidence of relative stability of market terms (eg prices and haircuts) and volumes during stressed periods.

30.12 Flight to quality: historically, the market has shown tendencies to move into these types of assets in a systemic crisis. The correlation between proxies of market liquidity and banking system stress is one simple measure that could be used.

Operational requirements

30.13 All assets in the stock of HQLA are subject to the following operational requirements. The purpose of the operational requirements is to recognise that not all assets outlined in LCR30.40 to LCR30.45 that meet the asset class, risk-weighting and credit-rating criteria should be eligible for the stock as there are other operational restrictions on the availability of HQLA that can prevent timely monetisation during a stress period.

30.14 These operational requirements are designed to ensure that the stock of HQLA is managed in such a way that the bank can, and is able to demonstrate that it can, immediately use the stock of assets as a source of contingent funds; and that the stock of assets is available for the bank to convert into cash through outright sale or repo, to fill funding gaps between cash inflows and outflows at any time during the 30-day stress period, with no restriction on the use of the liquidity generated.

30.15 A bank must periodically monetise a representative proportion of the assets in the stock through repo or outright sale, in order to test its access to the market, the effectiveness of its processes for monetisation, the availability of the assets, and to minimise the risk of negative signalling during a period of actual stress. This requirement for periodic monetisation may be satisfied by transactions carried out through a bank's normal course of business.

FAQ

FAQ1 *What is "a representative proportion of the assets in the stock" banks are supposed to "periodically monetise … through repo or outright sale"?*

The extent, subject and frequency of HQLA monetisation necessary to comply with LCR30.15 should be assessed on a case by case basis. It is generally the responsibility of banks to incorporate the intent of LCR30.15 in their management of liquid assets and be able to demonstrate to supervisors an approach which is appropriate rather than ex ante stipulations.

30.16 All assets in the stock must be unencumbered. "Unencumbered" means free of legal, regulatory, contractual or other restrictions on the ability of the bank to liquidate, sell, transfer or assign the asset. An asset in the stock must not be pledged (either explicitly or implicitly) to secure, collateralise or credit-enhance any transaction, nor be designated to cover operational costs (such as rents and salaries). Assets received in reverse repo and securities financing transactions that are held at the bank, have not been rehypothecated, and are legally and contractually available for the bank's use, can be considered as part of the stock of HQLA. In addition, assets which qualify for the stock of HQLA that have been pre-positioned or deposited with, or pledged to, the central bank or a public sector entity (PSE) but have not been used to generate liquidity may be included in the stock.[3]

Footnotes

[3] *If a bank has deposited, pre-positioned or pledged Level 1, Level 2 and other assets in a collateral pool and no specific securities are assigned as collateral for any transactions, it may assume that assets are encumbered in order of increasing liquidity value in the LCR, ie assets ineligible for the stock of HQLA are assigned first, followed by Level 2B assets, then Level 2A and finally Level 1. This determination must be made in compliance with any requirements, such as concentration or diversification, of the central bank or PSE.*

FAQ

FAQ1 *A bank has a reverse repurchase agreement, receiving collateral that consists of a pool of assets including non-HQLA. Can the whole portion of Level 1 and Level 2 assets of the collateral basket be counted towards HQLA (subject to the other requirements on HQLA-eligible assets)?*

An HQLA-eligible asset received as a component of a pool of collateral for a secured transaction (eg reverse repo) can be included in the stock of HQLA (with associated haircuts) to the extent that it can be monetised separately.

FAQ2 *If a bank pledges a pool of HQLA and non-HQLA collateral with a clearing entity such as a central counterparty against secured funding transactions, may it count any HQLA-eligible securities that are held as part of the collateral pool, but remain unused at end-of-day as part of the stock of HQLA? Does this requirement apply to derivatives as well?*

The bank may count the unused portion of HQLA-eligible collateral pledged towards its stock of HQLA (with associated haircuts). If the bank cannot determine which specific assets remain unused, it may assume that assets are encumbered in order of increasing liquidity value, consistent with the methodology set out in footnote 3 of LCR30. Assets in a pool that is intended to (exclusively or additionally) collateralise derivatives transactions are not readily available within the meaning of the operational requirements.

30.17 A bank must exclude from the stock those assets that, although meeting the definition of "unencumbered" specified in LCR30.16, the bank does not have the operational capability to monetise to meet outflows during the stress period. Operational capability to monetise assets requires having procedures and appropriate systems in place, including providing the function identified in LCR30.18 with access to all necessary information to execute monetisation of any asset at any time. Monetisation of the asset must be executable, from an operational perspective, in the standard settlement period for the asset class in the relevant jurisdiction.

30.18 The stock must be under the control of the function charged with managing the liquidity of the bank (eg the treasurer), meaning the function has the continuous authority, and legal and operational capability, to monetise any asset in the stock. Control must be evidenced either by maintaining assets in a separate pool managed by the function with the sole intent for use as a source of contingent funds, or by demonstrating that the function can monetise the asset at any point

in the 30-day stress period and that the proceeds of doing so are available to the function throughout the 30-day stress period without directly conflicting with a stated business or risk-management strategy. For example, an asset should not be included in the stock if the sale of that asset, without replacement throughout the 30-day period, would remove a hedge that would create an open risk position in excess of internal limits.

30.19 A bank is permitted to hedge the market risk associated with ownership of the stock of HQLA and still include the assets in the stock. If it chooses to hedge the market risk, the bank must take into account (in the market value applied to each asset) the cash outflow that would arise if the hedge were to be closed out early (in the event of the asset being sold).

30.20 In accordance with Principle 9 of the Sound Principles, a bank "should monitor the legal entity and physical location where collateral is held and how it may be mobilised in a timely manner". Specifically, it should have a policy in place that identifies legal entities, geographical locations, currencies and specific custodial or bank accounts where HQLA are held. In addition, the bank should determine whether any such assets should be excluded for operational reasons and therefore have the ability to determine the composition of its stock on a daily basis.

30.21 As noted in LCR10.7 and LCR10.8, qualifying HQLA that are held to meet statutory liquidity requirements at the legal entity or sub-consolidated level (where applicable) may only be included in the stock at the consolidated level to the extent that the related risks (as measured by the legal entity's or sub-consolidated group's net cash outflows in the LCR) are also reflected in the consolidated LCR. Any surplus of HQLA held at the legal entity can only be included in the consolidated stock if those assets would also be freely available to the consolidated (parent) entity in times of stress.

30.22 In assessing whether assets are freely transferable for regulatory purposes, banks should be aware that assets may not be freely available to the consolidated entity due to regulatory, legal, tax, accounting or other impediments. Assets held in legal entities without market access should only be included to the extent that they can be freely transferred to other entities that could monetise the assets.

30.23 In certain jurisdictions, large, deep and active repo markets do not exist for eligible asset classes, and therefore such assets are likely to be monetised through outright sale. In these circumstances, a bank must exclude from the stock of HQLA those assets where there are impediments to sale, such as large fire-sale discounts which would cause it to breach minimum solvency requirements, or requirements to hold such assets, including, but not limited to, statutory minimum inventory requirements for market-making.

30.24 Banks must not include in the stock of HQLA any assets, or liquidity generated from assets, they have received under right of rehypothecation, if the beneficial owner has the contractual right to withdraw those assets during the 30-day stress period.[4]

Footnotes

[4] *Refer to LCR40.79 for the appropriate treatment if the contractual withdrawal of such assets would lead to a short position (eg because the bank had used the assets in longer-term securities financing transactions).*

30.25 Assets received as collateral for derivatives transactions that are not segregated and are legally able to be rehypothecated may be included in the stock of HQLA provided that the bank records an appropriate outflow for the associated risks as set out in LCR40.49.

30.26 As stated in Principle 8 of the Sound Principles, a bank should actively manage its intraday liquidity positions and risks to meet payment and settlement obligations on a timely basis under both normal and stressed conditions and thus contribute to the smooth functioning of payment and settlement systems. Banks and regulators should be aware that the LCR stress scenario does not cover expected or unexpected intraday liquidity needs.

30.27 While the LCR must be met and reported in a single currency, banks should be able to meet their liquidity needs in each currency and maintain HQLA consistent with the distribution of their liquidity needs by currency. The bank should be able to use the stock to generate liquidity in the currency and jurisdiction in which the net cash outflows arise. As such, the LCR by currency should be monitored and reported to allow the bank and its supervisor to track any potential currency mismatch issues that could arise, as outlined in SRP50. In managing foreign exchange liquidity risk, the bank should take into account the risk that its ability to swap currencies and access the relevant foreign exchange markets may erode rapidly under stressed conditions. It should be aware that sudden, adverse exchange rate movements could sharply widen existing mismatched positions and alter the effectiveness of any foreign exchange hedges in place.

30.28 In order to mitigate cliff effects that could arise, if an eligible liquid asset became ineligible (eg due to rating downgrade), a bank is permitted to keep such assets in its stock of liquid assets for an additional 30 calendar days. This would allow the bank additional time to adjust its stock as needed or replace the asset.

Diversification of the stock of HQLA

30.29 The stock of HQLA should be well diversified within the asset classes themselves (except for sovereign debt of the bank's home jurisdiction or from the jurisdiction in which the bank operates; central bank reserves; central bank debt securities; and cash). Although some asset classes are more likely to remain liquid irrespective of circumstances, ex ante it is not possible to know with certainty which specific assets within each asset class might be subject to shocks ex post. Banks should therefore have policies and limits in place in order to avoid concentration with respect to asset types, issue and issuer types, and currency (consistent with the distribution of net cash outflows by currency) within asset classes.

Definition of HQLA

30.30 The stock of HQLA should comprise assets with the characteristics outlined in LCR30.2 to LCR30.12. This section describes the type of assets that meet these characteristics and can therefore be included in the stock.

30.31 There are two categories of assets that can be included in the stock. Assets to be included in each category are those that the bank is holding on the first day of the stress period, irrespective of their residual maturity. "Level 1" assets can be included without limit, while "Level 2" assets can only comprise up to 40% of the stock.

30.32

Some jurisdictions may have an insufficient supply of Level 1 assets (or both Level 1 and Level 2 assets) in their domestic currency to meet the aggregate demand of banks with significant exposures in this currency. To address this situation, the Committee has developed alternative treatments for holdings in the stock of HQLA, which are expected to apply to a limited number of currencies and jurisdictions. These alternative treatments and the eligibility criteria are set out in LCR31.

30.33 Supervisors may also choose to include within Level 2 an additional class of assets (Level 2B assets). If included, these assets must not comprise more than 15% of the total stock of HQLA. They must also be included within the overall 40% cap on Level 2 assets.

30.34 The 40% cap on Level 2 assets and the 15% cap on Level 2B assets must be determined after the application of required haircuts, and after taking into account the unwind of short-term securities financing transactions and collateral swap transactions maturing within 30 calendar days that involve the exchange of HQLA.

30.35 The maximum amount of adjusted Level 2 assets is equal to two-thirds of the adjusted amount of Level 1 assets after haircuts have been applied. The calculation of the 40% cap on Level 2 assets will take into account any reduction in eligible Level 2B assets on account of the 15% cap on Level 2B assets.[5]

Footnotes

[5] *When determining the calculation of the 15% and 40% caps, supervisors may, as an additional requirement, separately consider the size of the pool of Level 2 and Level 2B assets on an unadjusted basis.*

30.36 Further, the calculation of the 15% cap on Level 2B assets must take into account the impact on the stock of HQLA of the amounts of HQLA involved in secured funding, secured lending and collateral swap transactions maturing within 30 calendar days. The maximum amount of adjusted Level 2B assets is equal to the ratio of 15/85 times the sum of the adjusted amounts of Level 1 and Level 2A assets, or, in cases where the 40% cap is binding, up to a maximum of 1/4 times the adjusted amount of Level 1 assets, both after haircuts have been applied.

30.37 The adjusted amount of Level 1 assets is defined as the amount of Level 1 assets that would result after unwinding those short-term secured funding, secured lending and collateral swap transactions involving the exchange of any HQLA for any Level 1 assets (including cash) that meet, or would meet if held unencumbered, the operational requirements for HQLA set out in LCR30.13 to LCR30.25. The adjusted amount of Level 2A assets is defined as the amount of Level 2A assets that would result after unwinding those short-term secured funding, secured lending and collateral swap transactions involving the exchange of any HQLA for any Level 2A assets that meet, or would meet if held unencumbered, the operational requirements for HQLA set out in LCR30.13 to LCR30.25. The adjusted amount of Level 2B assets is defined as the amount of Level 2B assets that would result after unwinding those short-term secured funding, secured lending and collateral swap transactions involving the exchange of any HQLA for any Level 2B assets that meet, or would meet if held unencumbered, the operational requirements for HQLA set out in LCR30.13 to LCR30.25. In cases where collateral received in a short-term secured lending or collateral swap transaction would meet the operational requirements if held unencumbered, but has been rehypothecated in a short-term secured funding or collateral swap transaction, both transactions must be unwound for the purpose of calculating the adjusted HQLA amounts. In this context, short-term transactions are transactions with a maturity date up to and including 30 calendar days. Relevant haircuts must be applied prior to calculation of the respective caps.

30.38 The formula for the calculation of the stock of HQLA is as follows:

$$Stock\ of\ HQLA = Level 1 + Level\ 2A + Level\ 2B - Adjustment\ for 15\% cap - Adjustment\ for\ 40\% cap$$

30.39 In the formula in LCR30.38, the adjustments for the 15% and the 40% are calculated as follows:

$$Adjustment\ for 15\% cap = max\left(\left(\begin{array}{l} adjusted\ Level\ 2B - \\ \frac{15}{85} \times \left(adjusted\ Level 1 + adjusted\ Level\ 2A\right) \end{array}\right), \left(\begin{array}{l} adjusted\ Level\ 2B - \\ \frac{15}{60} \times \left(adjusted\ Level 1\right) \end{array}\right), 0\right)$$

$$Adjustment\ for\ 40\% cap = max\left(\left(\begin{array}{l} adjusted\ Level\ 2A + \\ adjusted\ Level\ 2B - \\ Adjustment\ for 15\%\ cap \end{array}\right) - \frac{2}{3}\left(adjusted\ Level 1\right), 0\right)$$

Level 1 assets

30.40 Level 1 assets can comprise an unlimited share of the pool and are not subject to a haircut under the LCR.[6] However, national supervisors may wish to require haircuts for Level 1 securities based on, among other things, their sensitivity to interest rate and market risk, credit and liquidity risk, and typical repo haircuts.

Footnotes

[6] *For purpose of calculating the LCR, Level 1 assets in the stock of HQLA must be measured at an amount no greater than their current market value.*

30.41 Level 1 assets are limited to:

(1) coins and banknotes;

(2) central bank reserves (including required reserves),[7] to the extent that the central bank policies allow them to be drawn down in times of stress;[8]

(3) marketable securities representing claims on or guaranteed by sovereigns, central banks, PSEs, the Bank for International Settlements, the International Monetary Fund, the European Central Bank and European Community, the European Stability Mechanism, the European Financial Stability Facility or multilateral development banks,[9] and satisfying all of the following conditions:

(a) assigned a 0% risk weight under the standardised approach to credit risk;[10]

(b) traded in large, deep and active repo or cash markets, characterised by a low level of concentration;

(c) have a proven record as a reliable source of liquidity in the markets (through repo or outright sale) even during stressed market conditions; and

(d) not an obligation of a financial institution or any of its affiliated entities.[11]

(4) where the sovereign has a non-0% risk weight, sovereign or central bank debt securities issued in domestic currencies by the sovereign or central bank in the country in which the liquidity risk is being taken or in the bank's home country; and

(5) where the sovereign has a non-0% risk weight, domestic sovereign or central bank debt securities issued in foreign currencies are eligible up to the amount of the bank's stressed net cash outflows in that specific foreign currency stemming from the bank's operations in the jurisdiction where the bank's liquidity risk is being taken.

Footnotes

[7] *In this context, central bank reserves would include banks' overnight deposits with the central bank, and term deposits with the central bank: (i) that are explicitly and contractually repayable on notice from the depositing bank; or (ii) that constitute a loan against which the bank can borrow on a term basis or on an overnight but automatically renewable basis (only where the bank has an existing deposit with the relevant central bank). Other term deposits with central banks are not eligible for the stock of HQLA; however, if the term expires within 30 days, the term deposit could be considered as an inflow per LCR40.87.*

[8] *Local supervisors should discuss and agree with the relevant central bank the extent to which central bank reserves should count towards the stock of liquid assets, ie the extent to which reserves are able to be drawn down in times of stress.*

[9] *The Basel III liquidity framework follows the categorisation of market participants applied in CRE20, unless otherwise specified.*

[10] *This paragraph includes only marketable securities that qualify for CRE20.7. When a 0% risk-weight has been assigned at national discretion according to the provision in CRE20.8, the treatment should follow LCR30.41(4) or LCR30.41(5).*

[11] *This requires that the holder of the security must not have recourse to the financial institution or any of the financial institution's affiliated entities. In practice, this means that securities, such as government-guaranteed issuance during the financial crisis, which remain liabilities of the financial institution, would not qualify for the stock of HQLA. The only exception is when the bank also qualifies as a PSE under CRE20 where securities issued by the bank could qualify for Level 1 assets if all necessary conditions are satisfied.*

FAQ

FAQ1 *Does "the sovereign" in LCR30.41(4) and LCR30.41(5) refer to the bank's home country, host country, the country in which the bank does not have any presence but has liquidity risk exposure denominated in that currency, or all of them?*

Sovereign and central bank debt securities, even with a rating below AA–, should be considered eligible as Level 1 assets only when these assets are issued by the sovereign or central bank in the bank's home country or in host countries where the bank has a presence via a subsidiary or branch. Therefore, LCR30.41(4) and LCR30.41(5) do not apply to a country in which the bank's only presence is liquidity risk exposures denominated in the currency of that country.

FAQ2 *In LCR30.41(5), could a bank use non-0% risk-weighted sovereign or central bank debt securities issued in foreign currencies to offset the amount of that specific foreign currency exposure in a country other than the issuing sovereign's or central bank's home country?*

In LCR30.41(5), the amount of non-0% risk-weighted sovereign/central bank debt issued in foreign currencies included in Level 1 is strictly limited to the foreign currency exposure in the jurisdiction of the issuing sovereign/central bank.

Level 2 assets

30.42 Level 2 assets (comprising Level 2A assets and any Level 2B assets permitted by the supervisor) can be included in the stock of HQLA, subject to the requirement that they comprise no more than 40% of the overall stock after haircuts have been applied. The method for calculating the cap on Level 2 assets and the cap on Level 2B assets is set out in LCR30.34 to LCR30.39.

30.43 A 15% haircut is applied to the current market value of each Level 2A asset held in the stock of HQLA. Level 2A assets are limited to the following:

(1) Marketable securities representing claims on or guaranteed by sovereigns, central banks, PSEs or multilateral development banks that satisfy all of the following conditions:[12]

(a) assigned a 20% risk weight under CRE20;

(b) traded in large, deep and active repo or cash markets characterised by a low level of concentration;

(c) have a proven record as a reliable source of liquidity in the markets (through repo or outright sale) even during stressed market conditions (ie maximum decline of price not exceeding 10% or increase in haircut not exceeding 10 percentage points over a 30-day period during a relevant period of significant liquidity stress); and

(d) not an obligation of a financial institution or any of its affiliated entities. [13]

(2) Corporate debt securities (including commercial paper)[14] and covered bonds [15] that satisfy all the following conditions:

(a) in the case of corporate debt securities: not issued by a financial institution or any of its affiliated entities;

(b) in the case of covered bonds: not issued by the bank itself or any of its affiliated entities;

(c) either:

(i) have a long-term credit rating from a recognised external credit assessment institution (ECAI) of at least AA-[16] or in the absence of a long-term rating, a short-term rating equivalent in quality to the long-term rating; or

(ii) do not have a credit assessment by a recognised ECAI but are internally rated as having a probability of default (PD) corresponding to a credit rating of at least AA-;

(d) traded in large, deep and active repo or cash markets characterised by a low level of concentration; and

(e) have a proven record as a reliable source of liquidity in the markets (through repo or outright sale) even during stressed market conditions: ie maximum decline of price or increase in haircut over a 30-day period during a relevant period of significant liquidity stress not exceeding 10%.

Footnotes

[12] *LCR30.41(4) or LCR30.41(5) may overlap with LCR30.43(1) in terms of sovereign and central bank securities with a 20% risk weight. In such a case, the assets can be assigned to the Level 1 category according to LCR30.41(4) or LCR30.41(5), as appropriate.*

[13] *This requires that the holder of the security must not have recourse to the financial institution or any of the financial institution's affiliated entities. In practice, this means that securities, such as government-guaranteed issuance during the financial crisis, which remain liabilities of the financial institution, would not qualify for the stock of HQLA. The only exception is when the bank also qualifies as a PSE under CRE20 where securities issued by the bank could qualify for Level 1 assets if all necessary conditions are satisfied.*

[14] *Corporate debt securities (including commercial paper) in this respect include only plain-vanilla assets whose valuation is readily available based on standard methods and does not depend on private knowledge, ie these do not include complex structured products or subordinated debt.*

[15] *Covered bonds are bonds issued and owned by a bank or mortgage institution and are subject by law to special public supervision designed to protect bondholders. Proceeds deriving from the issue of these bonds must be invested in conformity with the law in assets which, during the whole period of the validity of the bonds, are capable of covering claims attached to the bonds and which, in the event of the failure of the issuer, would be used on a priority basis for the reimbursement of the principal and payment of the accrued interest.*

[16] *In the event of split ratings, the applicable rating should be determined according to the method used in the standardised approach for credit risk. Local rating scales (rather than international ratings) of a supervisor-approved ECAI that meet the eligibility criteria outlined in CRE21.2 can be recognised if corporate debt securities or covered bonds are held by a bank for local currency liquidity needs arising from its operations in that local jurisdiction. This also applies to Level 2B assets.*

FAQ

FAQ1 *While corporate debt securities with a rating between A+ and BBB– whose maximum decline of price does not exceed 20% may be included in Level 2B according to LCR30.45(2), and corporate debt securities with a rating of at least AA– whose maximum decline of price does not exceed 10% may be included in Level 2A according to LCR30.43(2), there is no explicit assignment of corporate debt securities with a rating of at least AA– whose maximum decline of price is between 10 and 20%?*

Corporate debt securities with a rating of at least AA– whose maximum decline of price or increase in haircuts over a 30-day period during a relevant period of significant liquidity stress is between 10 and 20% may count towards Level 2B assets provided that they meet all other requirements stated in LCR30.45(2).

Level 2B assets

30.44 Certain additional assets (Level 2B assets) may be included in Level 2 at the discretion of national authorities. In choosing to include these assets in Level 2 for the purpose of the LCR, supervisors must ensure that such assets fully comply with the qualifying criteria. Supervisors should also ensure that banks have appropriate systems and measures to monitor and control the potential risks (eg credit and market risks) that banks could be exposed to in holding these assets.

30.45 A larger haircut is applied to the current market value of each Level 2B asset held in the stock of HQLA. Level 2B assets are limited to the following:

(1) Residential mortgage backed securities (RMBS) that satisfy all of the following conditions may be included in Level 2B, subject to a 25% haircut:

(a) not issued by, and the underlying assets have not been originated by, the bank itself or any of its affiliated entities;

(b) have a long-term credit rating from a recognised ECAI of AA or higher, or in the absence of a long-term rating, a short-term rating equivalent in quality to the long-term rating;

(c) traded in large, deep and active repo or cash markets characterised by a low level of concentration;

(d) have a proven record as a reliable source of liquidity in the markets (through repo or outright sale) even during stressed market conditions, ie a maximum decline of price not exceeding 20% or increase in haircut

over a 30-day period not exceeding 20 percentage points during a relevant period of significant liquidity stress;

(e) the underlying asset pools are restricted to residential mortgages and cannot contain structured products;

(f) the underlying mortgages are “full recourse” loans (ie in the case of foreclosure the mortgage owner remains liable for any shortfall in sales proceeds from the property) and have a maximum loan-to-value ratio (LTV) of 80% on average at issuance; and

(g) the securitisations are subject to “risk retention” regulations which require issuers to retain an interest in the assets they securitise.

(2) Corporate debt securities (including commercial paper)[17] that satisfy all of the following conditions may be included in Level 2B, subject to a 50% haircut:

(a) not issued by a financial institution or any of its affiliated entities;

(b) either:

(i) have a long-term credit rating from a recognised ECAI of at least BBB- or in the absence of a long-term rating, a short-term rating equivalent in quality to the long-term rating; or

(ii) do not have a credit assessment by a recognised ECAI but are internally rated as having a PD corresponding to a credit rating of at least BBB-;

(c) traded in large, deep and active repo or cash markets characterised by a low level of concentration; and

(d) have a proven record as a reliable source of liquidity in the markets (through repo or outright sale) even during stressed market conditions, ie a maximum decline of price not exceeding 20% or increase in haircut over a 30-day period not exceeding 20 percentage points during a relevant period of significant liquidity stress.

(3) Common equity shares that satisfy all of the following conditions may be included in Level 2B, subject to a 50% haircut:

(a) not issued by a financial institution or any of its affiliated entities;

(b) exchange-traded and centrally cleared;

(c) a constituent of major stock index (or indices) of the home jurisdiction where the liquidity risk is taken, as decided by the supervisor in the jurisdiction where the index is located;

(d) denominated in the domestic currency of a bank's home jurisdiction or in the currency of the jurisdiction where a bank's liquidity risk is taken;

(e) traded in large, deep and active repo or cash markets characterised by a low level of concentration; and

(f) have a proven record as a reliable source of liquidity in the markets (through repo or outright sale) even during stressed market conditions,

ie a maximum decline of price not exceeding 40% or increase in haircut over a 30-day period not exceeding 40 percentage points during a relevant period of significant liquidity stress.

Footnotes

[17] *Corporate debt securities (including commercial paper) in this respect include only plain-vanilla assets whose valuation is readily available based on standard methods and does not depend on private knowledge, ie these do not include complex structured products or subordinated debt.*

FAQ

FAQ1 *Does the maximum LTV criterion of 80% mean that the average pool LTV is to be less than 80% or that each loan has to have less than 80% LTV?*

The LTV requirement in LCR30.45(1) refers to the weighted average (by loan balance) LTV of the portfolio of underlying mortgages, not to any individual mortgage, ie mortgages that have an LTV greater than 80% are not excluded per se.

FAQ2

Does "at issuance" in LCR30.45(1) refer to the issuance of the RMBS or of the underlying mortgages?

"At issuance" refers to the time when the RMBS are issued, ie the average LTV of the underlying mortgages at the time of the issuance of the RMBS must not be higher than 80%.

FAQ3 *While corporate debt securities rated BBB+ to BBB– may be included in Level 2B according to LCR30.45(2), there is no explicit assignment of sovereign debt securities with such a rating. How should those securities be treated?*

Sovereign and central bank debt securities rated BBB+ to BBB– that are not included in the definition of Level 1 assets according to LCR30.41 (4) or LCR30.41(5) may be included in the definition of Level 2B assets with a 50% haircut within the 15% cap for all Level 2B assets.

FAQ4 *Securities representing claims on PSEs are not part of the definition of Level 2B assets in LCR30.45. Can such securities from PSEs whose risk weight under the standardised approach for credit risk is higher than 20%, but which have a rating of at least BBB– and whose maximum price decline does not exceed 20% still be classified as Level 2B?*

Yes, PSE debt securities with a rating of at least BBB– whose maximum decline of price or increase in haircuts over a 30-day period during a relevant period of significant liquidity stress does not exceed 20% may count towards Level 2B assets provided that they meet all other requirements stated in LCR30.45(2).

FAQ5 *LCR30.45(3)(c) refers to a "major stock index in the home jurisdiction or where the liquidity risk is taken, as decided by the supervisor in the jurisdiction where the index is located". It is not clear what is meant by "taking a risk".*

Equities that are a constituent of a major stock index can only be assigned to the stock of HQLA if the stock index is located within the home jurisdiction of the bank or if the bank has liquidity risk exposure through a branch or other legal entity in that jurisdiction.

FAQ6 *When considering which common equity shares might satisfy the criteria for Level 2B assets of a maximum decline of share price not exceeding 40% over a "relevant period of significant liquidity stress", we assume that this criterion does not need to be applied for time*

periods prior to the shares' inclusion in the major index. Indicators of volatility prior to the shares' inclusion in the index will not be representative of current or future pricing.

The criterion must be satisfied by all equity shares that enter the stock of HQLA. A consistent stressed period should be used for justification and whether the share was part of the index during that timeframe is not relevant.

FAQ7 *LCR30.45(3)(f) only allows equity securities that have not experienced a 40% drop in price during a 30-day period. Most stocks with a long history have dropped more than 40% (eg via crashes in 1999, 2002, 2009). In our study we saw that only young companies with a short history on the market qualify for this requirement. Hence, young risky stocks can be included but not the more stable companies/stocks. Was this really the intention?*

Determining the appropriate stress period for meeting market performance requirements is a matter of national discretion. However, it is not the intention of the Basel Committee to exclude all established companies and include only young companies.

FAQ8 *Equities eligible as Level 2B HQLA must be a constituent of a major stock index as decided by the supervisor in the jurisdiction where the index is located. Could confirmation be given on a centralised basis by the Basel Committee as to which indices are deemed to be "major" ones?*

The issue is the responsibility of national authorities. The Basel Committee will not provide such a list.

30.46 In addition, supervisors may choose to include within Level 2B assets the undrawn value of any contractual committed liquidity facility (CLF) provided by a central bank, where this has not already been included in HQLA in accordance with LCR31.12. When including such facilities within Level 2B assets, the following conditions apply:

(1) The facility (termed a restricted-use committed liquidity facility, or RCLF) must, in normal times, be subject to a commitment fee on the total (drawn and undrawn) facility amount that is at least the greater of:

(a) 75 basis points per annum; or

(b) at least 25 basis points per annum above the difference in yield on the assets used to secure the RCLF and the yield on a representative portfolio of HQLA after adjusting for any material differences in credit risk.

(2) In periods of market-wide stress the commitment fee on the RCLF (drawn and undrawn amount) may be reduced, but remain subject to the minimum requirements applicable to CLFs used by countries with insufficient HQLA (set out in LCR31).

(3) The RCLF must be supported by unencumbered collateral of a type specified by the central bank. The collateral must be held in a form which supports immediate transfer to the central bank should the facility need to be drawn and sufficient (post-haircut) to cover the total size of the facility. Collateral used to support a RCLF cannot simultaneously be used as part of HQLA.

(4) Conditional on the bank being assessed to be solvent, the RCLF contract must otherwise be irrevocable prior to maturity and involve no other ex post credit decision by the central bank. The commitment period must exceed the 30-day stress period stipulated by the LCR framework.

(5) Central banks that offer RCLFs to banks in their jurisdiction should disclose their intention to do so and, to the extent that facilities are not available to all banks in the jurisdiction, to which class(es) of banks they may be offered. National authorities should also disclose whether RCLFs (offered domestically, or by central banks in other jurisdictions) are able to be included within the HQLA of banks within their jurisdiction. National authorities should disclose when they consider there to be a market-wide stress that justifies an easing of the RCLF terms.

Treatment of Shari'ah compliant banks

30.47 Shari'ah compliant banks face a religious prohibition on holding certain types of assets, such as interest-bearing debt securities. Even in jurisdictions that have a sufficient supply of HQLA, an insurmountable impediment to the ability of Shari' ah compliant banks to meet the LCR requirement may still exist. In such cases, national supervisors in jurisdictions in which Shari'ah compliant banks operate have the discretion to define Shari'ah compliant financial products (such as Sukuk) as alternative HQLA applicable to such banks only, subject to such conditions or haircuts that the supervisors may require. The intention of this treatment is not to allow Shari'ah compliant banks to hold fewer HQLA. The minimum LCR standard, calculated based on alternative HQLA (post-haircut) recognised as HQLA for these banks, should not be lower than the minimum LCR standard applicable to other banks in the jurisdiction concerned. National supervisors applying such treatment for Shari'ah compliant banks should comply with supervisory monitoring and disclosure obligations similar to those set out in LCR31.

FAQ

FAQ1 *According to LCR30.47, "national supervisors in jurisdictions which Shari'ah compliant banks operate have the discretion to define Shari' ah compliant financial products (such as Sukuk) as alternative HQLA applicable to such banks only". What about Shari'ah-compliant financial products that do not need alternative treatment, ie that meet the operational requirements as set out in LCR30.13 to LCR30.28 as well as the relevant conditions of the corresponding asset type as set out in LCR30.29 to LCR30.31, LCR30.33, LCR30.34, LCR30.40 to LCR30. 45 and generally feature the characteristics as set out in LCR30.2 to LCR30.12, can non-Shari'ah compliant banks hold these as HQLA?*

Yes. The limitation to Shari'ah compliant banks applies only to Shari'ah compliant financial products that would not otherwise meet HQLA requirements. For Shari'ah-compliant financial products that meet the requirements for recognition as HQLA as set out above, any bank can count them towards its stock of HQLA. Competent authorities may further specify the HQLA eligibility of Shari'ah compliant financial products in their jurisdictions.

LCR31

Alternative liquidity approaches

This chapter describes alternative liquidity approaches available in jurisdictions with an insufficient supply of Level 1 high-quality liquid assets in their domestic currency.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Introduction

31.1 Some jurisdictions may have an insufficient supply of Level 1 high-quality liquid assets (HQLA), or both Level 1 and Level 2 HQLA,[1] in their domestic currency[2] to meet the aggregate demand of banks with significant exposures in this currency. To address this situation, the Basel Committee has developed alternative treatments for holdings in the stock of HQLA, which are expected to apply to a limited number of currencies and jurisdictions.

Footnotes

[1] *Insufficiency in Level 2 assets alone does not qualify for the alternative treatment.*

[2] *For member states of a monetary union with a common currency, that common currency is considered the "domestic currency".*

31.2 Eligibility for such alternative treatment will be judged on the basis of the principles and qualifying criteria set out in LCR31.20 and explained further in LCR31.24 to LCR31.61.

31.3 There are three alternative treatments available:

(1) contractual committed liquidity facilities from the relevant central bank, for a fee (Option 1);

(2) foreign currency HQLA to cover domestic liquidity needs (Option 2); and

(3) additional use of Level 2 assets with a higher haircut (Option 3).

General rules governing the use of alternative liquidity approaches

31.4 Jurisdictions are not limited to one option. However, the usage of any of the above options must be constrained by a limit specified by supervisors in jurisdictions whose currency is eligible for the alternative treatment. The limit should be expressed in terms of the maximum amount of HQLA associated with the use of the options (whether individually or in combination) that a bank is allowed to include in its Liquidity Coverage Ratio (LCR), as a percentage of the total amount of HQLA the bank is required to hold in the currency concerned.[3] HQLA associated with the options refer to:

(1) in the case of Option 1, the amount of committed liquidity facilities granted by the relevant central bank, for a fee;

(2) in the case of Option 2, the amount of foreign currency HQLA used to cover the shortfall of HQLA in the domestic currency; and

(3) in the case of Option 3, the amount of Level 2 assets held (including those within the 40% cap).

Footnotes

[3] *The required amount of HQLA in the domestic currency includes any regulatory buffer (ie above the 100% LCR standard) that the supervisor may reasonably impose on the bank concerned based on its liquidity risk profile.*

31.5 If, for example, the maximum level of usage of the options is set at 80%, it means that a bank adopting the options, either individually or in combination, would only be allowed to include HQLA associated with the options (after applying any relevant haircut) up to 80% of the required amount of HQLA in the relevant currency.[4] Thus, at least 20% of the HQLA requirement would need to be met by Level 1 assets in the relevant currency. The maximum usage of the options is constrained by the bank's actual shortfall of HQLA in the currency concerned.

Footnotes

[4] *For example, if a bank has used Option 1 and Option 3 to the extent that it has been granted an Option 1 facility of 10%, and held Level 2 assets of 55% after haircut (both in terms of the required amount of HQLA in the domestic currency), the HQLA associated with the use of these two options amount to 65% (ie 10%+55%), which is still within the 80% level. The total amount of alternative HQLA used is 25% (ie 10% + 15%; additional Level 2A assets used).*

31.6 The maximum level of usage should be consistent with the projected size of the HQLA shortfall faced by banks subject to the LCR in the currency concerned, taking into account all relevant factors that may affect the size of the shortfall over time. The supervisor should explain how this level is derived, and justify why this is supported by insufficient HQLA in the banking system.

31.7

A bank must keep its supervisor informed of its usage of the options so as to enable the supervisor to manage the aggregate usage of the options in the jurisdiction and to monitor, where necessary, that banks using such options observe the relevant supervisory requirements.

31.8 While bank-by-bank approval by the supervisor is not required for use of the alternative liquidity approaches, individual supervisors may still consider providing specific approval for banks to use the options should this be warranted based on their jurisdiction-specific circumstances. For example, use of Option 1 will typically require central bank approval of the committed facility.

31.9 In general, a bank that needs to use the options should not be allowed to use such options above the level required to meet its LCR (including any reasonable buffer above the 100% standard that may be imposed by the supervisor), however supervisors may consider whether this should be accommodated under certain circumstances. Banks may wish to do so for a number of reasons. For example, they may want to have an additional liquidity facility in anticipation of tight market conditions. Supervisors should have a process (eg through periodic reviews) for ensuring that the alternative HQLA held by banks are not excessive compared with their actual need. In addition, banks should not intentionally replace their stock of Level 1 or Level 2 assets with ineligible assets to create a larger liquidity shortfall for economic reasons or otherwise.

31.10 A bank must demonstrate that it has taken reasonable steps to use Level 1 and Level 2 assets and reduce the amount of liquidity risk (as measured by reducing net cash outflows in the LCR) to improve its LCR, before applying an alternative treatment. Holding an HQLA portfolio is not the only way to mitigate a bank's liquidity risk. For example, a bank could improve the matching of its assets and liabilities, attract stable funding sources, or reduce its longer-term assets. Banks should not treat the use of the options simply as an economic choice that maximises the profits of the bank through the selection of alternative HQLA based primarily on yield considerations. The liquidity characteristics of an alternative HQLA portfolio should be considered to be more important than its net yield.

31.11 In order to ensure that banks' usage of the options is not out of line with the availability of Level 1 assets within the jurisdiction, supervisors may set a minimum amount of Level 1 assets to be held by each bank that is consistent with the availability of Level 1 assets in the market. A bank must then ensure that it is able to hold and maintain Level 1 assets not less than the minimum amount when applying the options.

Option 1 – Contractual committed liquidity facilities from the relevant central bank, for a fee

31.12 Under Option 1, banks may access contractual committed liquidity facilities provided by the relevant central bank (ie relevant given the currency in question) for a fee. These committed liquidity facilities should be distinct and separate from regular central bank standing arrangements, as these committed liquidity facilities must meet certain criteria. In particular, these facilities must be established contractual arrangements between the central bank and the commercial bank with a maturity date which, at a minimum, falls outside the 30-day LCR window. Further, the contract must be irrevocable prior to maturity and must not involve an ex post credit decision by the central bank. Such facilities must also incur a fee for the facility which is charged regardless of the amount, if any, drawn down against that facility; and the fee must be set so that both banks that claim the facility to meet the LCR and banks that do not have similar financial incentives to reduce their exposure to liquidity risk. That is, the fee should be set so that the net yield on the assets used to secure the facility should not be higher than the net yield on a representative portfolio of Level 1 and Level 2 assets, after adjusting for any material differences in credit risk. A jurisdiction seeking to adopt Option 1 should justify that the fee is suitably set in a manner as prescribed in this paragraph.

Option 2 – Foreign currency HQLA to cover domestic liquidity needs

31.13 Under Option 2, supervisors may permit banks that evidence a shortfall of HQLA in the domestic currency (ie insufficient domestic currency HQLA relative to domestic currency liquidity risk) to hold HQLA in a currency that does not match the currency of the associated liquidity risk. However, the resulting currency mismatch positions must be justifiable and controlled within limits agreed by their supervisors. Supervisors should restrict such positions within levels consistent with the bank's foreign exchange risk management capacity and needs and ensure that such positions relate to currencies that are freely and reliably convertible, are effectively managed by the bank, and would not pose undue risk to its financial strength. In managing those positions, the bank should take into account the risk that its ability to swap currencies and its access to the relevant foreign exchange markets may erode rapidly under stressed conditions. It should also take into account that sudden, adverse exchange rate movements could sharply widen existing mismatch positions and alter the effectiveness of any foreign exchange hedges in place.

31.14 To account for foreign exchange risk associated with foreign currency HQLA used to cover liquidity needs in the domestic currency, such liquid assets must be subject to a minimum haircut of 8% for major currencies that are active in global foreign exchange markets.[5] For other currencies, jurisdictions should increase the haircut to an appropriate level on the basis of historical (monthly) exchange rate volatilities between the currency pair over an extended period of time.[6] If the domestic currency is formally pegged to another currency under an effective mechanism, the haircut for the pegged currency may be lowered to a level that reflects the limited exchange rate risk under the peg arrangement. To qualify for this treatment, the jurisdiction concerned should demonstrate the effectiveness of its currency peg mechanism and assess the long-term prospect of keeping the peg.

Footnotes

[5] *These refer to currencies that exhibit significant and active market turnover in the global foreign currency market (eg the average market turnover of the currency as a percentage of the global foreign currency market turnover over a ten-year period is not lower than 10%).*

[6] *As an illustration, the exchange rate volatility data used for deriving the foreign exchange haircut may be based on the 30-day moving foreign exchange price volatility data (mean + 3 standard deviations) of the currency pair over a ten-year period, adjusted to align with the 30-day time horizon of the LCR.*

31.15 Haircuts for foreign currency HQLA used under Option 2 must apply to HQLA in excess of a threshold specified by supervisors which must not be greater than 25%.[7] This is to accommodate a certain level of currency mismatch that may commonly exist among banks in their ordinary course of business.

Footnotes

[7] *The threshold for applying the haircut under Option 2 refers to the amount of foreign currency HQLA used to cover liquidity needs in the domestic currency as a percentage of total net cash outflows in the domestic currency. Hence under a threshold of 25%, a bank using Option 2 must apply the haircut to that portion of foreign currency HQLA in excess of 25% that are used to cover liquidity needs in the domestic currency.*

31.16 A bank using Option 2 must demonstrate that its foreign exchange risk management system is able to measure, monitor and control the foreign exchange risk resulting from the currency-mismatched HQLA positions. In addition, the bank must show that it can reasonably convert the currency-mismatched HQLA to liquidity in the domestic currency when required, particularly in a stress scenario. To mitigate the risk that excessive currency mismatch may interfere with the objectives of the framework, the bank supervisor should only allow banks that are able to measure, monitor and control the foreign exchange risk arising from the currency mismatched HQLA positions to use this option. As the HQLA that are eligible under Option 2 can be denominated in different foreign currencies, banks must assess the convertibility of those foreign currencies in a stress scenario. As participants in the foreign exchange market, they are in the best position to assess the depth of the foreign exchange swap or spot market for converting those assets to the required liquidity in the domestic currency in times of stress. The supervisor should also restrict the currencies of the assets that are eligible under Option 2 to those that have been historically proven to be convertible into the domestic currency in times of stress.

Option 3 – Additional use of Level 2 assets with a higher haircut

31.17 This option addresses currencies for which there are insufficient Level 1 assets, as determined by reference to the qualifying principles and criteria, but where there are sufficient Level 2A assets. Under this option, supervisors may permit banks that evidence a shortfall of HQLA in the domestic currency (ie relative to domestic currency liquidity risk) to hold additional Level 2A assets in the stock of HQLA. These additional Level 2A assets must be subject to a minimum haircut of 20%, ie 5% higher than the 15% haircut applicable to Level 2A assets that are included in the 40% cap. The higher haircut should cover any additional price and market liquidity risks arising from increased holdings of Level 2A assets beyond the 40% cap and provide a disincentive for banks to use this option based on yield considerations.[8] Supervisors must conduct an analysis to assess whether the additional haircut is sufficient for Level 2A assets in their markets, and should increase the haircut if this is warranted to achieve the purpose for which it is intended. Supervisors should explain and justify the outcome of the analysis (including the level of increase in the haircut, if applicable). Any Level 2B assets held by the bank must remain subject to the cap of 15%, regardless of the amount of other Level 2 assets held.

Footnotes

[8] *Supervisors should seek to avoid a situation where the cost of holding a portfolio that benefits from this option is lower than the cost of holding a theoretical compliant portfolio of Level 1 and Level 2 assets, after adjusting for any material differences in credit risk.*

31.18 A bank using Option 3 must be able to manage the price risk associated with the additional Level 2A assets. As the quality of Level 2A assets is lower than that for Level 1 assets, increasing its composition would increase the price risk and hence the volatility of the bank's stock of HQLA. To mitigate the uncertainty of performance of this option, banks must demonstrate that the values of the assets under stress are sufficient. At a minimum, they must be able to conduct stress tests to ascertain that the value of its stock of HQLA remains sufficient to support its LCR during a market-wide stress event. The bank should take a higher haircut (ie higher than the supervisor-imposed Option 3 haircut) on the value of the Level 2A assets if the stress test results suggest that the minimum haircut imposed by supervisors would be insufficient to cover the assets' price and market liquidity risks.

31.19 A bank using Option 3 must show that it can reasonably liquidate the additional Level 2A assets in a stress scenario. With additional reliance on Level 2A assets, it is essential to ensure that the market for these assets has sufficient depth. This

standard may be implemented in several ways, but should be more severe than the requirements associated with Level 2 assets within the 40% cap, because increased reliance on Level 2A assets would increase concentration risk on an aggregate level, thus affecting market liquidity. The supervisor may:

(1) require that Level 2A assets that exceed the 40% cap meet higher qualifying criteria (eg minimum credit rating of AA+ or AA instead of AA-, central bank eligible);

(2) set a limit on the minimum issue size of the Level 2A assets that qualify for use under this option;

(3) set a limit on the bank's maximum holding as a percentage of the issue size of the qualifying Level 2A asset;

(4) set a limit on the maximum bid-ask spread, minimum volume, or minimum turnover of the qualifying Level 2A asset; and

(5) any other criteria appropriate for the jurisdiction.

Principles for assessing eligibility for alternative liquidity approaches

31.20 All of the following principles must be satisfied in order for a jurisdiction to qualify for alternative treatment.

(1) To use the alternative treatment under the LCR, a jurisdiction must demonstrate and justify that insufficient HQLA denominated in the domestic currency exists, taking into account all relevant factors affecting the supply of, and demand for, such HQLA (Principle 1).

(a) The supply of HQLA in the domestic currency of the jurisdiction must be insufficient, in terms of Level 1 assets only or both Level 1 and Level 2 assets, to meet the aggregate demand for such assets from banks operating in that currency. The jurisdiction must be able to provide adequate information (quantitative and otherwise) to demonstrate this aggregate shortfall.

(b) The determination of insufficient HQLA by the jurisdiction under LCR31.20(1)(a) should address all major factors relevant to the issue. These include, but are not limited to, the expected supply of HQLA in the medium term (eg three to five years), the extent to which the banking sector can and should run less liquidity risk, and the competing demand

from banks and non-bank investors for holding HQLA for similar or other purposes.

(c) Insufficient HQLA faced by the jurisdiction must be caused by structural, policy and other constraints that cannot be resolved within the medium term (eg three to five years). Such constraints may relate to the fiscal or budget policies of the jurisdiction, the infrastructural development of its capital markets, the structure of its monetary system and operations (eg the currency board arrangements for jurisdictions with pegged exchange rates), or other jurisdiction-specific factors leading to the shortage or imbalance in the supply of HQLA available to the banking sector.

(2) A jurisdiction that intends to adopt one or more of the options for alternative treatment must be capable of limiting the uncertainty of performance, or mitigating the risks of non-performance, of the option(s) concerned (Principle 2).

(a) For Option 1 (ie the provision of contractual committed liquidity facilities from the relevant central bank for a fee), the jurisdiction must have the economic strength to support the committed liquidity facilities granted by its central bank. To ensure this, the jurisdiction should have a process in place to control the aggregate amount of such facilities to within a level that can be measured and managed.

(b) For Option 2 (ie use of foreign currency HQLA to cover domestic currency liquidity needs), the jurisdiction must have a mechanism in place to control the foreign exchange risk of its banks' foreign currency HQLA holdings.

(c) For Option 3 (ie use of Level 2A assets beyond the 40% cap with a higher haircut), the jurisdiction must only allow Level 2 assets that are of a quality (credit and liquidity) comparable to that for Level 1 assets in its currency to be used under this option. The jurisdiction should be able to provide quantitative and qualitative evidence to substantiate this requirement.

(3) A jurisdiction that intends to adopt one or more of the options for alternative treatment must be committed to observing all of the obligations set out below (Principle 3).

(a) The jurisdiction must maintain a supervisory monitoring system to ensure that its banks comply with the rules and requirements relevant to their usage of the options, including any associated haircuts, limits or restrictions.

(b) The jurisdiction must document and update its approach to adopting an alternative treatment, and make the approach explicit and transparent to other national supervisors. The approach should address how it complies with the applicable criteria, limits and obligations set out in the qualifying principles, including the determination of insufficient HQLA and other key aspects of its framework for alternative treatment.

(c) The jurisdiction must review periodically the determination of insufficient HQLA at intervals not exceeding five years, and disclose the

results of review and any consequential changes to other national supervisors and stakeholders.

(d) The jurisdiction must permit an independent peer review of its framework for alternative treatment to be conducted as part of the Basel Committee's work programme and address the comments made.

31.21 The eligibility for a jurisdiction to adopt an alternative liquidity approach treatment should be based on a fully implemented LCR standard (ie 100% requirement).

31.22 The principles in LCR31.20 may not, in all cases, be able to capture specific circumstances or unique factors affecting individual jurisdictions having insufficient HQLA. Hence, a jurisdiction may provide additional information or explain other factors that are relevant to its compliance with the Principles, even though such information or factors may not be specified in the Principles.

31.23 Where a jurisdiction uses estimations or projections to support its case to use alternative liquidity approaches, the rationale and basis for those estimations or projections should be clearly set out. In order to support its case and facilitate independent peer review, the jurisdiction should provide information, to the extent possible, covering a long enough time series (eg three to five years depending on data availability).

Guidance on meeting Principle 1 – insufficiency of HQLA

31.24 In order to qualify for alternative treatment, the jurisdiction must be able to demonstrate that there is an HQLA shortfall in the domestic currency as it relates to the needs in that currency. The jurisdiction must demonstrate this with regard to the three criteria set out above.

31.25 LCR31.20(1)(a) requires the jurisdiction to provide sufficient information to demonstrate the insufficient HQLA in its domestic currency. This insufficiency must principally reflect a shortage in Level 1 assets, although Level 2 assets may also be insufficient in some jurisdictions.

31.26 To illustrate that a currency does not have sufficient HQLA, the jurisdiction must provide all relevant information and data that have a bearing on the size of the HQLA shortfall faced by banks operating in that currency that are subject to LCR requirements ("LCR banks"). These should, to the extent practicable, include the following information.

(1) The current and projected stock of HQLA denominated in its currency,[9] including:

(a) the supply of Level 1 and Level 2 assets broken down by asset classes;

(b) the amounts outstanding for the last three to five years;

(c) the projected amounts for the next three to five years; and

(d) any other information in support of its stock and projection of HQLA, including, should the jurisdiction feel that the true nature of the supply of HQLA cannot be simply reflected by the numbers provided, further information to explain sufficiently the case.

(2) The jurisdiction should provide a detailed analysis of the nature of the market for the above assets. Information relating to the market liquidity of the assets would be of particular importance. The jurisdiction should present its views on the liquidity of the HQLA based on the information presented. The following details should be provided:

(a) for the primary market for the above assets:

(i) the channel and method of issuance;

(ii) the issuers;

(iii) the past issue tenor, denomination and issue size for the last three to five years; and

(iv) the projected issue tenor, denomination and issue size for the next three to five years;

(b) for the secondary market for the above assets:

(i) the trading size and activity;

(ii) types of market participants; and

(iii) the size and activity of its repo market; and

(c) where possible, the jurisdiction should provide an estimate of the amount of the above assets (Level 1 and Level 2) required to be in free circulation for them to remain genuinely liquid, as well as any justification for these figures.

(3) With regard to demand for HQLA by LCR banks, the jurisdiction should provide:

(a) the number of LCR banks under its purview;

(b) the current demand (ie net 30-day cash outflows) for HQLA by these LCR banks for meeting the LCR or other requirements (eg collateral for intraday repo);

(c) the projected demand for the next three to five years based on banks' business growth and strategy;

(d) an estimate of the percentage of total HQLA already in the hands of banks; and

(e) commentaries on cash flow projections where appropriate to improve their persuasiveness. The projections should take into account observed behavioural changes of the LCR banks and any other factors that may result in a reduction of their 30-day cash outflows.

(4) The jurisdiction may provide information on the demand for Level 1 and Level 2 assets by the other HQLA holders in support of its application. These entities are not subject to the LCR but will likely take up, or hold on to, a part of the outstanding stock of HQLA. Such entities include: banks, branches of banks and other deposit-taking institutions which conduct bank-like activity (such as building societies and credit unions) in the jurisdiction but are not subject to the LCR: other financial institutions which are normally subject to prudential supervision, such as investment or securities firms, insurance or reinsurance companies, pension / superannuation funds, mortgage funds, and money market funds; and other significant investors which have demonstrated a track record of strategic "buy and hold" purchases which can be presumed to be price-insensitive. This would include foreign sovereigns, foreign central banks and foreign sovereign / quasi-sovereign funds, but not hedge funds or other private investment management vehicles. Historical demand for such assets by these holders is not sufficient. The alternate holders of HQLA must at least exhibit the following qualities:

(a) price-inelastic: the holders of HQLA are unlikely to switch to alternate assets unless there is a significant change in the price of these assets; and

(b) proven to be stable: the demand for HQLA by the holders should remain stable over the next three years as they require these assets to meet specific purposes, such as asset-liability matching or other regulatory requirements.

Footnotes

[9] *To avoid doubt, if the jurisdiction is a member of a monetary union operating under a single currency, debt or other assets issued in other members of the union in that currency is considered available for all jurisdictions in that union. Hence, the jurisdiction should take into account the availability of such assets which qualify as HQLA in its analysis.*

31.27 The jurisdiction should be able to come up with a reasonable estimate of the HQLA shortfall faced by its LCR banks (current and over the next three to five years), based on credible information. In deriving the HQLA shortfall, the jurisdiction should first compare:

(1) the total outstanding stock of its HQLA in domestic currency; with

(2) the total liquidity needs of its LCR banks in domestic currency.

31.28 The jurisdiction should then explain the method of deriving the HQLA shortfall, taking into account all relevant factors, including those set out in LCR31.20(1)(b), which may affect the size of the shortfall. A detailed analysis of the calculations should be provided (eg in the form of a template), explaining any adjustments to supply and demand and justifications for such adjustments.[10] The jurisdiction should demonstrate that the method of defining insufficiency is appropriate for its circumstances, and that it can reflect the HQLA shortfall faced by LCR banks in the currency.

Footnotes

[10] *For HQLA that are subject to caps or haircuts (eg Level 2 assets), the effects of such constraints should be accounted for.*

31.29 LCR31.20(1)(b) builds on the information provided by the jurisdiction in LCR31.7 to LCR31.10 and requires the jurisdiction to further explain the manner in which insufficient HQLA is determined, by listing all major factors that affect the HQLA shortfall faced by its LCR banks under LCR31.20(1)(a). There should be a commentary for each of the factors, explaining why the factor is relevant, the impact of the factor on the HQLA shortfall, and how such impact is incorporated into the analysis of insufficient HQLA. The jurisdiction should be able to demonstrate that it has adequately considered all relevant factors, including those that may improve the HQLA shortfall, so as to ascertain that the insufficiency issue is fairly stated.

31.30

On the supply of HQLA, there should be due consideration of the extent to which insufficient HQLA may be alleviated by estimated medium term supply of such assets, as well as the factors restricting the availability of HQLA to LCR banks. In the case of government debt, relevant information on availability can be reflected, for example, from the size and nature of other users of government debt in the jurisdiction; holdings of government debt which seldom appear in the traded markets; and the amount of government debt in free circulation for the assets to remain truly liquid.

31.31 On the demand of HQLA, there should be due consideration of the potential liquidity needs of the banking sector, taking into account the scope for banks to reduce their liquidity risk (and hence their demand for HQLA) and the extent to which banks can satisfy their demand through the repo market (rather than through outright purchase of HQLA). Other needs for maintaining HQLA (eg for intraday repo purposes) may also increase banks' demand for such assets.

31.32 The jurisdiction should also include any other factors not mentioned above that are relevant to its case.

31.33 LCR31.20(1)(c) should establish that insufficient HQLA is caused by constraints that are not temporary in nature. The jurisdiction should provide a list of such constraints, explain the nature of the constraints and how the insufficiency issue is affected by the constraints, as well as whether there is any prospect of change in the constraints (eg measures taken to address the constraints) in the next three to five years. To demonstrate the significance of the constraints, the jurisdiction should support the analysis with appropriate quantitative information.

31.34 A jurisdiction may have fiscal or budget constraints that limit its ability or need to raise debt. To support this, the following information should, at a minimum, be provided:

(1) Fiscal position for the past ten years: Consistent fiscal surpluses (eg at least six out of the past ten years or at least two out of the past three years)[11] can be an indication that the jurisdiction does not need to raise a significant amount of debt. On the contrary, it is unlikely that jurisdictions with persistent deficits (eg at least six out of the past ten years) will have a shortage in government debt issued.

(2) Fiscal position as a percentage of gross domestic product (GDP) (ten-year average): This is another way of looking at the fiscal position. A positive ten-year average will likely suggest that the need for debt issuance is low. Similarly, a negative ten-year average will suggest otherwise.

(3) Issue of government or central bank debt in the past ten years and the reasons for such issuance (eg for market operations or managing the yield curve). This is to assess the level and consistency of debt issuance.

Footnotes

[11] *Some deficits during economic downturns need to be catered for. Moreover, the recent surplus/deficit situation is relevant for assessment.*

31.35 The jurisdiction should also provide the ratio of its government debt to total banking assets denominated in domestic currency (for the past three to five years) to facilitate trend analysis of the government debt position versus a proxy indicator for banking activity (ie total banking assets), as well as comparison of the position across jurisdictions (including those that may not have the insufficiency issue). While this ratio alone cannot give any conclusive view about the insufficiency issue, a relatively low ratio (eg below 20%) may support the case if the jurisdiction also performs similarly under other indicators.

31.36 A jurisdiction may have underdeveloped markets that result in limited availability of corporate or covered bonds to satisfy market demand. Information to be provided may include the causes of this situation, measures that are being taken to develop the markets, the expected effect of such measures, and other relevant statistics showing the state of the markets.

31.37 There may also be other structural issues affecting the monetary system and operations. For example, the currency board arrangements for jurisdictions with pegged exchange rates could potentially constrain the issue of central bank debt and cause uncertainty or volatility in the availability of such debt to the banking sector. The jurisdiction should explain such arrangements and their effects on the supply of central bank debt (supported by relevant historical data in the past three to five years).

Guidance on meeting Principle 2 – managing performance

31.38 This Principle assesses whether and how the jurisdiction mitigates the risks arising from the adoption of any of the options, based on the requirements set out in the three criteria mentioned above. The assessment should also include whether the jurisdiction's approach to adopting the options is in line with the alternative treatment set out in LCR31.1 to LCR31.19.

31.39 The jurisdiction should explain its policy towards the adoption of the options, including which of the options will be used and the estimated (and maximum allowable) extent of usage by the banking sector. The jurisdiction should also justify the appropriateness of the maximum level of usage of the options to its banking system, in accordance with the relevant guidance set out in LCR31.4 to LCR31.6.

31.40 A jurisdiction intending to adopt Option 1 must demonstrate that it has the economic and financial capacity to support the committed liquidity facilities that will be granted to its banks.[12] The jurisdiction should, for example, have a strong credit rating (such as AA- or higher[13]) or be able to provide other evidence of financial strength and should not be exposed to adverse developments (eg a looming crisis) that may heavily impinge on its domestic economy in the near term.

Footnotes

[12] *This is to enhance market confidence rather than to query the jurisdiction's ability to honour its commitments.*

[13] *This is the minimum sovereign rating that qualifies for a 0% risk weight under CRE20.*

31.41 The jurisdiction should also demonstrate that it has a process in place to control the aggregate facilities granted under Option 1 within a level that is appropriate for its local circumstances. For example, the jurisdiction may limit the amount of Option 1 commitments to a certain proportion of its GDP and justify why this level is suitable for its banking system. The process should address situations where the aggregate facilities are approaching or have breached the limit, and how the limit interplays with other restrictions for using the options (eg maximum level of usage for all options combined).

31.42 To facilitate assessment of compliance with requirements in LCR31.12, the jurisdiction should provide all relevant details associated with the extension of the committed facility, covering:

(1) the commitment fee (including the basis on which it is charged,[14] the method of calculation[15] and the frequency of re-calculating or varying the fee). The jurisdiction should, in particular, demonstrate that the calculation of the commitment fee is in line with the conceptual framework set out in LCR31.12;

(2) the types of collateral acceptable to the central bank for securing the facility and respective collateral margins or haircuts required;

(3) the legal terms of the facility (including whether it covers a fixed term or is renewable or evergreen, the notice of drawdown, whether the contract is irrevocable prior to maturity,[16] and whether there are restrictions on a bank's ability to draw down on the facility);[17]

(4) the criteria for allowing individual banks to use Option 1;

(5) disclosure policies (ie whether the level of the commitment fee and the amount of committed facilities granted will be disclosed, either by the banks or by the central bank); and

(6) the projected size of committed liquidity facilities that may be granted under Option 1 (versus the projected size of total net cash outflows in the domestic currency for Option 1 banks) for each of the next three to five years and the basis of projection.

Footnotes

[14] *LCR31.12 requires the fee to be charged regardless of the amount, if any, drawn down against the facility.*

[15] *LCR31.12 presents the conceptual framework for setting the fee.*

[16] *LCR31.12 requires the maturity date to at least fall outside the 30-day LCR window and the contract to be irrevocable prior to maturity.*

[17] *LCR31.12 requires the contract not to involve any ex post credit decision by the central bank*

31.43 A jurisdiction intending to adopt Option 2 should demonstrate that it has a mechanism in place to control the foreign exchange risk arising from banks' holdings in foreign currency HQLA under this option. This is because such foreign currency asset holdings to cover domestic currency liquidity needs may be exposed to the risk of decline in the liquidity value of those foreign currency assets should exchange rates move adversely when the assets are converted into the domestic currency, especially in times of stress.

31.44 This control mechanism should cover the following elements:

(1) The jurisdiction should ensure that the use of Option 2 is confined only to foreign currencies which provide a reliable source of liquidity in the domestic currency in stressed market conditions. In this regard, the jurisdiction should

specify the currencies and broad types of HQLA denominated in those currencies[18] allowable under this option, based on prudent criteria. The suitability of the currencies should be reviewed whenever significant changes in the external environment warrant a review.

(2) The jurisdiction should explain why each of the allowable currencies is selected, including an analysis of the historical exchange rate volatility, and turnover size in the foreign exchange market, of the currency pair (eg based on statistics for each of the past three to five years). In case a currency is selected for other reasons,[19] the justifications should be clearly stated to support its inclusion for Option 2 purposes. The selection of currencies should take into account the following aspects:

(a) the currency should be freely transferable and convertible into the domestic currency;

(b) the currency should be liquid and active in the relevant foreign exchange market; the methodology and basis of this assessment should be documented;

(c) the currency should not exhibit significant historical exchange rate volatility against the domestic currency;[20] and

(d) in the case of a currency which is pegged to the domestic currency, there should be a formal mechanism in place for maintaining the peg rate; relevant information about the mechanism and past ten-year statistics on exchange rate volatility of the currency pair showing the effectiveness of the peg arrangement should be documented.

(3) HQLA in the allowable currencies used for Option 2 purposes must be subject to haircuts as prescribed under this framework (ie at least 8% for major currencies[21]). The jurisdiction should set a higher haircut for other currencies where the exchange rate volatility against the domestic currency is much higher, based on a methodology that compares the historical (eg monthly) exchange rate volatilities between the currency pair concerned over an extended period of time. Where the allowable currency is formally pegged to the domestic currency, a lower haircut may be used to reflect limited exchange rate risk under the peg arrangement. To qualify for this treatment, the jurisdiction should demonstrate the effectiveness of its currency peg mechanism and the long-term prospect of keeping the peg. Where a threshold for applying the haircut under Option 2 is adopted (see LCR31.15), the level of the threshold must not be more than 25%.

(4) Regular information should be collected from banks in respect of their holding of allowable foreign currency HQLA for LCR purposes to enable supervisory assessment of the foreign exchange risk associated with banks' holdings of such assets, both individually and in aggregate.

(5) There should be an effective means to control the foreign exchange risk assumed by banks. The control mechanism, and how it is to be applied to banks, should be elaborated. In particular:

  (a) there should be prescribed criteria for allowing individual banks to use Option 2;

  (b) the approach to assessing whether the estimated holdings of foreign currency HQLA by individual banks using Option 2 are consistent with their foreign exchange risk management capacity (see LCR31.13) should be explained; and

  (c) there should be a system for setting currency mismatch limits to control banks' maximum foreign currency exposures under Option 2.

Footnotes

[18] *For example, clarification may be necessary in cases where only central government debt will be allowed, or Level 1 securities issued by multilateral development banks in some currencies will be allowed.*

[19] *For example, the central banks of the two currencies concerned may have entered into special foreign exchange swap agreements that facilitate the flow of liquidity between the currencies.*

[20] *This is relative to the exchange rate volatilities between the domestic currency and other foreign currencies with which the domestic currency is traded.*

[21] *These currencies refer to those that exhibit significant and active market turnover in the global foreign currency market (eg the average market turnover of the currency as a percentage of the global foreign currency market turnover over a ten-year period is not lower than 10%).*

31.45 With the adoption of Option 3, the increase in holdings of Level 2A assets within the banking sector (to substitute for Level 1 assets which are of higher quality but in shortage) may give rise to additional price and market liquidity risks, especially in times of stress when concentrated asset holdings have to be liquidated. In order to mitigate this risk, the jurisdiction intending to adopt Option 3 should ensure that only Level 2A assets that are of comparable quality to Level 1 assets in the domestic currency are allowed to be used under this option (ie to exceed the 40% cap). Level 2B assets must remain subject to the 15% cap. The jurisdiction should demonstrate how this can be achieved in its supervisory framework, having regard to the following aspects:

(1) The adoption of higher qualifying standards for additional Level 2A assets: apart from fulfilling all the qualifying criteria for Level 2A assets, additional requirements should be imposed to ensure the assets provide adequate liquidity value. For example, supervisors may require the minimum credit rating of these additional Level 2A assets to be AA or AA+ instead of AA-, and may impose more stringent qualitative and quantitative criteria. These assets may also be required to be central bank eligible.

(2) The inclusion of a prudent diversification requirement for banks using Option 3: banks should be required to diversify holdings of Level 2 assets among different issuers and asset classes to the extent feasible in a given national market. The jurisdiction should illustrate how this diversification requirement is to be applied to banks.

31.46 The jurisdiction should provide statistical evidence to substantiate that Level 2A assets (used under Option 3) and Level 1 assets in the domestic currency are generally of comparable quality in terms of the maximum decline in price during a relevant historical period of significant liquidity stress.

31.47 The jurisdiction should also provide all relevant details associated with the use of Option 3, including:

(1) the standards and criteria for allowing individual banks to use Option 3;

(2) the system for monitoring banks' additional Level 2A asset holding under Option 3 to ensure that they observe the higher requirements;

(3) the application of higher haircuts to additional Level 2A assets (see LCR31.17); [22] and

(4) the existence of any restriction on the use of Level 2A assets (ie to what extent banks will be allowed to hold such assets as a percentage of their liquid asset stock).

Footnotes

[22] *Under LCR31.17, a minimum higher haircut of 20% must be applied to additional Level 2A assets used under this option. The jurisdiction must conduct an analysis to assess whether the 20% haircut is sufficient for Level 2A assets in its market, and should increase the haircut to an appropriate level if this is warranted in order to achieve the purpose of the haircut.*

Guidance on meeting Principle 3 – supervisory obligations

31.48 This Principle requires a jurisdiction intending to adopt any of the options to indicate the jurisdiction's commitment to observing the obligations relating to supervisory monitoring, disclosure, periodic self-assessment, and independent peer review of its eligibility for adopting the options, as set out in the criteria below. Whether these commitments are fulfilled in practice should be assessed in subsequent periodic self-assessments and, where necessary, in subsequent independent peer reviews.

31.49 The jurisdiction should demonstrate that it has a clearly documented framework for monitoring the usage of the options by its banks as well as their compliance with the relevant rules and requirements applicable to them under the supervisory framework. In particular, the jurisdiction should have a system to ensure that the rules governing banks' usage of the options are met, and that the usage of the options within the banking system are monitored and controlled. To achieve this, the framework should be able to address the aspects mentioned below.

31.50 The jurisdiction should set out the requirements that banks should meet in order to use the options to comply with the LCR. The requirements may differ depending on the option to be used as well as jurisdiction-specific considerations. The scope of these requirements will generally cover the following areas:

(1) The jurisdiction should devise the supervisory requirements governing banks' usage of the options, having regard to the guidance set out in this chapter. Any bank-specific requirements should be communicated to the affected banks.

(2) Banks using the options should be informed of the minimum amount of Level 1 assets that they are required to hold in the relevant currency. The jurisdiction should set a minimum level for banks in the jurisdiction. This should complement the requirement under LCR31.50(3) below.

(3) In order to control the usage of the options within the banking system, banks should be informed of any supervisory restriction applicable to them in terms of the maximum amount of alternative HQLA (under each or all of the options) they are allowed to hold. For example, if the maximum usage level is 70%, a bank should maintain at least 30% of its HQLA stock in Level 1 assets in the relevant currency. The maximum level of usage of the options set by the jurisdiction should be consistent with the calculations and projections used to support its compliance with Principles 1 and 2.

(4) The jurisdiction may apply additional haircuts to banks that use the options to limit the uncertainty of performance, or mitigate the risks of non-performance, of the options used (see Principle 2). For example, a jurisdiction that relies heavily on Option 3 may observe that a large amount of Level 2A assets will be held by banks to fulfil their LCR needs, thereby increasing the market liquidity risk of these assets. This may necessitate increasing the Option 3 haircut for banks that rely heavily on these Level 2A assets.

(5) The jurisdiction may choose to apply further restrictions to banks that use the options.

31.51

The jurisdiction should demonstrate that through its data collection framework (eg as part of regular banking returns), sufficient data can be obtained from its banks to ascertain compliance with the supervisory requirements as communicated to the banks. The jurisdiction should determine the reporting requirements, including the types of data and information required, the manner and frequency of reporting, and how the data and information collected will be used.

31.52 The jurisdiction should also indicate how it intends to monitor banks' compliance with the relevant rules and requirements. This may be performed through a combination of off-site analysis of information collected, prudential interviews with banks and on-site examinations as necessary. For example, an on-site review may be necessary to determine the quality of a bank's foreign exchange risk management in order to assess the extent which the bank should be allowed to use Option 2 to satisfy its LCR requirements.

31.53 The jurisdiction should demonstrate that it has sufficient supervisory powers and tools at its disposal to ensure compliance with the requirements governing banks' usage of the options. These will include tools for assessing compliance with specific requirements (eg foreign exchange risk management under Option 2 and price risk management under Option 3) as well as general measures and powers available to impose penalties should banks fail to comply with the requirements applicable to them. The jurisdiction should also demonstrate that it has sufficient powers to direct banks to comply with the general rules and/or specific requirements imposed on them. Examples of such measures are the power to issue directives to the banks, restriction of financial activities, financial penalties, increase of Pillar 2 capital, etc.

31.54 The jurisdiction should restrict a bank from using the options should it fail to comply with the relevant requirements.

31.55 The jurisdiction should demonstrate that it has a documented framework that is disclosed (whether on its website or through other means) upon the adoption of the options for alternative treatment. The document should contain clear and transparent information that will enable other national supervisors and stakeholders to gain a sufficient understanding of its compliance with the qualifying principles for adoption of the options and the manner in which it supervises the use of the options by its banks.

31.56 The disclosure should cover the following:

(1) the jurisdiction's self-assessment of insufficient HQLA in the domestic currency, including relevant data about the supply of, and demand for, HQLA, and major factors (eg structural, cyclical or jurisdiction-specific)

influencing the supply and demand. This assessment should correspond with the self-assessment required under LCR31.57 to LCR31.61 below;

(2) the jurisdiction's supervisory approach to applying the alternative treatment, including the option(s) allowed to be used by banks, any guidelines, requirements and restrictions associated with the use of such option(s) by banks, and approach to monitoring banks' compliance with them;

(3) if Option 1 is adopted, the terms of the committed liquidity facility, including the maturity of the facility, the commitment fee charged (and the approach adopted for setting the fee), securities eligible as collateral for the facility (and margins required), and other terms, including any restrictions on banks' usage of this option;

(4) if Option 2 is adopted, the foreign currencies (and types of securities under those currencies) allowed to be used, haircuts applicable to the foreign currency HQLA, and any restrictions on banks' usage of this option; and

(5) if Option 3 is adopted, the Level 2A assets allowed to be used in excess of the 40% cap (and the associated criteria), haircuts applicable to Level 2A assets (within and above the 40% cap), and any restrictions on banks' usage of this option.

31.57 The jurisdiction should update the disclosed information whenever there are changes to the information (eg updated self-assessment of insufficient HQLA performed).

31.58 The jurisdiction should perform a review of its eligibility for alternative treatment every five years after it has adopted the options. The primary purpose of this review is to determine that there remains insufficient HQLA in the jurisdiction. The review should be in the form of a self-assessment of the jurisdiction's compliance with each of the Principles set out in this chapter.

31.59 The jurisdiction should have a credible process for conducting the self-assessment, and should provide sufficient information and analysis to support the self-assessment. The results of the self-assessment should be disclosed (on its website or through other means) and accessible by other national supervisors and stakeholders.

31.60 Where the self-assessment reflects that insufficient HQLA no longer exists, the jurisdiction should devise a plan for transition to the standard HQLA treatment under the LCR and notify the Basel Committee accordingly. If the issue of insufficiency remains but weaknesses in the jurisdiction's relevant supervisory framework are identified from the self-assessment, the jurisdiction should disclose its plan to address those weaknesses within a reasonable period.

31.61 If the jurisdiction is aware of circumstances (eg relating to fiscal conditions, market infrastructure or availability of liquidity, etc.) that have radically changed to an extent that may render insufficient HQLA no longer relevant to the jurisdiction, it must conduct a self-assessment promptly (ie without waiting until the next self-assessment is due) and notify the Basel Committee of the result as soon as practicable. The Basel Committee may similarly request the jurisdiction to conduct a self-assessment ahead of schedule if the Basel Committee is aware of changes that will significantly affect the jurisdiction's eligibility for alternative treatment.

LCR40

Cash inflows and outflows

This chapter defines the denominator of the Liquidity Coverage Ratio: net cash outflows in the specified stress scenario for the subsequent 30 calendar days.

Version effective as of 15 Dec 2019

FAQ published on 30 March 2023 added.

Definition of total net cash outflows

40.1 The term total net cash outflows[1] is defined as the total expected cash outflows minus total expected cash inflows in the specified stress scenario for the subsequent 30 calendar days. Total expected cash outflows are calculated by multiplying the outstanding balances of various categories or types of liabilities and off-balance sheet commitments by the rates at which they are expected to run off or be drawn down. Total expected cash inflows are calculated by multiplying the outstanding balances of various categories of contractual receivables by the rates at which they are expected to flow in under the scenario up to an aggregate cap of 75% of total expected cash outflows.

$$\begin{aligned}&\textit{Total net cash outflows over the next } 30 \textit{ days}\\&= \textit{Total expected cash outflows} - \min\left(\textit{Total expected cash inflows}, 75\%\ \textit{of total expected cash outflows}\right)\end{aligned}$$

Footnotes

[1] *Where applicable, cash inflows and outflows should include interest that is expected to be received and paid during the 30-day time horizon.*

40.2 While most run-off rates, drawdown rates and similar factors are harmonised across jurisdictions as outlined in this standard, a few parameters are to be determined by supervisory authorities at the national level. Where this is the case, the parameters should be transparent and made publicly available.

40.3 LCR99 provides a summary of the factors that are applied to each category.

40.4 Banks will not be permitted to double-count items, ie if an asset is included as part of the stock of high-quality liquid assets (HQLA) (ie the numerator), the associated cash inflows cannot also be counted as cash inflows (ie part of the denominator). Where there is potential that an item could be counted in multiple outflow categories (eg committed liquidity facilities granted to cover debt maturing within the 30 calendar day period), a bank only has to assume up to the maximum contractual outflow for that product.

Cash outflows – Retail deposit run-off

40.5 Retail deposits are defined as deposits placed with a bank by a natural person. Deposits from legal entities, sole proprietorships or partnerships are captured in wholesale deposit categories. Retail deposits subject to the Liquidity Coverage Ratio (LCR) include demand deposits and term deposits, unless otherwise excluded under the criteria set out in LCR40.16 and LCR40.17.

FAQ

FAQ1 *If a deposit is contractually pledged to a bank as collateral to secure a credit facility or loan granted by the bank that will not mature or be settled in the next 30 days, should the pledged deposit be excluded from the calculation of the total expected cash outflows under the LCR?*

The pledged deposit may be excluded from the LCR calculation only if the following conditions are met:

- *the loan will not mature or be settled in the next 30 days;*
- *the pledge arrangement is subject to a legally enforceable contract disallowing withdrawal of the deposit before the loan is fully settled or repaid; and*
- *the amount of deposit to be excluded cannot exceed the outstanding balance of the loan (which may be the drawn portion of a credit facility).*

The above treatment does not apply to a deposit which is pledged against an undrawn facility, in which case the higher of the outflow rate applicable to the undrawn facility or the pledged deposit applies.

FAQ2 *What is the treatment in the LCR of unsecured precious metals liabilities (such as deposits in precious metals received by a bank)? Are the run-off rates for retail deposits and unsecured wholesale funding according to LCR40.5 to LCR40.44 applicable?*

Deposits in precious metals received by a bank should be treated as retail deposits according to LCR40.5 to LCR40.18 or as unsecured wholesale funding according to LCR40.19 to LCR40.44 depending on the type of counterparty.

In deviation from this treatment, jurisdictions may alternatively allow a bank to assume no outflow if:

- *the deposit physically settles and the bank is able to supply the precious metals from its own inventories; or*

- *contractual arrangements give the bank the choice between cash settlement and physical delivery and there are no market practices or reputational factors that may limit the bank's discretion to exercise the option in a way that would minimise the LCR-effective outflow, ie to opt for physical delivery if the bank is able to supply the precious metals from its own inventories.*

Supervisors in such jurisdictions must publicly disclose the treatment should they opt for the alternative treatment.

40.6 These retail deposits are divided into "stable" and "less stable" portions of funds as described below, with minimum run-off rates listed for each category. The run-off rates for retail deposits are minimum floors, with higher run-off rates established by individual jurisdictions as appropriate to capture depositor behaviour in a period of stress in each jurisdiction.

Stable deposits (run-off rate = 3% and higher)

40.7 Stable deposits, which usually receive a run-off factor of 5%, are the amount of the deposits that are fully insured[2] by an effective deposit insurance scheme or by a public guarantee that provides equivalent protection and where:

(1) the depositors have other established relationships with the bank that make deposit withdrawal highly unlikely; or

(2) the deposits are in transactional accounts (eg accounts where salaries are automatically deposited).

Footnotes

[2] *"Fully insured" means that 100% of the deposit amount, up to the deposit insurance limit, is covered by an effective deposit insurance scheme. Deposit balances up to the deposit insurance limit may be treated as "fully insured" even if a depositor has a balance in excess of the deposit insurance limit. However, any amount in excess of the deposit insurance limit must be treated as "less stable". For example, if a depositor has a deposit of 150 that is covered by a deposit insurance scheme, which has a limit of 100, where the depositor would receive at least 100 from the deposit insurance scheme if the financial institution were unable to pay, then 100 would be considered "fully insured" and treated as stable deposits while 50 would be treated as less stable deposits. However if the deposit insurance scheme only covered a percentage of the funds from the first currency unit (eg 90% of the deposit amount up to a limit of 100) then the entire 150 deposit would be less stable.*

40.8 For the purposes of this standard, an "effective deposit insurance scheme" refers to a scheme:

(1) that guarantees that it has the ability to make prompt payouts;

(2) for which the coverage is clearly defined;

(3) of which public awareness is high; and

(4) in which the deposit insurer has formal legal powers to fulfil its mandate and is operationally independent, transparent and accountable.

40.9 A jurisdiction with an explicit and legally binding sovereign deposit guarantee that effectively functions as deposit insurance may be regarded as having an effective deposit insurance scheme.

40.10 The presence of deposit insurance alone is not sufficient to consider a deposit "stable".

40.11 Jurisdictions may choose to apply a run-off rate of 3% to stable deposits in their jurisdiction, if they meet the above stable deposit criteria and the following additional criteria for deposit insurance schemes:[3]

(1) the insurance scheme is based on a system of prefunding via the periodic collection of levies on banks with insured deposits;[4]

(2) the scheme has adequate means of ensuring ready access to additional funding in the event of a large call on its reserves, eg an explicit and legally

binding guarantee from the government, or a standing authority to borrow from the government; and

(3) access to insured deposits is available to depositors in a short period of time once the deposit insurance scheme is triggered.[5]

Footnotes

[3] *The Financial Stability Board has asked the International Association of Deposit Insurers (IADI), in conjunction with the Basel Committee and other relevant bodies where appropriate, to update its Core Principles and other guidance to better reflect leading practices. The criteria in this paragraph will therefore be reviewed by the Committee once the work by IADI has been completed.*

[4] *The requirement for periodic collection of levies from banks does not preclude that deposit insurance schemes may, on occasion, provide for contribution holidays due to the scheme being well-funded at a given point in time.*

[5] *This period of time would typically be expected to be no more than seven business days.*

40.12 Jurisdictions applying the 3% run-off rate to stable deposits with deposit insurance arrangements that meet the above criteria should be able to provide evidence of run-off rates for stable deposits within the banking system below 3% during any periods of stress experienced that are consistent with the conditions within the LCR.

Less stable deposits (run-off rates = 10% and higher)

40.13 Supervisory authorities should develop additional buckets with higher run-off rates as necessary to apply to buckets of potentially less stable retail deposits in their jurisdictions, with a minimum run-off rate of 10%. These jurisdiction-specific run-off rates should be clearly outlined and publicly transparent. Buckets of less stable deposits may include deposits that are not fully covered by an effective deposit insurance scheme or sovereign deposit guarantee, high-value deposits, deposits from sophisticated or high net worth individuals, deposits that can be withdrawn quickly (eg internet deposits) and foreign currency deposits, as determined by each jurisdiction.

40.14 If a bank is not able to readily identify which retail deposits would qualify as "stable" according to the above definition (eg the bank cannot determine which deposits are covered by an effective deposit insurance scheme or a sovereign deposit guarantee), it must place the full amount in the "less stable" buckets as established by its supervisor.

40.15 Foreign currency retail deposits are deposits denominated in any other currency than the domestic currency in a jurisdiction in which the bank operates. Supervisors will determine the run-off factor that banks in their jurisdiction should use for foreign currency deposits. Foreign currency deposits must be considered as "less stable" if there is a reason to believe that such deposits are more volatile than domestic currency deposits. Factors affecting the volatility of foreign currency deposits include the type and sophistication of the depositors, and the nature of such deposits (eg whether the deposits are linked to business needs in the same currency, or whether the deposits are placed in a search for yield).

40.16 Cash outflows related to retail term deposits with a residual maturity or withdrawal notice period greater than 30 days may be excluded from total expected cash outflows if the depositor has no legal right to withdraw deposits within the 30-day horizon of the LCR, or if early withdrawal results in a significant penalty that is materially greater than the loss of interest.[6]

Footnotes

[6] *If a portion of the term deposit can be withdrawn without incurring such a penalty, that portion must be treated as a demand deposit. The remaining balance of the deposit should be treated as a term deposit.*

40.17 If a bank allows a depositor to withdraw such deposits without applying the corresponding penalty, or despite a clause that says the depositor has no legal right to withdraw, the entire category of these funds must be treated as demand deposits (ie regardless of the remaining term, the deposits would be subject to the deposit run-off rates as specified in LCR40.6 to LCR40.15). Supervisors in each jurisdiction may choose to outline exceptional circumstances that would qualify as hardship, under which the exceptional term deposit could be withdrawn by the depositor without changing the treatment of the entire pool of deposits.

40.18 Notwithstanding the above, supervisors may also opt to treat retail term deposits that meet the qualifications set out in LCR40.16 with a higher than 0% run-off rate, if they clearly state the treatment that applies for their jurisdiction and apply this treatment in a similar fashion across banks in their jurisdiction. Such reasons could include, but are not limited to, supervisory concerns that depositors would withdraw term deposits in a similar fashion as retail demand deposits during either normal or stress times, concern that banks may repay such deposits early in stressed times for reputational reasons, or the presence of unintended incentives on banks to impose material penalties on consumers if deposits are withdrawn early. In these cases supervisors would assess a higher run-off against all or some of such deposits.

Cash outflows – unsecured wholesale funding run-off

40.19 For the purposes of the LCR, "unsecured wholesale funding" is defined as those liabilities and general obligations that are raised from non-natural persons (ie legal entities, including sole proprietorships and partnerships) and are not collateralised by legal rights to specifically designated assets owned by the borrowing institution in the case of bankruptcy, insolvency, liquidation or resolution. Obligations related to derivative contracts are excluded from this definition.

40.20 The wholesale funding included in the LCR is defined as all funding that is callable within the LCR's horizon of 30 days or that has its earliest possible contractual maturity date situated within this horizon (such as maturing term deposits and unsecured debt securities) as well as funding with an undetermined maturity. This should include all funding with options that are exercisable at the investor's discretion within the 30-calendar-day horizon. For funding with options exercisable at the bank's discretion, supervisors should take into account reputational factors that may limit a bank's ability not to exercise the option.[7] In particular, where the market expects certain liabilities to be redeemed before their legal final maturity date, banks and supervisors should assume such behaviour for the purpose of the LCR and include these liabilities as outflows.

Footnotes

[7] *This could reflect a case where a bank may imply that it is under liquidity stress if it did not exercise an option on its own funding.*

40.21 Wholesale funding that is callable[8] by the funds provider subject to a contractually defined and binding notice period surpassing the 30-day horizon is not included.

Footnotes

[8] *This takes into account any embedded options linked to the funds provider's ability to call the funding before contractual maturity.*

Unsecured wholesale funding provided by small business customers: 5%, 10% and higher

40.22 Unsecured wholesale funding provided by small business customers is treated the same way as retail deposits for the purposes of this standard, effectively distinguishing between a "stable" portion of funding provided by small business customers and different buckets of less stable funding defined by each jurisdiction. The same bucket definitions and associated run-off factors apply as for retail deposits.

40.23 This category consists of deposits and other extensions of funds made by non-financial small business customers. "Small business customers" are defined in line with the definition of loans extended to small businesses in CRE30.20 to CRE30.22 that are managed as retail exposures and are generally considered as having similar liquidity risk characteristics to retail accounts provided the total aggregated funding[9] raised from one small business customer is less than €1 million (on a consolidated basis where applicable).

Footnotes

[9] *"Aggregated funding" means the gross amount (ie not netting any form of credit extended to the legal entity) of all forms of funding (eg deposits or debt securities or similar derivative exposure for which the counterparty is known to be a small business customer). In addition, applying the limit on a consolidated basis means that where one or more small business customers are affiliated with each other, they may be considered as a single creditor such that the limit is applied to the total funding received by the bank from this group of customers.*

FAQ

FAQ1 *If a deposit is contractually pledged to a bank as collateral to secure a credit facility or loan granted by the bank that will not mature or be settled in the next 30 days, should the pledged deposit be excluded from the calculation of the total expected cash outflows under the LCR?*

The pledged deposit may be excluded from the LCR calculation only if the following conditions are met:

- *the loan will not mature or be settled in the next 30 days;*
- *the pledge arrangement is subject to a legally enforceable contract disallowing withdrawal of the deposit before the loan is fully settled or repaid; and*
- *the amount of deposit to be excluded cannot exceed the outstanding balance of the loan (which may be the drawn portion of a credit facility).*

The above treatment does not apply to a deposit which is pledged against an undrawn facility, in which case the higher of the outflow rate applicable to the undrawn facility or the pledged deposit applies.

40.24 Where a bank does not have any exposure to a small business customer that would enable it to use the definition under CRE30.20 to CRE30.22, the bank may include such a deposit in this category provided that the total aggregate funding raised from the customer is less than €1 million (on a consolidated basis where applicable) and the deposit is managed as a retail deposit. This means that the bank treats such deposits in its internal risk management systems consistently over time and in the same manner as other retail deposits, and that the deposits are not individually managed in a way comparable to larger corporate deposits.

40.25 Term deposits from small business customers must be treated in accordance with the treatment for term retail deposits as outlined in LCR40.16 to LCR40.18.

Operational deposits generated by clearing, custody and cash management activities: 25%

40.26 Certain activities lead to financial and non-financial customers needing to place, or leave, deposits with a bank in order to facilitate their access and ability to use payment and settlement systems and otherwise make payments. These funds may receive a 25% run-off factor only if the customer has a substantive dependency with the bank and the deposit is required for such activities. Supervisory approval should be given to ensure that banks utilising this treatment actually are conducting these operational activities at the level indicated. Supervisors may choose not to permit banks to utilise the operational deposit run-off rates in cases where, for example, a significant portion of operational deposits are provided by a small proportion of customers (ie concentration risk).

FAQ

FAQ1 *Should deposits from a central counterparty be regarded as operational deposits, noting that such deposits are usually associated with clearing activities?*

As for any other qualifying operational deposits, the conditions set out in LCR40.26 to LCR40.36 must be fulfilled.

40.27 Qualifying activities in this context refer to clearing, custody or cash management activities that meet the following criteria.

(1) The customer must be reliant on the bank to perform these services as an independent third party intermediary in order to fulfil its normal banking activities over the next 30 days. For example, this condition would not be met if the bank is aware that the customer has adequate backup arrangements.

(2) These services must be provided under a legally binding agreement to institutional customers.

(3) The termination of such agreements must be subject either to a notice period of at least 30 days or significant switching costs (such as those related to transaction, information technology, early termination or legal costs) to be borne by the customer if the operational deposits are moved before 30 days.

40.28 Qualifying operational deposits generated by such an activity are ones where:

(1) The deposits are by-products of the underlying services provided by the banking organisation and not sought out in the wholesale market in the sole interest of offering interest income.

(2) The deposits are held in specifically designated accounts and priced without giving an economic incentive to the customer (not limited to paying market interest rates) to leave any excess funds on these accounts. In the case that interest rates in a jurisdiction are close to zero, such accounts should be non-interest bearing. Banks should be particularly aware that during prolonged periods of low interest rates, excess balances (as defined below) could be significant.

40.29 Any excess balances that could be withdrawn and would still leave enough funds to fulfil these clearing, custody and cash management activities do not qualify for the 25% factor. In other words, only that part of the deposit balance with the service provider that is proven to serve a customer's operational needs can qualify as stable. Excess balances must be treated in the appropriate category for non-operational deposits. If banks are unable to determine the amount of the excess balance, then the entire deposit must be assumed to be excess to requirements and, therefore, considered non-operational.

40.30 Banks must determine the methodology for identifying excess deposits that are excluded from this treatment. This assessment should be conducted at a sufficiently granular level to adequately assess the risk of withdrawal in an idiosyncratic stress. The methodology should take into account relevant factors such as the likelihood that wholesale customers have above average balances in advance of specific payment needs, and consider appropriate indicators (eg ratios of account balances to payment or settlement volumes or to assets under custody) to identify those customers that are not actively managing account balances efficiently.

40.31 Operational deposits must receive a 0% inflow assumption for the depositing bank given that these deposits are required for operational reasons, and are therefore not available to the depositing bank to repay other outflows.

40.32 Notwithstanding these operational categories, if the deposit under consideration arises out of correspondent banking or from the provision of prime brokerage services, it must be treated as if there were no operational activity for the purpose of determining run-off factors.[10]

Footnotes

[10] *Correspondent banking refers to arrangements under which one bank (correspondent) holds deposits owned by other banks (respondents) and provides payment and other services in order to settle foreign currency transactions (eg so-called nostro and vostro accounts used to settle transactions in a currency other than the domestic currency of the respondent bank for the provision of clearing and settlement of payments). Prime brokerage is a package of services offered to large active investors, particularly institutional hedge funds. These services usually include: clearing, settlement and custody; consolidated reporting; financing (margin, repo or synthetic); securities lending; capital introduction; and risk analytics.*

40.33 The following paragraphs describe the types of activities that may generate operational deposits. A bank should assess whether the presence of such an activity does indeed generate an operational deposit as not all such activities qualify due to differences in customer dependency, activity and practices. A clearing relationship, in this context, refers to a service arrangement that enables customers to transfer funds (or securities) indirectly through direct participants in domestic settlement systems to final recipients. Such services are limited to the following activities:

(1) transmission, reconciliation and confirmation of payment orders;

(2) daylight overdraft, overnight financing and maintenance of post-settlement balances; and

(3) determination of intraday and final settlement positions.

40.34 A custody relationship, in this context, refers to the provision of safekeeping, reporting, processing of assets or the facilitation of the operational and administrative elements of related activities on behalf of customers in the process of their transacting and retaining financial assets. Such services are limited to the settlement of securities transactions, the transfer of contractual payments, the processing of collateral, and the provision of custody related cash management services. Also included are the receipt of dividends and other income, client subscriptions and redemptions. Custodial services can furthermore extend to asset and corporate trust servicing, treasury, escrow, funds transfer, stock transfer and agency services, including payment and settlement services (excluding correspondent banking), and depository receipts.

40.35 A cash management relationship, in this context, refers to the provision of cash management and related services to customers. Cash management services, in this context, refers to those products and services provided to a customer to

manage its cash flows, assets and liabilities, and conduct financial transactions necessary to the customer's ongoing operations. Such services are limited to payment remittance, collection and aggregation of funds, payroll administration, and control over the disbursement of funds.

40.36 The portion of the operational deposits generated by clearing, custody and cash management activities that is fully covered by deposit insurance may receive the same treatment as "stable" retail deposits.

Treatment of deposits in institutional networks of cooperative banks: 25% or 100%

40.37 An institutional network of cooperative (or otherwise named) banks is a group of legally autonomous banks with a statutory framework of cooperation with common strategic focus and brand where specific functions are performed by central institutions or specialised service providers. So long as both the bank that has received the monies and the bank that has deposited participate in the same institutional network's mutual protection scheme against illiquidity and insolvency of its members, a 25% run-off rate may be given to the amount of deposits of member institutions with the central institution or specialised central service providers that are placed:

(1) due to statutory minimum deposit requirements, which are registered at regulators; or

(2) in the context of common task sharing and legal, statutory or contractual arrangements.

40.38 As with other operational deposits, these deposits must receive a 0% inflow assumption for the depositing bank, as these funds are considered to remain with the centralised institution.

40.39 Supervisory approval should be given to ensure that banks utilising this treatment actually are the central institution or a central service provider of such a cooperative (or otherwise named) network. Correspondent banking activities must not be included in this treatment and must receive a 100% outflow treatment, as must funds placed at the central institutions or specialised service providers for any other reason other than those outlined in LCR40.37, or for operational functions of clearing, custody, or cash management as outlined in LCR40.33 to LCR40.35.

Unsecured wholesale funding provided by non-financial corporates and sovereigns, central banks, multilateral development banks and public sector entities: 20% or 40%

40.40 This category comprises all deposits and other extensions of unsecured funding from non-financial corporate customers (that are not categorised as small business customers) and (both domestic and foreign) sovereign, central bank, multilateral development bank, and public sector entity (PSE) customers that are not specifically held for operational purposes (as defined above). The run-off factor for these funds must be 40%, unless the criteria in LCR40.41 are met.

40.41 Unsecured wholesale funding provided by non-financial corporate customers, sovereigns, central banks, multilateral development banks and PSEs without operational relationships may receive a 20% run-off factor if the entire amount of the deposit is fully covered by an effective deposit insurance scheme or by a public guarantee that provides equivalent protection.

Unsecured wholesale funding provided by other legal entity customers: 100%

40.42 This category consists of all deposits and other funding from other institutions (including banks, securities firms, insurance companies, etc), fiduciaries,[11] beneficiaries,[12] conduits and special purpose vehicles, affiliated entities of the bank[13] and other entities that are not specifically held for operational purposes (as defined above) and not included in the prior three categories. The run-off factor for these funds must be 100%.

Footnotes

[11] *Fiduciary is defined in this context as a legal entity that is authorised to manage assets on behalf of a third party. Fiduciaries include asset management entities such as pension funds and other collective investment vehicles.*

[12] *Beneficiary is defined in this context as a legal entity that receives, or may become eligible to receive, benefits under a will, insurance policy, retirement plan, annuity, trust, or other contract.*

[13] *Outflows on unsecured wholesale funding from affiliated entities of the bank are included in this category unless the funding is part of an operational relationship, a deposit in an institutional network of cooperative banks or the affiliated entity is a non-financial corporate.*

FAQ

FAQ1 *There may be various cash inflows and outflows between a central counterparty (CCP) and its member banks. Can a bank net off such cash flows with respect to trades cleared with a CCP when calculating the LCR?*

There is no specific treatment of cash flows between CCPs and its member banks, ie netting is restricted to cases where it is permitted in the LCR framework (eg derivative cash flows that are subject to the same master netting agreement in LCR40.49).

40.43 All notes, bonds and other debt securities issued by the bank must be included in this category regardless of the holder, unless the bond is sold exclusively in the retail market and held in retail accounts (including small business customer accounts treated as retail per LCR40.22 to LCR40.24), in which case the instruments may be treated in the appropriate retail or small business customer deposit category. To be treated in this manner, it is not sufficient that the debt instruments are specifically designed and marketed to retail or small business customers. Rather there should be limitations placed such that those instruments cannot be bought and held by parties other than retail or small business customers.

40.44 Customer cash balances arising from the provision of prime brokerage services, including but not limited to the cash arising from prime brokerage services as identified in LCR40.32, must be considered separate from any required segregated balances related to client protection regimes imposed by national regulations, and must not be netted against other customer exposures included in this standard. These offsetting balances held in segregated accounts are treated as inflows in LCR40.87 and must be excluded from the stock of HQLA.

Secured funding run-off

40.45 For the purposes of this standard, "secured funding" is defined as those liabilities and general obligations that are collateralised by legal rights to specifically designated assets owned by the borrowing institution in the case of bankruptcy, insolvency, liquidation or resolution. Unless the counterparty is a central bank, secured funding does not include transactions collateralised by assets that are not tradable in financial markets such as property, plant and equipment.

40.46 Loss of secured funding on short-term financing transactions: In this scenario, the ability to continue to transact repurchase, reverse repurchase and other securities financing transactions is limited to transactions backed by HQLA or with the bank's domestic sovereign, PSE or central bank.[14] Collateral swaps must be treated as repurchase or reverse repurchase agreements, as must any other transaction with a similar form. Additionally, collateral lent to the bank's customers to effect short positions[15] must be treated as a form of secured funding. For the scenario, a bank must apply the following factors to all outstanding secured funding transactions with maturities within the 30-calendar-day stress horizon, including customer short positions that do not have a specified contractual maturity. The amount of outflow must be calculated based on the amount of funds raised through the transaction, and not the value of the underlying collateral.

Footnotes

[14] *In this context, PSEs that receive this treatment should be limited to those that are 20% risk weighted or better, and "domestic" can be defined as a jurisdiction where a bank is legally incorporated.*

[15] *A customer short position in this context describes a transaction where a bank's customer sells a security it does not own, and the bank subsequently obtains the same security from internal or external sources to make delivery into the sale. Internal sources include the bank's own inventory of collateral as well as rehypothecatable collateral held in other customer margin accounts. External sources include collateral obtained through a securities borrowing, reverse repo, or like transaction.*

FAQ

FAQ1 *Are client shorts covered by external securities borrowings subject to LCR40.79 (under "secured lending, including reverse repos and external securities borrowings") or LCR40.46 ("secured funding run-off")? Firm shorts covered by external securities borrowings are clearly covered by LCR40.79, and it seems more logical that client shorts covered by external securities borrowings should be as well. However, LCR40.46 makes references to customer shorts and the treatment is different.*

The treatments of customer shorts versus firm shorts are separate and distinct and for this reason are addressed in two separate paragraphs. Customer shorts are considered equivalent to other secured financing transactions, as the proceeds from the customer's short sale may be re-used by the facilitating bank to finance the purchase or borrowing of the shorted security. Contrary to firm short positions, customer short positions are initiated and maintained at the discretion of the customer, and therefore the availability of this financing may be uncertain during a period of stress. These characteristics explain why customer shorts are treated in accordance with the run-off assumption in LCR40.48.

40.47 Due to the high quality of Level 1 assets, no reduction in funding availability against these assets is assumed to occur. Moreover, no reduction in funding availability is expected for any maturing secured funding transactions with the bank's domestic central bank. A reduction in funding availability must be assigned to maturing transactions backed by Level 2 assets equivalent to the required haircuts. A 25% factor may be applied for maturing secured funding transactions with the bank's domestic sovereign, multilateral development banks, or domestic PSEs that have a 20% or lower risk weight, when the transactions are backed by assets other than Level 1 or Level 2A assets, in recognition that these entities are unlikely to withdraw secured funding from banks in a time of market-wide stress. This treatment, however, may be applied only to outstanding secured funding transactions. Unused collateral or merely the capacity to borrow, as determined at the end of the day for the reporting date, must not be given any credit in this treatment.

FAQ

FAQ1 *At what time is the "unused" assessment performed? Is it at the end of day in the respective jurisdiction?*

The assessment is at the end of the day of the reporting date in the respective jurisdiction.

FAQ2 *Should "domestic" also refer to a jurisdiction where a bank's branch or consolidated subsidiary is operating? (Note: it is not uncommon for a bank's overseas branch to conduct repo transactions with the central bank of the host jurisdiction, which is not the place of "incorporation" of the bank but the place in which the bank's overseas branch operates.)*

The application of the reduced outflow assumptions for secured funding transactions with "domestic" public counterparties should be principally limited to counterparties from the jurisdiction where a bank is legally incorporated. It may be expanded to other public counterparties where the reduced outflow rates in LCR40.48 can be expected to reflect the behaviour of the other public counterparties. For example, in terms of central banks, this may be assumed when the overseas branch has equal access to central bank funding as domestic banks and where it seems reasonable that this equal treatment will remain in the context of central bank measures in times of severe idiosyncratic or market-wide stress.

40.48 For all other maturing transactions the run-off factor is 100%, including transactions where a bank has satisfied customers' short positions with its own long inventory. All secured transactions maturing within 30 days should be reported according to the collateral actually pledged as of close of business on the LCR measurement date. If the bank pledges a pool of assets and cannot determine which specific assets in the collateral pool are used to collateralise the transactions with a residual maturity greater than 30 days, it may assume that assets are encumbered to these transactions in order of increasing liquidity value, consistent with the methodology set out in LCR30.16, in such a way that assets with the lowest liquidity value in the LCR are assigned to the transactions with the longest residual maturities first. The table below summarises the outflow applicable to transactions maturing within 30 days.

Categories for outstanding maturing secured funding transactions	Amount to add to cash outflows
Backed by Level 1 assets or with central banks	0%
Backed by Level 2A assets	15%
Secured funding transactions with domestic sovereign, PSEs or multilateral development banks that are not backed by Level 1 or 2A assets. PSEs that receive this treatment are limited to those that have a risk weight of 20% or lower.	25%
Backed by residential mortgage-backed securities (RMBS) eligible for inclusion in Level 2B	25%
Backed by other Level 2B assets	50%
All others	100%

Cash outflows – Additional requirements

40.49 Derivatives cash outflows: The sum of all net derivative cash outflows must receive a 100% factor. Banks must calculate, in accordance with their existing valuation methodologies, expected contractual derivative cash inflows and outflows. Cash flows may be calculated on a net basis (ie inflows can offset outflows) by counterparty only where a valid master netting agreement exists. Banks should exclude from such calculations those liquidity requirements that would result from increased collateral needs due to market value movements or declines in value of collateral posted.[16] Options that can be exercised within the next 30 days, including options that expire in greater than 30 days (eg an American-style option), must be assumed to be exercised when they are "in the money" to the option buyer. For transactions involving a delivery obligation that can be fulfilled with a variety of asset classes, delivery of the least valuable asset possible ("cheapest to deliver") must be assumed. This should apply symmetrically to both the inflow and outflow perspective, such that the obligor is assumed to deliver the security with the lowest liquidity value. Cash flows arising from foreign exchange derivative transactions that involve a full exchange of principal amounts on a simultaneous basis (or within the same day) may be reflected as a net cash flow figure, even where those transactions are not covered by a master netting agreement.

Footnotes

[16] *These risks are captured in LCR40.52 and LCR40.56, respectively.*

FAQ

FAQ1 *Would it be correct to assume that expected contractual derivatives cash inflows from "in the money" options for which the bank is the option holder can be included without contravening the high-level principle in LCR40.75 that contingent inflows are not to be recognised?*

Yes, LCR40.49 states that "options should be assumed to be exercised when they are in the money to the option buyer", eg cash inflows from contractual derivatives that are "in the money" may count towards derivatives cash inflows in the LCR. This is an exception to both LCR40.75, which excludes contingent inflows, and LCR40.85, which excludes inflows with no specific date from the LCR.

FAQ2 *Could you confirm that options with delivery settlement during the relevant period could be considered as cash flows to the extent of the liquidity value of the delivered assets? Or whether all options are assumed to be cash-settled?*

Options with delivery settlement shall be considered according to the liquidity value of the delivered assets, ie the assets are subject to the haircuts that would be applied if these assets were collateral in secured transactions or collateral swaps. If contractual arrangements allow for both physical delivery and cash settlement, cash settlement may be assumed.

40.50 Where derivative payments are collateralised by HQLA, cash outflows should be calculated net of any corresponding cash or collateral inflows that would result, all other things being equal, from contractual obligations for cash or collateral to be provided to the bank, if the bank is legally entitled and operationally capable to re-use the collateral in new cash raising transactions once the collateral is received. This is in line with the principle that banks should not double count liquidity inflows and outflows.

40.51 Increased liquidity needs related to downgrade triggers embedded in financing transactions, derivatives and other contracts: 100% of the amount of collateral that would be posted for, or contractual cash outflows associated with, any downgrade up to and including a 3-notch downgrade. Often, contracts governing derivatives and other transactions have clauses that require the posting of additional collateral, drawdown of contingent facilities, or early repayment of existing liabilities upon the bank's downgrade by a recognised credit rating organisation. The scenario therefore requires that for each contract in which "downgrade triggers" exist, the bank assumes that 100% of this additional collateral or cash outflow must be posted for any downgrade up to and including a 3-notch downgrade of the bank's long-term credit rating. Triggers linked to a bank's short-term rating should be assumed to be triggered at the corresponding long-term rating in accordance with published ratings criteria. The impact of the downgrade must consider impacts on all types of margin collateral and contractual triggers which change rehypothecation rights for non-segregated collateral.

FAQ

FAQ1 *Do LCR40.51 to LCR40.55 apply in the same way to all derivative instruments, whether over-the-counter or on-exchange, whether cleared or not? In particular, can confirmation be given that margin posted for clearance through a central counterparty (CCP) and held for the benefit of the bank in accordance with the rules of such CCP should be recognised under the logic of these paragraphs, although the point is not addressed explicitly?*

Unless expressly specified otherwise, the provisions apply generally. Any Level 1 assets in segregated accounts held in a bank's name by the CCP will be treated in accordance with LCR40.52.

FAQ2 *LCR40.52 requires that if a bank has posted a non-Level 1 asset as collateral to secure its mark-to-market exposure under derivatives contracts or other transactions, the bank must hold additional stock of HQLA to cater for a potential reduction in the value of the collateral to the extent of 20% of the collateral value. Similar references to "other transactions" are also made in LCR40.51 and LCR40.56. Banks have queries on the scope of "other transactions". Is it the policy intent that LCR40.51, LCR40.52 and LCR40.56 are generally applicable to derivatives transactions only?*

LCR40.51, LCR40.52 and LCR40.56 are only applicable to derivatives and other transactions not specifically captured in the LCR framework. Thus, they are not applicable to secured funding transactions

addressed in LCR40.45 to LCR40.48 and secured lending transactions addressed in LCR40.78 to LCR40.79.

40.52 Increased liquidity needs related to the potential for valuation changes on posted collateral securing derivative and other transactions: 20% of the value of non-Level 1 posted collateral. Observation of market practices indicates that most counterparties to derivatives transactions typically are required to secure the mark-to-market valuation of their positions and that this is predominantly done using cash or sovereign, central bank, multilateral development banks, or PSE debt securities with a 0% risk weight under the standardised approach to credit risk (CRE20). When these Level 1 liquid asset securities are posted as collateral, the framework will not require that an additional stock of HQLA be maintained for potential valuation changes. If however, counterparties are securing mark-to-market exposures with other forms of collateral, to cover the potential loss of market value on those securities, 20% of the value of all such posted collateral, net of collateral received on a counterparty basis (provided that the collateral received is not subject to restrictions on reuse or rehypothecation) must be added to the stock of required HQLA by the bank posting such collateral. This 20% must be calculated based on the notional amount required to be posted as collateral after any other haircuts have been applied that may be applicable to the collateral category. Any collateral that is in a segregated margin account may only be used to offset outflows that are associated with payments that are eligible to be offset from that same account. No other form of netting (eg netting of offsetting collateral flows across counterparties) is permissible when calculating this outflow amount.

FAQ

FAQ1 *Do the bank's normal procedures apply to determine the notional amount pursuant to the penultimate sentence of LCR40.52?*

The notional amount to be collateralised in LCR40.52 is based on contractual terms (eg collateral agreements) that regularly include the methodology of calculating the amount to be covered ("notional amount").

FAQ2 *Do LCR40.51 to LCR40.55 apply in the same way to all derivative instruments, whether over-the-counter or on-exchange, whether cleared or not? In particular, can confirmation be given that margin posted for clearance through a central counterparty (CCP) and held for the benefit of the bank in accordance with the rules of such CCP should be recognised under the logic of these paragraphs, although the point is not addressed explicitly?*

Unless expressly specified otherwise, the provisions apply generally. Any Level 1 assets in segregated accounts held in a bank's name by the CCP will be treated in accordance with LCR40.52.

FAQ3 *LCR40.52 requires that an additional stock of HQLA be maintained for outflows where the bank is posting non-Level 1 collateral securing its derivatives. Can this be interpreted as applying on a net basis to the extent the bank uses non-Level 1 collateral received from one counterparty to secure derivative liability to another counterparty, if any decrease in the value of this collateral would affect both collateral posting to and by the bank?*

No. Netting of collateral inflows and outflows across counterparties is not provided for in LCR40.52 as the impacts of valuation changes (even of identical collateral) may be asymmetric across different counterparties.

FAQ4 *Assuming that a bank is a net poster of non-Level 1 collateral, can the net outflows under LCR40.52 be calculated taking into account any additional eligible non-Level 1 collateral that is unencumbered as of the date of the LCR or that would become unencumbered as a result of the stresses?*

No. The LCR framework provides no basis for separate sub-pools of (non-Level 1) HQLA dedicated to specific liquidity needs or for considering contingent inflows of collateral.

FAQ5 *Can it be assumed that a bank will post collateral in the most efficient manner practicable? For example, if a bank is currently a net poster of non-Level 1 collateral (with higher haircuts), it seems appropriate to assume that the bank would use its cash or lower-haircut Level 1 securities first, and not use that cash to purchase additional non-Level 1 collateral that would have a higher haircut.*

As with any other outflow captured in the LCR, the outflows addressed in LCR40.52 add to the bank's net cash outflow that must be met by Level 1 and/or Level 2 assets according to LCR30. No further assumptions have to be made in terms of what the bank actually "will post".

FAQ6 *LCR40.52 of the LCR text requires that if a bank has posted a non-Level 1 asset as collateral to secure its mark-to-market exposure under derivatives contracts or other transactions, the bank must hold additional stock of HQLA to cater for a potential reduction in the value of the collateral to the extent of 20% of the collateral value. Similar*

references to "other transactions" are also made in LCR40.51 and LCR40.55. Banks have queries on the scope of "other transactions". Is it the policy intent that LCR40.51, LCR40.52 and LCR40.55 are generally applicable to derivatives transactions only?

LCR40.51, LCR40.52 and LCR40.55 are only applicable to derivatives and other transactions not specifically captured in the LCR framework. Thus, they are not applicable to secured funding transactions addressed in LCR40.45 to LCR40.48 and secured lending transactions addressed in LCR40.78 to LCR40.79.

40.53 Increased liquidity needs related to excess non-segregated collateral held by the bank that could contractually be called at any time by the counterparty: 100% of the non-segregated collateral (ie where the collateral is unencumbered and included in the stock of HQLA or where a recall of collateral by the counterparty would need to use additional funding) that could contractually be recalled by the counterparty because the collateral is in excess of the counterparty's current collateral requirements.

FAQ

FAQ1 *Do LCR40.51 to LCR40.55 apply in the same way to all derivative instruments, whether over-the-counter or on-exchange, whether cleared or not? In particular, can confirmation be given that margin posted for clearance through a central counterparty (CCP) and held for the benefit of the bank in accordance with the rules of such CCP should be recognised under the logic of these paragraphs, although the point is not addressed explicitly?*

Unless expressly specified otherwise, the provisions apply generally. Any Level 1 assets in segregated accounts held in a bank's name by the CCP will be treated in accordance with LCR40.52.

40.54 Increased liquidity needs related to contractually required collateral on transactions for which the counterparty has not yet demanded the collateral be posted: 100% of the collateral that is contractually due but where the counterparty has not yet demanded the posting of such collateral.

FAQ

FAQ1 *Do LCR40.51 to LCR40.55 apply in the same way to all derivative instruments, whether over-the-counter or on-exchange, whether cleared or not? In particular, can confirmation be given that margin posted for clearance through a central counterparty (CCP) and held for the benefit of the bank in accordance with the rules of such CCP should be recognised under the logic of these paragraphs, although the point is not addressed explicitly?*

Unless expressly specified otherwise, the provisions apply generally. Any Level 1 assets in segregated accounts held in a bank's name by the CCP will be treated in accordance with LCR40.52.

40.55 Increased liquidity needs related to contracts that allow collateral substitution without the bank's consent to non-HQLA assets: 100% of the amount of non-segregated HQLA collateral that can be substituted with non-HQLA. For substitution of HQLA with other HQLA of a lower liquidity value, the outflow should be measured based on the difference between the LCR haircuts of the collateral currently held and the potential substitute collateral. If the substituted collateral can be of different liquidity value in the LCR, the outflow must be measured based on the potential substitute collateral with the lowest liquidity value. HQLA collateral held that remains unencumbered, but is excluded from the bank's stock of HQLA due to the operational requirements may be excluded from this outflow amount.

FAQ

FAQ1 *Which cash flow assumptions are applied for secured transactions where assets are received on the basis of a collateral pool that is subject to potential collateral substitution? And, does the concept of collateral substitution also apply to inflows for secured borrowing transactions, ie can a bank take an inflow where it has the contractual right to receive HQLA if it was able to pledge available non-HQLA collateral to a secured lender?*

The risks associated with collateral substitution on secured lending transactions with a residual maturity greater than 30 days should be considered as a contingent outflow in accordance with LCR40.55 of the LCR framework. The contractual right to substitute HQLA collateral for lower -quality or non-HQLA collateral would be a contingent inflow. As such, it is not considered in the LCR in line with LCR40.75.

FAQ2 *Do LCR40.51 to LCR40.55 apply in the same way to all derivative instruments, whether over-the-counter or on-exchange, whether*

cleared or not? In particular, can confirmation be given that margin posted for clearance through a central counterparty (CCP) and held for the benefit of the bank in accordance with the rules of such CCP should be recognised under the logic of these paragraphs, although the point is not addressed explicitly?

Unless expressly specified otherwise, the provisions apply generally. Any Level 1 assets in segregated accounts held in a bank's name by the CCP will be treated in accordance with LCR40.52.

FAQ3 *Does the outflow factor of 100% refer to the amount of HQLA collateral before or after the application of potential valuation haircuts (eg in the case of Level 2A collateral)?*

LCR40.55 does not require an outflow for potential collateral substitution that is greater than the liquidity value of the received HQLA collateral in the LCR. The 100% outflow factor refers to the market value of the received collateral that is subject to potential substitution after applying the respective haircut in the LCR.

40.56 Increased liquidity needs related to market valuation changes on derivative or other transactions: As market practice requires collateralisation of mark-to-market exposures on derivative and other transactions, banks face potentially substantial liquidity risk exposures to these valuation changes. Inflows and outflows of transactions executed under the same master netting agreement may be treated on a net basis. Any outflow generated by increased needs related to market valuation changes must be included in the LCR calculated by identifying the largest absolute net 30-day collateral flow realised during the preceding 24 months. The absolute net collateral flow must be based on both realised outflows and inflows. Supervisors may adjust the treatment flexibly according to circumstances.

FAQ

FAQ1 *What does "the largest absolute net 30-day collateral flow" refer to?*

The largest absolute net 30-day collateral flow is the largest aggregated cumulative net collateral outflow or inflow at the end of all 30-day periods during the preceding 24 months. For this purpose, banks have to consider all 30-day periods during the preceding 24 months. Netting should be considered on a portfolio-level basis. Bank management should understand how collateral moves on a counterparty basis and is encouraged to review the potential outflow at that level. However, the primary mechanism for the "look-back approach" is collateral flows at the portfolio level.

FAQ2 *Should settlement payments (or receipts) made in the context of derivatives structured as "settled-to-market" (STM) be captured in LCR40.56?*

Yes, if the settlements are made in relation to market valuation changes. The economic cash flows exchanged between parties to STM and non-STM derivatives are identical and therefore the "collateral flows" mentioned in LCR40.56 include payments and receipts which are deemed to settle outstanding exposures from derivatives structured as STM as well.

40.57 Loss of funding on asset-backed securities,[17] covered bonds and other structured financing instruments: 100% outflow of funding transactions maturing within the 30-day period, when these instruments are issued by the bank itself (as this assumes that the re-financing market will not exist). This outflow may be offset against HQLA that would become unencumbered and available upon the maturity of the instrument. Any surplus of the liquidity value of HQLA that would become unencumbered over redemption value for the maturing securities may be recognised as an inflow under LCR40.93. Any inflows representing Level 2 HQLA must reflect the market value reduced by, at a minimum, the respective LCR haircut.

Footnotes

17 *To the extent that sponsored conduits/special purpose entities are required to be consolidated under liquidity requirements, their assets and liabilities will be taken into account. Supervisors should be aware of other possible sources of liquidity risk beyond that arising from debt maturing within 30 days.*

40.58 Loss of funding on asset-backed commercial paper, conduits, securities investment vehicles and other such financing facilities: 100% of maturing amount and 100% of returnable assets. Banks having structured financing facilities that include the issuance of short-term debt instruments, such as asset-backed commercial paper, must fully consider the potential liquidity risk arising from these structures. These risks include, but are not limited to, the inability to refinance maturing debt, and the existence of derivatives or derivative-like components contractually written into the documentation associated with the structure that would allow the "return" of assets in a financing arrangement, or that require the original asset transferor to provide liquidity, effectively ending the financing arrangement ("liquidity puts") within the 30-day period. Where the structured financing activities of a bank are conducted through a special purpose entity[18] (or SPE, such as a special purpose vehicle, conduit or structured investment vehicle), the bank must, in determining the HQLA requirements, look through to the maturity of the debt instruments issued by the entity and any embedded options in financing arrangements that may potentially trigger the "return" of assets or the need for liquidity, irrespective of whether or not the special purpose vehicle is consolidated.

Potential risk element	HQLA required
Debt maturing within the calculation period	100% of maturing amount
Embedded options in financing arrangements that allow for the return of assets or potential liquidity support	100% of the amount of assets that could potentially be returned, or the liquidity required

Footnotes

[18] *An SPE is defined in CRE40.21 as a corporation, trust, or other entity organised for a specific purpose, the activities of which are limited to those appropriate to accomplish the purpose of the SPE, and the structure of which is intended to isolate the SPE from the credit risk of an originator or seller of exposures. SPEs, normally a trust or similar entity, are commonly used as financing vehicles in which exposures are sold to the SPE in exchange for cash or other assets funded by debt issued by the trust.*

40.59 Drawdowns on committed credit and liquidity facilities: For the purpose of the standard, credit and liquidity facilities are defined as explicit contractual agreements or obligations to extend funds at a future date to retail or wholesale counterparties. These facilities only include contractually irrevocable (committed) or conditionally revocable agreements to extend funds in the future.

Unconditionally revocable facilities that are unconditionally cancellable by the bank (in particular, those without a precondition of a material change in the credit condition of the borrower) are excluded from this section and included in LCR40.67. These off-balance sheet facilities or funding commitments can have long- or short-term maturities, with short-term facilities frequently renewing or automatically rolling over. In a stressed environment, it will likely be difficult for customers drawing on facilities of any maturity, even short-term maturities, to be able to quickly pay back the borrowings. Therefore, all facilities that are assumed to be drawn (as outlined in the paragraphs below) must be assumed to remain outstanding without repayment, regardless of maturity.

40.60 The currently undrawn portion of these facilities may be calculated net of any HQLA eligible for the stock of HQLA, if the HQLA have already been posted as collateral by the counterparty to secure the facilities or that are contractually obliged to be posted when the counterparty will draw down the facility (eg a liquidity facility structured as a repo facility), if the bank is legally entitled and operationally capable to re-use the collateral in new cash raising transactions once the facility is drawn, and there is no undue correlation between the probability of drawing the facility and the market value of the collateral. The collateral may be netted against the outstanding amount of the facility to the extent that this collateral is not already counted in the stock of HQLA, in line with the principle in LCR40.4 that items must not be double-counted.

40.61 A liquidity facility is defined as any committed, undrawn backup facility that would be utilised to refinance the debt obligations of a customer in situations where such a customer is unable to rollover that debt in financial markets (eg pursuant to a commercial paper programme, secured financing transactions, obligations to redeem units). The amount of the commitment that must be treated as a liquidity facility is the amount of the currently outstanding debt issued by the customer (or proportionate share, if a syndicated facility) maturing within a 30-day period that is backstopped by the facility. The portion of a liquidity facility that is backing debt that does not mature within the 30-day window may be excluded from the scope of the definition of a facility. Any additional capacity of the facility (ie the remaining commitment) must be treated as a committed credit facility with its associated drawdown rate as specified in LCR40.64. General working capital facilities for corporate entities (eg revolving credit facilities in place for general corporate or working capital purposes) must not be classified as liquidity facilities, but as credit facilities.

FAQ

FAQ1 *Although LCR40.61 explicitly refers to "rollover" of debt, do these liquidity facilities also capture newly issued positions?*

Yes. A liquidity facility according to LCR40.61 is any type of commitment that backs up market funding needs of the customer.

40.62 Notwithstanding the above, any facilities provided to hedge funds, money market funds and special purpose funding vehicles, for example SPEs (as defined in LCR40.58) or conduits, or other vehicles used to finance the banks' own assets, must be captured in their entirety as a liquidity facility to other legal entities.

FAQ

FAQ1 *To what extent should this provision be applied to commercial conduits for clients?*

Facilities to SPEs and conduits are subject to the 100% drawdown rate of LCR40.64(7). The LCR framework does not provide any other category for these entities independent of their business purpose.

40.63 For that portion of financing programmes that are captured in LCR40.57, LCR40.58 and LCR40.64 (ie are maturing or have liquidity puts that may be exercised in the 30-day horizon), banks that are providers of associated liquidity facilities must not double count the maturing financing instrument and the liquidity facility for consolidated programmes.

40.64 Any contractual loan drawdowns from committed facilities[19] and estimated drawdowns from revocable facilities within the 30-day period must be fully reflected as outflows.

(1) Committed credit and liquidity facilities to retail and small business customers: banks must assume a 5% drawdown of the undrawn portion of these facilities.

(2) Committed credit facilities to non-financial corporates, sovereigns and central banks, PSEs and multilateral development banks: banks must assume a 10% drawdown of the undrawn portion of these credit facilities.

(3) Committed liquidity facilities to non-financial corporates, sovereigns and central banks, PSEs and multilateral development banks: banks must assume a 30% drawdown of the undrawn portion of these liquidity facilities.

(4) Committed credit and liquidity facilities extended to banks subject to prudential supervision: banks must assume a 40% drawdown of the undrawn portion of these facilities.

(5) Committed credit facilities to other financial institutions, including securities firms, insurance companies, fiduciaries, and beneficiaries: banks must assume a 40% drawdown of the undrawn portion of these credit facilities.

(6) Committed liquidity facilities to other financial institutions, including securities firms, insurance companies' fiduciaries and beneficiaries: banks must assume a 100% drawdown of the undrawn portion of these liquidity facilities.

(7) Committed credit and liquidity facilities to other legal entities (including SPEs as defined in LCR40.58, conduits and special purpose vehicles,[20] and other entities not included in the prior categories): Banks must assume a 100% drawdown of the undrawn portion of these facilities.

Footnotes

[19] *Committed facilities refer to those which are irrevocable.*

[20] *The potential liquidity risks associated with the bank's own structured financing facilities must be treated according to LCR40.57 and LCR40.58 (100% of maturing amount and 100% of returnable assets are included as outflows).*

40.65 Contractual obligations to extend funds within a 30-day period: Any contractual lending obligations to financial institutions, including central banks, not captured elsewhere in this standard must be captured here at a 100% outflow rate.

40.66 If the total of all contractual obligations to extend funds to retail and non-financial wholesale (eg including small or medium-sized entities and other corporates, sovereigns, multilateral development banks and PSEs) clients within the next 30 calendar days (not captured in the prior categories) exceeds 50% of the total contractual inflows due in the next 30 calendar days from these clients, the difference must be reported as a 100% outflow.

40.67 Other contingent funding obligations: (run-off rates at national discretion). National supervisors may work with supervised institutions in their jurisdictions to determine the liquidity risk impact of these contingent liabilities and the resulting stock of HQLA that should accordingly be maintained. Supervisors should disclose the run-off rates they assign to each category publicly.

40.68 These contingent funding obligations may be either contractual or non-contractual and are not lending commitments. Non-contractual contingent funding obligations include associations with, or sponsorship of, products sold or services provided that may require the support or extension of funds in the future under stressed conditions. Non-contractual obligations may be embedded in financial products and instruments sold, sponsored, or originated by the institution that can give rise to unplanned balance sheet growth arising from support given for reputational risk considerations. These include products and instruments for which the customer or holder has specific expectations regarding the liquidity and marketability of the product or instrument and for which failure to satisfy customer expectations in a commercially reasonable manner would likely cause material reputational damage to the institution or otherwise impair ongoing viability.

40.69 Some of these contingent funding obligations are explicitly contingent upon a credit or other event that is not always related to the liquidity events simulated in the stress scenario, but may nevertheless have the potential to cause significant liquidity drains in times of stress. For this standard, each supervisor and bank should consider which of these "other contingent funding obligations" may materialise under the assumed stress events. The potential liquidity exposures to these contingent funding obligations should be treated as a nationally determined behavioural assumption where it is up to the supervisor to determine whether and to what extent these contingent outflows are to be included in the LCR. All identified contractual and non-contractual contingent liabilities and their assumptions should be reported, along with their related triggers. Supervisors and banks should, at a minimum, use historical behaviour in determining appropriate outflows.

FAQ

FAQ1 *How does the LCR in the Basel Framework treat autocallable notes or those funding instruments that mature as soon as a pre-defined market-based trigger is reached or if a trigger is breached at a pre-defined date?*

Autocallable notes or those funding instruments with market-based maturity triggers issued by the bank should be treated as other contingent funding obligations according to LCR40.69 in connection with LCR40.67. Accordingly, competent authorities and banks should consider which trigger events may occur under the stress assumptions set out in LCR20.2 on the basis of prudent and appropriate analysis.

40.70 Non-contractual contingent funding obligations related to potential liquidity draws from joint ventures or minority investments in entities, which are not consolidated per LCR10.1, should be captured where there is the expectation that the bank will be the main liquidity provider when the entity is in need of liquidity. The amount included should be calculated in accordance with the methodology agreed by the bank's supervisor.

40.71 In the case of contingent funding obligations stemming from trade finance instruments, national authorities may apply a relatively low run-off rate (eg 5% or less). Trade finance instruments consist of trade-related obligations directly underpinned by the movement of goods or the provision of services, such as:

(1) documentary trade letters of credit, documentary and clean collection, import bills, and export bills; and

(2) guarantees directly related to trade finance obligations, such as shipping guarantees.

40.72 Lending commitments, such as direct import or export financing for non-financial corporate firms, must be excluded from the treatment in LCR40.71 and banks will apply the draw-down rates specified in LCR40.64.

40.73 National authorities must determine the run-off rates for the other contingent funding obligations listed below in accordance with LCR40.67. Other contingent funding obligations include products and instruments such as:

(1) unconditionally revocable "uncommitted" credit and liquidity facilities;

(2) guarantees and letters of credit unrelated to trade finance obligations (as described in LCR40.71);

(3) non-contractual obligations such as:

(a) potential requests for debt repurchases of the bank's own debt or that of related conduits, securities investment vehicles and other such financing facilities;

(b) structured products where customers anticipate ready marketability, such as adjustable rate notes and variable-rate demand notes; and

(c) managed funds that are marketed with the objective of maintaining a stable value such as money market mutual funds or other types of stable value collective investment funds etc;

(4) for issuers with an affiliated dealer or market-maker, there may be a need to include an amount of the outstanding debt securities (unsecured and secured, term as well as short-term) having maturities greater than 30 calendar days, to cover the potential repurchase of such outstanding securities; and

(5) non-contractual obligations where customer short positions are covered by other customers' collateral: a minimum 50% run-off factor of the contingent obligations must be applied where banks have internally matched client assets against other clients' short positions where the collateral does not qualify as Level 1 or Level 2, and the bank may be obligated to find additional sources of funding for these positions in the event of client withdrawals.

FAQ

FAQ1 *What is the appropriate treatment of using the collateral obtained through a margin loan to cover a customer short position? The margin loan will be a 50% inflow, but will the customer short be reflected by the minimum 50% outflow in LCR40.73 and/or the outflow due to LCR40.46 and LCR40.48? Regarding LCR40.73, how should it be determined whether or not to take a 50% outflow or a greater percentage?*

LCR40.73 should be applied to quantify the outflow arising from lending out a non-HQLA asset to affect a customer's short position if this asset is received as collateral to secure another customer's margin loan. Thus, the 50% inflow from borrowing the assets to secure a margin loan is symmetrical to the 50% outflow for lending these assets to cover another customer's short position, subject to national discretion.

40.74 Other contractual cash outflows: 100%. Any other contractual cash outflows within the next 30 calendar days must be captured in this standard, such as outflows to cover unsecured collateral borrowings, uncovered short positions, dividends or contractual interest payments. Outflows related to operating costs, however, are not included in this standard.

FAQ

FAQ1 *What is the treatment of inflows and outflows of cash and collateral during the next 30 days arising from forward transactions (eg forward repos)?*

The following transactions do not have any impact on a bank's LCR and can be ignored:

- *forward repos, forward reverse repos and forward collateral swaps that start and mature within the LCR's 30-day horizon;*

- *forward repos, forward reverse repos and forward collateral swaps that start prior to and mature after the LCR's 30-day horizon; and*

- *all forward sales and forward purchases of HQLA.*

For forward repos, forward reverse repos and forward collateral swaps that start within the 30-day horizon and mature beyond the LCR's 30-day horizon, the treatments are as follows.

- *Cash outflows from forward reverse repos (with a binding obligation to accept) count towards "other cash outflows" according to LCR40.74 and should be netted against the market value of the collateral received after deducting the haircut applied to the respective assets in the LCR (15% to Level 2A, 25% to RMBS Level 2B assets, and 50% to other Level 2B assets).*

- *Cash inflows from forward repos are "other contractual inflows" according to LCR40.93 and should be netted against the market value of the collateral extended after deducting the haircut applied to the respective assets in the LCR.*

- *In case of forward collateral swaps, the net amount between the market values of the assets extended and received after deducting the haircuts applied to the respective assets in the LCR counts towards "other contractual outflows" or "other contractual inflows" depending on which amount is higher.*

Forward repos, forward reverse repos and forward collateral swaps that start previous to and mature within the LCR's 30-day horizon are treated like repos, reverse repos and collateral swaps according to LCR40.46 to LCR40.48 and LCR40.78 to LCR40.81 respectively.

Note that HQLA collateral held by a bank on the first day of the LCR horizon may count towards the stock of HQLA even if it is sold or repoed forward.

Unsettled sales and purchases of HQLA can be ignored in the LCR. The cash flows arising from sales and purchases of non-HQLA that are executed but not yet settled at reporting date count towards "other cash inflows" and "other cash outflows".

Note that any outflows or inflows of HQLA in the next 30 days in the context of forward and unsettled transactions are only considered if the assets do or will count toward the bank's stock of HQLA. Outflows and inflows of HQLA-type assets that are or will be excluded from the bank's stock of HQLA due to operational requirements are treated like outflows or inflows of non-HQLA.

FAQ2 *Other contractual outflow is determined as 100% as per LCR40.74 of the LCR framework, while other contractual inflows are subject to national discretion as per LCR40.93. Some industry members are concerned about the potential asymmetrical treatment between the two items with respect to unsettled sales and purchases as addressed in LCR40.74 FAQ1. Does this requirement apply broadly to all unsettled trades, ie does it also apply to "open" and "failed" trades, or does it only apply to forwards? Banks which apply settlement date accounting for open trades would not have any "open trades" on their balance sheet and therefore this requirement might create an unlevel playing field for different accounting frameworks.*

Unsettled transactions are addressed in the second to last paragraph of the response to LCR40.74 FAQ1. It refers to any sales or purchases that are executed but not yet settled at reporting date and follows the approach set out for forward transactions. It captures both "open" and "failed" trades if settlement is expected within 30 days irrespective of the balance sheet treatment. In doing so, the response to LCR40.74 FAQ1 allows for a symmetrical treatment by applying "other cash outflows" to executed but not yet settled purchases of non-HQLA and, subject to national discretion, "other cash inflows" to executed but not yet settled sales, while unsettled sales/purchases of HQLA can be ignored.

FAQ3 *What is the treatment of Level 1 and Level 2 assets that are lent /borrowed without any further offsetting transaction (ie no repo /reverse repo or collateral swap) if the assets will be returned or can be recalled during the next 30 days? Are these assets eligible HQLA on the side of the lender or borrower?*

These assets do not count towards the stock of HQLA for either the lender or the borrower. On the side of the borrower, these assets do not

enter the LCR calculation. On the lender's side, these assets count towards the "other contractual inflows" amounting to their market value – in the case of Level 2 assets after haircut.

FAQ4 *Does LCR40.74 FAQ3 apply to assets borrowed/lent on an unsecured basis only and not to secured transactions? Is it correct to interpret that the Basel Committee means "reused" when it uses the wording "further offsetting transaction"?*

LCR40.74 FAQ3 refers to assets borrowed/lent on an unsecured basis only. The wording "without any further offsetting transaction" means the absence of a corresponding transfer of cash or securities that would secure the securities borrowing/lending, such as in a repo, reverse repo or collateral swap. If the borrower has reused the securities, there would be an "other contractual cash outflow" to cover unsecured collateral borrowings according to LCR40.74.

The starting point and focus of LCR40.74 FAQ3 (as well as the response to it) is the HQLA eligibility of the assets on the part of either the borrower or the lender. In this context, it is assumed that the borrower has not reused the assets as this would have made the question of HQLA eligibility obsolete anyway. The reuse of the collateral by the borrower, however, introduces an outflow because the borrower may have to source these securities if the borrowing arrangement is not extended.

Cash inflows

40.75 When considering its available cash inflows, the bank must only include contractual inflows (including interest payments) from outstanding exposures that are fully performing and for which the bank has no reason to expect a default within the 30-day time horizon. Contingent inflows, including facilities obtained from a central bank or other party, must not be included in total net cash inflows.

FAQ

FAQ1 *Which cash flow assumptions are applied for secured transactions where assets are received on the basis of a collateral pool that is subject to potential collateral substitution? And, does the concept of collateral substitution also apply to inflows for secured borrowing transactions, ie can a bank take an inflow where it has the contractual right to receive HQLA if it was able to pledge available non-HQLA collateral to a secured lender?*

The risks associated with collateral substitution on secured lending transactions with a residual maturity greater than 30 days should be considered as a contingent outflow in accordance with LCR40.55. The contractual right to substitute HQLA collateral for lower-quality or non-HQLA collateral would be a contingent inflow. As such, it is not considered in the LCR in line with LCR40.75.

40.76 Banks and supervisors should monitor the concentration of expected inflows across wholesale counterparties in the context of banks' liquidity management in order to ensure that their liquidity position is not overly dependent on the arrival of expected inflows from one or a limited number of wholesale counterparties.

40.77 In order to prevent banks from relying solely on anticipated inflows to meet their liquidity requirement, and also to ensure a minimum level of HQLA holdings, the amount of inflows that can offset outflows must be capped at 75% of total expected cash outflows as calculated in the standard. This requires that a bank must maintain a minimum amount of stock of HQLA equal to 25% of the total cash outflows.

Cash inflows – secured lending, including reverse repos and securities borrowing

40.78 A bank must assume that maturing reverse repurchase or securities borrowing agreements secured by Level 1 assets will be rolled-over and will not give rise to any cash inflows (0%). Maturing reverse repurchase or securities lending agreements secured by Level 2 HQLA must lead to cash inflows equivalent to the relevant haircut for the specific assets. A bank is assumed not to roll over maturing reverse repurchase or securities borrowing agreements secured by non-HQLA assets, and may assume to receive back 100% of the cash related to those agreements. Collateralised loans extended to customers for the purpose of taking leveraged trading positions ("margin loans") must also be considered as a form of secured lending; however, for this scenario banks must not recognise more than 50% of contractual inflows from maturing margin loans made against non-HQLA collateral. This treatment is in line with the assumptions outlined for secured funding in LCR40.45 to LCR40.48 and LCR40.73(5).

FAQ

FAQ1 *Many margin loans are "overnight" and can be terminated at any time by either side. Others, however, have "term" provisions whereby the bank agrees to make funding available for a given period, but the client is not obliged to draw down on that funding, and where the client has drawn down on the funding, they can repay it at any time. May banks apply LCR40.78 to such margin loans with a contractual maturity beyond 30 days?*

No, LCR40.78 and the table in LCR40.79 are specific to secured loans with a contractual maturity up to and including 30 days. No inflow can be assumed for funds extended under such "term" provisions that give the client the possibility to repay after more than 30 days.

40.79 As an exception to LCR40.78, if the collateral obtained through reverse repo, securities borrowing, or collateral swaps, which matures within the 30-day horizon, is re-used (ie rehypothecated) and is used to cover short positions that could be extended beyond 30 days, a bank must assume that such reverse repo or securities borrowing arrangements will be rolled-over and not give rise to any cash inflows, reflecting its need to continue to cover the short position or to re-purchase the relevant securities. In these cases, the short position should be treated symmetrically and not give rise to any outflows. Short positions include both instances where in its "matched book" the bank sold short a security outright as part of a trading or hedging strategy and instances where the bank is short a security in the "matched" repo book (ie it has borrowed a security for a given period and lent the security out for a longer period). Short positions must be evaluated at the end of the calculation date; the ability to substitute collateral in the transaction creating the short position must not be considered in determining the inflow rate of the secured lending transaction.

Maturing secured lending transactions backed by the following asset category	Inflow rate (if collateral is not used to cover short positions)	Inflow rate (if collateral is used to cover short positions)
Level 1 assets	0%	0%
Level 2A assets	15%	0%
Level 2B assets: eligible RMBS	25%	0%
Level 2B assets: all other	50%	0%
Margin lending backed by all other collateral	50%	0%
Other collateral	100%	0%

FAQ

FAQ1 *Are client shorts covered by external securities borrowings subject to LCR40.79 (under "secured lending, including reverse repos and external securities borrowings") or LCR40.46 ("secured funding run-off")? Firm shorts covered by external securities borrowings are clearly covered by LCR40.79, and it seems more logical that client shorts covered by external securities borrowings should be as well. However, LCR40.46 makes references to customer shorts and the treatment is different?*

The treatments of customer shorts versus firm shorts are separate and distinct and for this reason are addressed in two separate paragraphs. Customer shorts are considered equivalent to other secured financing transactions, as the proceeds from the customer's short sale may be re-used by the facilitating bank to finance the purchase or borrowing of the shorted security. Contrary to firm short positions, customer short positions are initiated and maintained at the discretion of the customer, and therefore the availability of this financing may be uncertain during a period of stress. These characteristics explain why customer shorts are treated in accordance with the roll-off assumption in LCR40.48.

FAQ2 *Can you confirm that the exception rule in LCR40.79 only applies where the reverse repo has a residual maturity of ≤ 30 days and the short position can be extended > 30 days? And, should the reporting institution also apply a 0% outflow to such short positions even if the contractual or expected residual maturity of the shorts is up to 30 days, given that the secured lending transactions covering such shorts are assumed to be extended?*

No, the inflow rates in the third column of the table in LCR40.79 apply to all reverse repos, securities borrowings or collateral swaps where the collateral obtained is used to cover short positions. The reference in the first sentence of LCR40.79 to "short positions that could be extended beyond 30 days" does not restrict the applicability of the 0% inflow rate to the portion of secured lending transactions where the collateral obtained covers short positions with a contractual (or otherwise expected) residual maturity of up to 30 days. Rather, it is intended to point out that the bank must be aware that such short positions may be extended, which would require the bank to roll the secured lending transaction or to purchase the securities in order to keep the short positions covered. In either case, the secured lending transaction would not lead to a cash inflow for the bank's liquidity situation in a way that it can be considered in the LCR. For customer shorts, LCR40.79 only refers to those that could be extended beyond the 30-day horizon, so the reverse repo can be considered to have a maturity within the 30-

day LCR time horizon. For firm shorts, LCR40.80 applies a 0% cash inflow rate to the reverse repo, irrespective of the residual maturity, but does not assume any outflow associated with the closure of the firm's short position.

40.80 In the case of a bank's short positions, if the short position is being covered by an unsecured security borrowing, the bank should assume the unsecured security borrowing of collateral from financial market participants would run-off in full, leading to a 100% outflow of either cash or HQLA to secure the borrowing, or cash to close out the short position by buying back the security. This must be recorded as a 100% other contractual outflow according to LCR40.74. If, however, the bank's short position is being covered by a collateralised securities financing transaction, the bank must assume the short position will be maintained throughout the 30-day period and receive a 0% outflow.

40.81 Despite the rollover assumptions in LCR40.78 and LCR40.79, a bank should manage its collateral such that it is able to fulfil obligations to return collateral whenever the counterparty decides not to roll-over any reverse repo or securities lending transaction.[21] This is especially the case for non-HQLA collateral, since such outflows are not captured in the LCR framework. Supervisors should monitor the bank's collateral management.

Footnotes

[21] *This is in line with Principle 9 of the Sound Principles.*

FAQ

FAQ1 *Does LCR40.81 of the LCR framework mean to capture specific outflows /inflows or is it rather outlining liquidity risk principles?*

LCR40.81 does not address specific cash flows. Rather, it calls to mind that a bank should be prepared to return any received collateral as soon as it may be recalled by the provider irrespective of the treatment in the LCR.

Cash inflows – Committed facilities

40.82 No credit facilities, liquidity facilities or other contingent funding facilities that the bank holds at other institutions for its own purposes are assumed to be able to be drawn. Such facilities must receive a 0% inflow rate, meaning that this scenario does not consider inflows from committed credit or liquidity facilities. This is to reduce the contagion risk of liquidity shortages at one bank causing shortages at other banks and to reflect the risk that other banks may not be in a position to honour credit facilities, or may decide to incur the legal and reputational risk involved in not honouring the commitment, in order to conserve their own liquidity or reduce their exposure to that bank.

Cash inflows – other inflows by counterparty

40.83 For all other types of transactions, either secured or unsecured, the inflow rate must be determined by counterparty. In order to reflect the need for a bank to conduct ongoing loan origination/roll-over with different types of counterparties, even during a time of stress, a set of limits on contractual inflows by counterparty type must be applied. Regarding financial institutions, the bank may generally assume a complete return of liquidity from such institutions, provided the funds are not supporting operational activities as described in LCR40.89. These assumptions may cover both loans and other placements (eg non-operational deposits).

40.84 When considering loan payments, the bank must only include inflows from fully performing loans. Further, inflows must only be taken at the latest possible date, based on the contractual rights available to counterparties. For revolving credit facilities, a bank must assume that the existing loan is rolled over and that any remaining undrawn balances are treated in the same way as a committed facility according to LCR40.64.

40.85 Inflows from loans that have no specific maturity (ie have non-defined or open maturity) must be excluded; therefore, a bank must not make assumptions as to when maturity of such loans would occur. This treatment must also apply to loans that can be contractually terminated within 30 days, as any inflows exceeding those according the regular amortisation schedule would be "contingent" (in terms of a possible cancellation of the loan) in nature. As an exception to this approach, banks may include minimum payments of principal, fee or interest associated with an open maturity loan, provided that such payments are contractually due within 30 days. These minimum payment amounts should be captured as inflows at the rates prescribed in LCR40.86 and LCR40.87.

40.86 All payments (including interest payments and instalments) from retail and small business customers that are fully performing and contractually due within a 30-day horizon may result in inflows. However, banks must assume to continue to extend loans to retail and small business customers, at a rate of 50% of contractual inflows. This results in an inflow of 50% of the contractual amount.

FAQ

FAQ1 *What is the treatment in the LCR of unsecured loans in precious metals extended by a bank or deposits in precious metals placed by a bank? Is the treatment for retail and small business customer inflows and other wholesale inflows according to LCR40.86 to LCR40.90 applicable?*

Unsecured loans in precious metals extended by a bank or deposits in precious metals placed by a bank may be treated according to LCR40.86 to LCR40.90 if the loan or deposit uniquely settles in cash. In the case of physical delivery or any optionality to do so, no inflow should be considered.

In deviation from this treatment, jurisdictions may alternatively allow a bank to recognise a cash inflow according to LCR40.86 to LCR40.90 if:

- *contractual arrangements give the bank the choice between cash settlement physical delivery and*
    - *physical delivery is subject to a significant penalty, or*
    - *both parties expect cash settlement; and*
- *there are no factors such as market practices or reputational factors that may limit the bank's ability to settle the loan or deposit in cash (irrespective of whether physical delivery is subject to a significant penalty).*

Supervisors in such jurisdictions must publicly disclose the treatment should they opt for the alternative treatment.

40.87 All payments (including interest payments and instalments) from wholesale customers that are fully performing and contractually due within the 30-day horizon may result in inflows. Banks must assume to continue to extend loans to wholesale clients, at a rate of 0% of inflows for financial institutions and central banks, and 50% for all others, including non-financial corporates, sovereigns, multilateral development banks, and PSEs. This results in an inflow percentage of:

(1) 100% for financial institution and central bank counterparties; and

(2) 50% for non-financial wholesale counterparties.

40.88 Inflows from securities maturing within 30 days not included in the stock of HQLA may be treated in the same category as inflows from financial institutions (ie 100% inflow). Banks may also recognise in this category inflows from the release of balances held in segregated accounts in accordance with regulatory requirements for the protection of customer trading assets, provided that these segregated balances are maintained in HQLA. This inflow must be calculated in line with the treatment of other related outflows and inflows covered in this standard. Level 1 and Level 2 assets maturing within 30 days must be included in the stock of liquid assets and must not be considered as inflows, provided that they meet all operational and definitional requirements as laid out in LCR30.13 to LCR30.45. Payments arising from Level 1 and Level 2 assets which settle within 30 days that do not meet the operational requirements may be considered as inflows.

FAQ

FAQ1 *Can inflows from maturing securities in a collateral pool for covered bonds be considered as inflows?*

Yes, inflows are not subject to operational requirements. Hence, these inflows are not per se excluded from the LCR even if the maturing securities are (or have been) excluded from the stock of HQLA due to being "encumbered" according to LCR30.16. However, if the matured securities need to be substituted in the collateral pool within the 30-day horizon, an "other outflow" per LCR40.74 should be considered amounting to the liquidity value of these securities in the LCR.

40.89 Deposits held at other financial institutions for operational purposes, as outlined in LCR40.26 to LCR40.36, such as for clearing, custody, and cash management purposes, must be assumed to stay at those institutions – ie they must receive a 0% inflow rate, as noted in LCR40.31. The same methodology applied in LCR40.26 to LCR40.36 for operational deposit outflows should also be applied to determine if deposits held at another financial institution are operational deposits and receive a 0% inflow. As a general principle if the bank receiving the deposit classifies the deposit as operational, the bank placing it should also classify it as an operational deposit. Notwithstanding the exclusion of deposit liabilities raised from correspondent banking activities from the treatment of operational deposits, as described in LCR40.32, deposits placed for the purpose of correspondent banking are held for operational purposes and, as such, must receive a 0% inflow rate. However, a 100% inflow rate may be applied to the

amount for which the bank is able to determine that the funds are "excess balances" in the sense of LCR40.29 to LCR40.30, ie they are not tied to operational purposes and may be withdrawn within 30 days.

40.90 The same treatment applies for deposits held at the centralised institution in a cooperative banking network, that are assumed to stay at the centralised institution, as outlined in LCR40.37 to LCR40.39; in other words, the depositing bank must not count any inflow for these funds – ie they must receive a 0% inflow rate.

Cash inflows – other cash inflows

40.91 The sum of all net derivative cash inflows must receive a 100% inflow factor. The amounts of derivatives cash inflows and outflows must be calculated in accordance with the methodology described in LCR40.49.

40.92 Where derivatives are collateralised by HQLA, cash inflows must be calculated net of any corresponding cash or contractual collateral outflows that would result, all other things being equal, from contractual obligations for cash or collateral to be posted by the bank, given these contractual obligations would reduce the stock of HQLA. This is in accordance with the principle that banks must not double-count liquidity inflows or outflows.

40.93 Other contractual cash inflows may be included at national discretion. Inflow percentages may be determined as appropriate for each type of inflow by supervisors in each jurisdiction. Cash inflows related to non-financial revenues are not taken into account in the calculation of the net cash outflows for the purposes of this standard.

FAQ

FAQ1 *What is the treatment of inflows and outflows of cash and collateral during the next 30 days arising from forward transactions (eg forward repos)?*

The following transactions do not have any impact on a bank's LCR and can be ignored:

- *forward repos, forward reverse repos and forward collateral swaps that start and mature within the LCR's 30-day horizon;*

- *forward repos, forward reverse repos and forward collateral swaps that start prior to and mature after the LCR's 30-day horizon; and*

- *all forward sales and forward purchase of HQLA.*

For forward repos, forward reverse repos and forward collateral swaps that start within the 30-day horizon and mature beyond the LCR's 30-day horizon, the treatments are as follows.

- *Cash outflows from forward reverse repos (with a binding obligation to accept) count towards "other cash outflows" according to LCR40.74 and should be netted against the market value of the collateral received after deducting the haircut applied to the respective assets in the LCR (15% to Level 2A, 25% to RMBS Level 2B assets, and 50% to other Level 2B assets).*

- *Cash inflows from forward repos are "other contractual inflows" according to LCR40.93 and should be netted against the market value of the collateral extended after deducting the haircut applied to the respective assets in the LCR.*

- *In case of forward collateral swaps, the net amount between the market values of the assets extended and received after deducting the haircuts applied to the respective assets in the LCR counts towards "other contractual outflows" or "other contractual inflows" depending on which amount is higher.*

Forward repos, forward reverse repos and forward collateral swaps that start previous to and mature within the LCR's 30-day horizon are treated like repos, reverse repos and collateral swaps according to LCR40.46 to LCR40.48 and LCR40.78 to LCR40.81 respectively.

Note that HQLA collateral held by a bank on the first day of the LCR horizon may count towards the stock of HQLA even if it is sold or repoed forward.

Unsettled sales and purchases of HQLA can be ignored in the LCR. The cash flows arising from sales and purchases of non-HQLA that are executed but not yet settled at reporting date count towards "other cash inflows" and "other cash outflows".

Note that any outflows or inflows of HQLA in the next 30 days in the context of forward and unsettled transactions are only considered if the assets do or will count toward the bank's stock of HQLA. Outflows and inflows of HQLA-type assets that are or will be excluded from the bank's stock of HQLA due to operational requirements are treated like outflows or inflows of non-HQLA.

FAQ2 *Other contractual outflow is determined as 100% as per LCR40.74 of the LCR framework, while other contractual inflows are subject to national discretion as per LCR40.93. Some industry members are concerned about the potential asymmetrical treatment between the two items with respect to unsettled sales and purchases as addressed in LCR40.93 FAQ1. Does this requirement apply broadly to all unsettled trades, ie does it also apply to "open" and "failed" trades, or does it only apply to forwards? Banks which apply settlement date accounting for open trades would not have any "open trades" on their balance sheet and therefore this requirement might create an unlevel playing field for different accounting frameworks.*

Unsettled transactions are addressed in the second to last paragraph of the response to LCR40.93 FAQ1. It refers to any sales or purchases that are executed but not yet settled at reporting date and follows the approach set out for forward transactions. It captures both "open" and "failed" trades if settlement is expected within 30 days irrespective of the balance sheet treatment. In doing so, the response to LCR40.93 FAQ1 allows for a symmetrical treatment by applying "other cash outflows" to executed but not yet settled purchases of non-HQLA and, subject to national discretion, "other cash inflows" to executed but not yet settled sales, while unsettled sales/purchases of HQLA can be ignored.

FAQ3 *What is the treatment of Level 1 and Level 2 assets that are lent /borrowed without any further offsetting transaction (ie no repo /reverse repo or collateral swap) if the assets will be returned or can be recalled during the next 30 days? Are these assets eligible HQLA on the side of the lender or borrower?*

These assets do not count towards the stock of HQLA for either the lender or the borrower. On the side of the borrower, these assets do not

enter the LCR calculation. On the lender's side, these assets count towards the "other contractual inflows" amounting to their market value – in the case of Level 2 assets after haircut.

FAQ4 *Does LCR40.93 FAQ3 apply to assets borrowed/lent on an unsecured basis only and not to secured transactions? Is it correct to interpret that the Basel Committee means "reused" when it uses the wording "further offsetting transaction"?*

LCR40.93 FAQ3 refers to assets borrowed/lent on an unsecured basis only. The wording "without any further offsetting transaction" means the absence of a corresponding transfer of cash or securities that would secure the securities borrowing/lending, such as in a repo, reverse repo or collateral swap. If the borrower has reused the securities, there would be an "other contractual cash outflow" to cover unsecured collateral borrowings according to LCR40.74.

The starting point and focus of LCR40.93 FAQ3 (as well as the response to it) is the HQLA eligibility of the assets on the part of either the borrower or the lender. In this context, it is assumed that the borrower has not reused the assets as this would have made the question of HQLA eligibility obsolete anyway. The reuse of the collateral by the borrower, however, introduces an outflow because the borrower may have to source these securities if the borrowing arrangement is not extended.

LCR90

Transition

This chapter transition requirements for countries receiving financial support for macroeconomic and structural reforms.

Version effective as of 15 Dec 2019

First version in format of consolidated framework.

90.1 The minimum Liquidity Coverage Ratio requirement of 100% is effective from 1 January 2019.

90.2 However, individual countries that are receiving financial support for macroeconomic and structural reform purposes may choose a different implementation schedule for their national banking systems, consistent with the design of their broader economic restructuring programme.

LCR99

Application guidance

This chapter summarises the components of high-quality liquid assets and the run-off factors applied to cash outflows and additional requirements under the Liquidity Coverage Ratio.

Version effective as of 15 Dec 2019

First version in format of consolidated framework.

99.1 The table below summarises the Liquidity Coverage Ratio (LCR; percentages are factors to be multiplied by the total amount of each item).

	Item	Factor
	Stock of high-quality liquid assets (HQLA)	
1.	**Level 1 assets**	
	- Coins and bank notes - Qualifying marketable securities from sovereigns, central banks, public sector entities (PSEs) and multilateral development banks - Qualifying central bank reserves - Domestic sovereign or central bank debt for non-0% risk-weighted sovereigns	100%
2.	**Level 2 assets (maximum 40% of HQLA)**	
	Level 2A assets: - Sovereign, central bank, multilateral development banks and PSE assets qualifying for 20% risk weighting - Qualifying corporate debt securities rated AA- or higher - Qualifying covered bonds rated AA- or higher	85%
	Level 2B assets (maximum of 15% of HQLA)	
	- Qualifying residential mortgage-backed securities (RMBS)	75%
	- Qualifying corporate debt securities rated between A+ and BBB- - Qualifying common equity shares - Sovereign, central bank and PSE debt securities rated BBB- or higher that do not qualify as a Level 1 or Level 2A asset.	50%
	Total value of stock of HQLA	
	Cash outflows	
1.	**Retail deposits**	
	Demand deposits and term deposits (less than 30 days maturity):	
	- Stable deposits (deposit insurance scheme meets additional criteria)	3%

- Stable deposits	5%
- Less stable retail deposits	10%
Term deposits with residual maturity greater than 30 days	0%

2. **Unsecured wholesale funding**

Demand deposits and term deposits (less than 30 days maturity) provided by small business customers:	
- Stable deposits	5%
- Less stable deposits	10%
Operational deposits generated by clearing, custody and cash management activities	25%
- Portion covered by deposit insurance	5%
Cooperative banks in an institutional network (qualifying deposits with the centralised institution)	25%
Non-financial corporates, sovereigns, central banks, multilateral development banks and PSEs	40%
- If the entire amount fully covered by deposit insurance scheme	20%
Other legal entity customers	100%

3. **Secured funding**

- Secured funding transactions with a central bank counterparty or backed by Level 1 assets with any counterparty	0%
- Secured funding transactions backed by Level 2A assets, with any counterparty	15%
- Secured funding transactions backed by non-Level 1 or non-Level 2A assets, with domestic sovereigns, multilateral development banks, or domestic PSEs as a counterparty - Backed by RMBS eligible for inclusion in Level 2B	25%
- Backed by other Level 2B assets	50%
- All other secured funding transactions	100%

4. **Additional requirements**

Liquidity needs (eg collateral calls) related to financing transactions, derivatives and other contracts	3 notch downgrade
Market valuation changes on derivatives transactions (largest absolute net 30-day collateral flows realised during the preceding 24 months)	Look-back approach
Valuation changes on non-Level 1 posted collateral securing derivatives	20%
Excess collateral held by a bank related to derivative transactions that could contractually be called at any time by its counterparty	100%
Liquidity needs related to collateral contractually due from the reporting bank on derivatives transactions	100%
Increased liquidity needs related to derivative transactions that allow collateral substitution to non-HQLA assets	100%
Asset-backed commercial paper (ABCP), structured investment vehicles (SIVs), conduits, special purpose entities (SPEs) etc: - Liabilities from maturing ABCP, SIVs, SPEs etc (applied to maturing amounts and returnable assets) - Asset-backed securities (including covered bonds) applied to maturing amounts	100%
Currently undrawn committed credit and liquidity facilities provided to:	
- Retail and small business clients	5%
- Non-financial corporates, sovereigns and central banks, multilateral development banks and PSEs	10% for credit 30% for liquidity
- Banks subject to prudential supervision	40%
- Other financial institutions (include securities firms, insurance companies)	40% for credit 100% for liquidity
- Other legal entity customers, credit and liquidity facilities	100%
	National discretion

Other contingent funding liabilities (such as guarantees, letters of credit, revocable credit and liquidity facilities etc)	
- Trade finance	0-5%
- Customer short positions covered by other customers' collateral	50%
Any additional contractual outflows	100%
Net derivative cash outflows	100%
Any other contractual cash outflows	100%
Total cash outflows	
Cash inflows	
Maturing secured lending transactions backed by the following collateral:	
Level 1 assets	0%
Level 2A assets	15%
Level 2B assets	
- Eligible RMBS	25%
- Other assets	50%
Margin lending backed by all other collateral	50%
All other assets	100%
Credit or liquidity facilities provided to the reporting bank	0%
Operational deposits held at other financial institutions (include deposits held at centralised institution of network of co-operative banks)	0%
Other inflows by counterparty:	
- Amounts to be received from retail counterparties	50%
- Amounts to be received from non-financial wholesale counterparties, from transactions other than those listed in above inflow categories	50%

- Amounts to be received from financial institutions and central banks, from transactions other than those listed in above inflow categories.	100%
Net derivative cash inflows	100%
Other contractual cash inflows	National discretion
Total cash inflows	
Total net cash outflows = Total cash outflows minus min [total cash inflows, 75% of gross outflows]	
LCR = Stock of HQLA / Total net cash outflows	

NSF

Net stable funding ratio

The net stable funding ratio requires banks to maintain a stable funding profile in relation to the composition of their assets and off-balance-sheet activities.

NSF10

Definitions and applications

This chapter describes the scope of application for the NSFR calculation and defines the main terms.

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First version in the format of the consolidated framework.

Definitions

10.1 The net stable funding ratio (NSFR) consists primarily of internationally agreed-upon definitions and calibrations. Some elements, however, remain subject to national discretion to reflect jurisdiction-specific conditions. In these cases, national discretion should be explicit and clearly outlined in the regulations of each jurisdiction.

10.2 Unless otherwise specified, the NSFR definitions mirror those in the liquidity coverage ratio (LCR) standard, set out in LCR, and the liquidity monitoring metrics, set out in SRP50. All references to LCR definitions in the NSFR refer to the definitions in the LCR standard published by the Basel Committee. Supervisors who have chosen to implement a more stringent definition in their domestic LCR rules than those set out in the Basel Committee LCR standard have discretion over whether to apply this stricter definition for the purposes of implementing the NSFR requirements in their jurisdiction.

10.3 In particular, and consistent with LCR40.42 and NSF10.1, banks, securities firms, insurance companies, fiduciaries (defined in this context as a legal entity that is authorised to manage assets on behalf of a third party, including asset management entities such as pension funds and other collective investment vehicles), and beneficiaries (defined in this context as a legal entity that receives, or may become eligible to receive, benefits under a will, insurance policy, retirement plan, annuity, trust, or other contract) are considered as financial institutions for the application of the NSFR standard.

Scope of application

10.4 The application of the NSFR requirement in this standard follows the scope of application set out in SCO10. The NSFR must be applied to all internationally active banks on a consolidated basis, but may be used for other banks and on any subset of entities of internationally active banks as well to ensure greater consistency and a level playing field between domestic and cross-border banks.

10.5 Regardless of the scope of application of the NSFR, in line with Principle 6 as outlined in the Principles for Sound Liquidity Risk Management and Supervision, a bank should actively monitor and control liquidity risk exposures and funding needs at the level of individual legal entities, foreign branches and subsidiaries, and the group as a whole, taking into account legal, regulatory and operational limitations to the transferability of liquidity.

Exclusions from the NSFR calculation

10.6 A limited national discretion allows derivative transactions with central banks arising from the latter's short-term monetary policy and liquidity operations to be excluded from the reporting bank's NSFR computation and to offset unrealised capital gains and losses related to these derivative transactions from available stable funding. These transactions include foreign exchange derivatives such as foreign exchange swaps, and must have a maturity of six months or less at inception. As such, the bank's NSFR would not change due to entering a short-term derivative transaction with its central bank for the purpose of short-term monetary policy and liquidity operations.

NSF20

Calculation and reporting

This chapter contains the minimum NSFR requirement and associated regulatory reporting.

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First version in format of consolidated framework.

20.1 The net stable funding ratio (NSFR) requires banks to maintain a stable funding profile in relation to the composition of their assets and off-balance sheet activities. A sustainable funding structure is intended to reduce the likelihood that disruptions to a bank's regular sources of funding will erode its liquidity position in a way that would increase the risk of its failure and potentially lead to broader systemic stress. The NSFR limits overreliance on short-term wholesale funding, encourages better assessment of funding risk across all on- and off-balance sheet items, and promotes funding stability.

20.2 The NSFR is defined as the amount of available stable funding relative to the amount of required stable funding. This ratio should be equal to at least 100% on an ongoing basis. "Available stable funding" is defined as the portion of capital and liabilities expected to be reliable over the one-year time horizon considered by the NSFR. The amount of stable funding required ("required stable funding") of an institution is a function of the liquidity characteristics and residual maturities of the various assets held by that institution as well as those of its off-balance sheet exposures.

$$\frac{Available\ amount\ of\ stable\ funding}{Required\ amount\ of\ stable\ funding} \geq 100\%$$

20.3 The NSFR must be reported at least quarterly. The time lag in reporting should not surpass the allowable time lag under the Basel capital standards.

NSF30

Available and required stable funding

This chapter describes how to calculate the amount of available stable funding provided by a bank's liabilities and equity and how to calculate the amount of required stable funding for a bank's assets and off-balance-sheet activities.

Version effective as of 15 Dec 2019

FAQ published on 30 March 2023 added.

Introduction

30.1 The amounts of available stable funding (ASF) and required stable funding (RSF) specified in the standard are calibrated to reflect the presumed degree of stability of liabilities and liquidity of assets.

30.2 The calibration reflects the stability of liabilities across two dimensions:

(1) Funding tenor: the net stable funding ratio (NSFR) is generally calibrated such that longer-term liabilities are assumed to be more stable than short-term liabilities.

(2) Funding type and counterparty: the NSFR is calibrated under the assumption that short-term (maturing in less than one year) deposits provided by retail customers and funding provided by small business customers are behaviourally more stable than wholesale funding of the same maturity from other counterparties.

30.3 In determining the appropriate amounts of required stable funding for various assets, the following criteria were taken into consideration, recognising the potential trade-offs between these criteria:

(1) Resilient credit creation: the NSFR requires stable funding for some proportion of lending to the real economy in order to ensure the continuity of this type of intermediation.

(2) Bank behaviour: the NSFR is calibrated under the assumption that banks may seek to roll over a significant proportion of maturing loans to preserve customer relationships.

(3) Asset tenor: the NSFR assumes that some short-dated assets (maturing in less than one year) require a smaller proportion of stable funding because banks would be able to allow some proportion of those assets to mature instead of rolling them over.

(4) Asset quality and liquidity value: the NSFR assumes that unencumbered, high-quality assets that can be securitised or traded, and thus can be readily used as collateral to secure additional funding or sold in the market, do not need to be wholly financed with stable funding.

30.4 Additional stable funding sources are also required to support at least a small portion of the potential calls on liquidity arising from off-balance sheet commitments and contingent funding obligations.

Definition of available stable funding

30.5 The amount of ASF is measured based on the broad characteristics of the relative stability of an institution's funding sources, including the contractual maturity of its liabilities and the differences in the propensity of different types of funding providers to withdraw their funding.

30.6 The amount of ASF must be calculated by first assigning the carrying value of an institution's capital and liabilities to one of five categories as presented below. The amount assigned to each category is then multiplied by an ASF factor, and the total ASF is the sum of the weighted amounts. Carrying value represents the amount at which a liability or equity instrument is recorded before the application of any regulatory deductions, filters or other adjustments. As noted in NSF10.2, definitions mirror those outlined in the LCR standard, unless otherwise specified.

30.7 When determining the maturity of an equity or liability instrument, the bank must assume investors redeem call options at the earliest possible date. For funding with options exercisable at the bank's discretion, supervisors should take into account reputational factors that may limit a bank's ability not to exercise the option.[1] In particular, where the market expects certain liabilities to be redeemed before their legal final maturity date, banks and supervisors should assume such behaviour for the purpose of the NSFR and include these liabilities in the corresponding ASF category. Along the same lines, when calculating the NSFR, options by a bank to extend funding maturity of its obligations (eg soft-bullet structures) should generally be assumed not to be exercised when there may be reputational concerns. For long-dated liabilities, only the portion of cash flows falling at or beyond the six-month and one-year time horizons should be treated as having an effective residual maturity of six months or more and one year or more, respectively.

Footnotes

[1] *This could reflect a case where a bank may imply that it would be subject to funding risk if it did not exercise an option on its own funding.*

30.8 Derivative liabilities are calculated first based on the replacement cost for derivative contracts (obtained by marking to market) where the contract has a negative value. When an eligible bilateral netting contract is in place that meets the conditions as specified in CRE52.7, the replacement cost for the set of derivative exposures covered by the contract must be the net replacement cost.

30.9

In calculating NSFR derivative liabilities, collateral posted in the form of variation margin in connection with derivative contracts, regardless of the asset type, must be deducted from the negative replacement cost amount.[2]

Footnotes

[2] *NSFR derivative liabilities = (derivative liabilities) – (total collateral posted as variation margin on derivative liabilities). To the extent that the bank's accounting framework reflects on balance sheet, in connection with a derivative contract, an asset associated with collateral posted as variation margin that is deducted from the replacement cost amount for purposes of the NSFR, that asset should not be included in the calculation of a bank's RSF to avoid any double-counting.*

FAQ

FAQ1 *Does the deduction of variation margin from replacement cost in connection with a derivative or bilateral netting contract include the portion of variation margin that is in excess of the replacement cost amount of that derivative or bilateral netting contract? Or do national supervisors only allow a variation margin deduction up to the amount of the derivative asset or liability?*

While national discretion exists on this matter, the amount of variation margin in connection with a derivative or bilateral netting contract that is in excess of the replacement cost of that derivative or bilateral netting contract must be adequately captured. This can be done by considering the full amount of variation margin in the calculation of the bank's net derivative asset or liability, or by excluding any amount of variation margin that is posted or received in excess of the replacement cost of the corresponding derivative or bilateral netting contract and treating them according to the corresponding balance-sheet treatment (ie, typically a loan), the period of encumbrance and, where applicable, the type of counterparty. The Committee intends to monitor the impact of this national discretion.

30.10 Liabilities and capital instruments receiving a 100% ASF factor comprise:

(1) the total amount of regulatory capital, before the application of capital deductions, as defined in CAP10,[3] excluding the proportion of Tier 2 instruments with residual maturity of less than one year;

(2) the total amount of any capital instrument not included in NSF30.10(1) that has an effective residual maturity of one year or more, but excluding any instruments with explicit or embedded options that, if exercised, would reduce the expected maturity to less than one year;

(3) the total amount of secured and unsecured borrowings and liabilities (including term deposits) with effective residual maturities of one year or more. Cash flows falling below the one-year horizon but arising from liabilities with a final maturity greater than one year do not qualify for the 100% ASF factor; and

(4) retail term deposits maturing over one year that cannot be withdrawn early without significant penalty.

Footnotes

[3] *Capital instruments reported here should meet all requirements outlined in CAP10, and should only include amounts after transitional arrangements in CAP90 have expired under fully implemented Basel III standards (ie as in 2022).*

FAQ

FAQ1 *What is the treatment in the NSFR of unsecured precious metals liabilities (such as deposits in precious metals received by a bank)? Are the ASF factors for retail deposits and unsecured wholesale funding according to NSF30.10 to NSF30.14 applicable?*

Yes, on-balance sheet precious metals liabilities should receive the same ASF factors as other on-balance sheet (cash) funding. There is no difference between cash settlement and physical delivery in terms of application of ASF factors.

30.11 Liabilities receiving a 95% ASF factor comprise "stable" (as defined in LCR40.7 to LCR40.12) non-maturity (demand) deposits and/or term deposits with residual maturities of less than one year,and/or term deposits with residual maturities greater than one year that can be withdrawn early without a significant penalty, provided by retail and small business customers.[4]

Footnotes

[4] *Retail deposits are defined in LCR40.5. Small business customers are defined in LCR40.23 and LCR40.24.*

30.12 Liabilities receiving a 90% ASF factor comprise "less stable" (as defined in LCR40.13 to LCR40.15) non-maturity (demand) deposits and/or term deposits with residual maturities of less than one year, and/or term deposits with residual maturities greater than one year that can be withdrawn early without a significant penalty, provided by retail and small business customers.[5]

Footnotes

[5] *The treatment of retail and small business deposits follows the definitions provided in the LCR standard and not the run-off rates applied to them in a particular jurisdiction. Thus, retail and small business deposits that are subject to higher (than 5% and 10%) outflow assumptions than those for stable and less stable deposits in the LCR could be treated as stable and less stable, unless a given jurisdiction chooses to apply a more conservative treatment (lower ASF).*

30.13 Liabilities receiving a 50% ASF factor comprise:

(1) funding (secured and unsecured) with a residual maturity of less than one year provided by non-financial corporate customers;

(2) operational deposits (as defined in LCR40.26 to LCR40.36);

(3) funding with residual maturity of less than one year from sovereigns, public sector entities (PSEs), and multilateral and national development banks;[6] and

(4) other funding (secured and unsecured) not included in the categories above with residual maturity between six months to less than one year, including funding from central banks and financial institutions.

Footnotes

[6] *Banks should refer to guidance from their supervisors to determine if any national development banks in their jurisdictions or abroad can qualify for this treatment. These entities would likely include banks that provide financing for development projects. Contrary to multilateral development banks, whose membership and operation involve several countries, national development banks typically belong to or are controlled by the state in which they are incorporated.*

30.14 Liabilities receiving a 0% ASF factor comprise:

(1) all other liabilities and equity categories not included in the above categories, including other funding with residual maturity of less than six months from central banks and financial institutions;[7]

(2) other liabilities without a stated maturity. This category must include short positions and open maturity positions that are not otherwise captured under NSF30.10 to NSF30.13. Two exceptions may be recognised for liabilities without a stated maturity, which would then be assigned either a 100% ASF factor if the effective maturity is one year or greater, or 50%, if the effective maturity is between six months and less than one year:

   (a) first, deferred tax liabilities, which should be treated according to the nearest possible date on which such liabilities could be realised; and

   (b) second, minority interest, which should be treated according to the term of the instrument, usually in perpetuity.

(3) NSFR derivative liabilities as calculated according to NSF30.8 and NSF30.9 net of NSFR derivative assets as calculated according to NSF30.23 and NSF30.24, if NSFR derivative liabilities are greater than NSFR derivative assets;[8] and

(4) "trade date" payables arising from purchases of financial instruments, foreign currencies and commodities that

   (a) are expected to settle within the standard settlement cycle or period that is customary for the relevant exchange or type of transaction, or

   (b) have failed to, but are still expected to, settle.

Footnotes

[7] *At the discretion of national supervisors, deposits between banks within the same cooperative network maybe excluded from liabilities receiving a 0% ASF provided they are either (a) required by law in some jurisdictions to be placed at the central organisation and are legally constrained within the cooperative bank network as minimum deposit requirements, or (b) in the context of common task sharing and legal, statutory or contractual arrangements, so long as the bank that has received the monies and the bank that has deposited participate in the same institutional network's mutual protection scheme against illiquidity and insolvency of its members. Such deposits maybe assigned an ASF up to the RSF factor assigned by regulation for the same deposits to the depositing bank, not to exceed 85%.*

[8] *ASF = 0% x MAX ((NSFR derivative liabilities – NSFR derivative assets), 0).*

Definition of required stable funding for assets and off-balance sheet exposures

30.15 The amount of RSF is measured based on the broad characteristics of the liquidity risk profile of an institution's assets and off-balance-sheet exposures. The amount of RSF is calculated by first assigning the carrying value of an institution's assets to the categories listed below. The carrying value of an asset item should generally be recorded by following its accounting value, ie net of specific provisions, in line with CRE20.1 and the requirements for on-balance sheet, non-derivative assets in LEV30. The amount assigned to each category is then multiplied by its associated RSF factor, and the total RSF is the sum of the weighted amounts added to the amount of off-balance-sheet activity (or potential liquidity exposure) multiplied by its associated RSF factor. As noted in NSF10.2, definitions mirror those outlined in the LCR standard, unless otherwise specified.[9] Regardless of whether a bank uses the internal ratings-based (IRB) approach, the standardised approach risk weights in CRE20 must be used to determine the NSFR treatment.

Footnotes

[9] *For the purposes of calculating the NSFR, high-quality liquid assets (HQLA) are defined as all HQLA without regard to Liquidity Coverage Ratio (LCR) operational requirements and LCR caps on Level 2 and Level 2B assets that may otherwise limit the ability of some HQLA to be included as eligible HQLA in calculation of the LCR. HQLA are defined in LCR30. Operational requirements are specified in LCR30.13 to LCR30.28.*

30.16 Unless explicitly stated otherwise in the NSFR standard, assets must be allocated to maturity buckets according to their contractual residual maturity. However, this should take into account embedded optionality, such as put or call options, which may affect the actual maturity date as described in NSF30.7 and NSF30.17. The RSF factors assigned to various types of assets are intended to approximate the amount of a particular asset that would have to be funded, either because it will be rolled over, or because it could not be monetised through sale or used as collateral in a secured borrowing transaction over the course of one year without significant expense. Under the standard, such amounts must be supported by stable funding.

30.17 Assets must be allocated to the appropriate RSF factor based on their residual maturity or liquidity value. When determining the maturity of an instrument, the bank must assume investors exercise any option to extend maturity. For assets with options to extend exercisable at the bank's discretion, supervisors should take into account reputational factors that may limit a bank's ability not to exercise the option.[10] In particular, where the market expects certain assets to be extended in their maturity, banks and supervisors should assume such behaviour for the purpose of the NSFR and include these assets in the corresponding RSF category. For amortising loans (or other principal repayment claims), the portion that comes due within the one-year horizon may be treated in the less-than-one-year residual maturity category. Unencumbered loans without a stated final maturity, even where the borrower may repay the loan in full and without penalty charges at the next rate reset date, are deemed to have an effective residual maturity period of more than one year and must be given either a 65% or 85% RSF factor depending on their risk weights under the standardised approach for credit risk. If there is a contractual provision with a review date at which the bank may determine whether a given facility or loan is renewed or not, supervisors may authorise, on a case by case basis, banks to use the next review date as the maturity date. In doing so, supervisors must consider the incentives created and the actual likelihood that such facilities/loans will not be renewed. In particular, options by a bank not to renew a given facility should generally be assumed not to be exercised when there may be reputational concerns.

Footnotes

[10] *This could reflect a case where a bank may imply that it would be subject to funding risk if it did not exercise an option on its own assets.*

30.18 In the case of exceptional central bank liquidity absorbing operations, claims on central banks may receive a reduced RSF factor. For those operations with a residual maturity equal to or greater than six months, the RSF factor must not be lower than 5%. When applying a reduced RSF factor, supervisors need to closely monitor the ongoing impact on banks' stable funding positions arising from the reduced requirement and take appropriate measures as needed. Also, as further specified in NSF30.20, assets that are provided as collateral for exceptional central bank liquidity providing operations may receive a reduced RSF factor which must not be lower than the RSF factor applied to the equivalent asset that is unencumbered. In both cases, supervisors should discuss and agree on the appropriate RSF factor with the relevant central bank.

30.19 For purposes of determining its required stable funding, an institution must include financial instruments, foreign currencies and commodities for which a purchase order has been executed, and exclude financial instruments, foreign currencies and commodities for which a sales order has been executed, even if such transactions have not been reflected in the balance sheet under a settlement-date accounting model, provided that:

(1) such transactions are not reflected as derivatives or secured financing transactions in the institution's balance sheet, and

(2) the effects of such transactions will be reflected in the institution's balance sheet when settled.

30.20 Assets on the balance sheet that are encumbered[11] for one year or more must receive a 100% RSF factor. Assets encumbered for a period of between six months and less than one year that would, if unencumbered, receive an RSF factor lower than or equal to 50% must receive a 50% RSF factor. Assets encumbered for between six months and less than one year that would, if unencumbered, receive an RSF factor higher than 50% must retain that higher RSF factor. Where assets have less than six months remaining in the encumbrance period, those assets may receive the same RSF factor as an equivalent asset that is unencumbered. In addition, for the purposes of calculating the NSFR, assets that are encumbered for exceptional[12] central bank liquidity operations may receive a reduced RSF factor. Supervisors should discuss and agree on the appropriate RSF factor with the relevant central bank, which must not be lower than the RSF factor applied to the equivalent asset that is unencumbered.

Footnotes

[11] *Encumbered assets include but are not limited to assets backing securities or covered bonds and assets pledged in securities financing transactions or collateral swaps. "Unencumbered" is defined in LCR30.16.*

[12] *In general, exceptional central bank liquidity operations are considered to be non-standard, temporary operations conducted by the central bank in order to achieve its mandate in a period of market-wide financial stress and/or exceptional macroeconomic challenges.*

FAQ

FAQ1 *How should the encumbrance treatment be applied to secured lending (eg reverse repo) transactions where the collateral received does not appear on the bank's balance sheet, and it has been rehypothecated or sold thereby creating a short position?*

The encumbrance treatment should be applied to the on-balance sheet receivable to the extent that the transaction cannot mature without the bank returning the collateral received to the counterparty. As per LCR30.16, for a transaction to be "unencumbered", it must be "free of legal, regulatory, contractual or other restrictions on the ability of the bank to liquidate, sell, transfer or assign the asset". Since the liquidation of the cash receivable is contingent on the return of collateral that is no longer held by the bank, the receivable should be considered as encumbered. When the collateral received from a secured funding transaction has been rehypothecated, the receivable should be considered encumbered for the term of the rehypothecation of the collateral. When the collateral received from a secured funding transaction has been sold outright, thereby creating a short position, the receivable related to the original secured funding transaction should be considered encumbered for the term of the residual maturity of this receivable. Thus, the on-balance-sheet receivable should:

- *be treated according to the answer to FAQ2 under NSF30.21 if the remaining period of encumbrance is less than six months (ie it is considered as being unencumbered in the NSFR);*

- *be assigned a 50% or higher RSF factor if the remaining period of encumbrance is between six months and less than one year according to NSF30.20; and*

- *be assigned a 100% RSF factor if the remaining period of encumbrance is greater than one year according to NSF30.20.*

FAQ2 *How should the encumbrance treatment be applied to secured lending (eg reverse repo) transactions where the collateral appears on the bank' s balance sheet, and it has been rehypothecated or sold, thereby creating a short position?*

Collateral received that appears on a bank's balance sheet and has been rehypothecated (eg encumbered to a repo) should be treated as encumbered according to NSF30.20. Consequently, the collateral received should:

- *be treated as being unencumbered if the remaining period of encumbrance is less than six months according to NSF30.20, and receive the same RSF factor as an equivalent asset that is unencumbered;*

- *be assigned a 50% or higher RSF factor if the remaining period of encumbrance is between six months and less than one year according to NSF30.20; and*

- *be assigned a 100% RSF factor if the remaining period of encumbrance is greater than one year according to NSF30.20.*

If the collateral has been sold outright, thereby creating a short position, the corresponding on-balance-sheet receivable should be considered encumbered for the term of the residual maturity of this receivable, and receive an RSF factor according to the answer to NSF30.20 FAQ1 above.

FAQ3 *Would excess over-collateralisation (OC) (OC in an amount higher than the legal OC requirement) in a covered bond collateral pool constitute encumbered assets for the purpose of the NSFR? For example, should the OC requirements to maintain a particular rating imposed by rating agencies be taken into account for determining excess OC?*

The treatment of excess OC will depend on the ability of the bank to issue additional covered bonds against the collateral or pool of collateral, which may depend on the specific characteristics of the covered bond issuance programme. Where collateral is posted for the specific issuance of covered bonds and it is thus an intrinsic characteristic of a particular issuance, then the excess collateral committed for the issuance cannot be used to raise additional funding or be taken out of the collateral pool without affecting the characteristics of the issuance, and must be considered encumbered for as long as it remains in the collateral pool.

If, however, the covered bonds are issued against a collateral pool that allows for multiple issuance, subject to supervisory discretion, the excess collateral (which would actually represent excess issuance capacity) may be treated as unencumbered for the purpose of the NSFR, provided it can be withdrawn at the issuer's discretion without any contractual, regulatory, reputational or relevant operational impediment (such as a negative impact on the bank's targeted rating) and it can be used to issue more covered bonds or mobilise such collateral in any other way (eg by selling outright or securitising). A

type of operational impediment that should be taken into account includes those cases where rating agencies set an objective and measureable threshold for OC (ie explicit OC requirements to maintain a minimum rating imposed by rating agencies), and to the extent that not meeting such requirements could materially impact the bank's targeted rating of the covered bonds, thus impairing the future ability of the institution to issue new covered bonds. In such cases, supervisors may, taking national specificities and other factors into account, specify an OC level below which excess collateral is considered encumbered.

30.21 For secured funding arrangements, use of balance sheet and accounting treatments should generally result in banks excluding, from their assets, securities which they have borrowed in securities financing transactions (such as reverse repos and collateral swaps) where they do not have beneficial ownership. In contrast, banks must include securities they have lent in securities financing transactions where they retain beneficial ownership. Banks should also not include any securities they have received through collateral swaps if those securities do not appear on their balance sheets. Where banks have encumbered securities in repos or other securities financing transactions, but have retained beneficial ownership and those assets remain on the bank's balance sheet, the bank must allocate such securities to the appropriate RSF category.

FAQ

FAQ1 *What is the treatment in terms of encumbrance for collateral pledged in a repo operation with remaining maturity of one year or greater but where the collateral pledged matures in less than one year?*

In this case, for the purpose of computing the NSFR, the collateral should be considered encumbered for the term of the repo or secured transaction, even if the actual maturity of the collateral is shorter than one year. This follows because the collateral would have to be replaced once it matures. Thus, the collateral pledged under a transaction maturing beyond one year must be subject to a RSF factor of 100%, regardless of its maturity.

FAQ2 *What is the applicable RSF factor for the amount receivable by a bank under a reverse repo transaction?*

With the exception of loans (reverse repos) to financial institutions with residual maturity of less than six months secured by Level 1 assets (which receive a 10% RSF factor as per NSF30.27) or by other assets

(which receive a 15% RSF factor as per NSF30.28), the treatment for the amount receivable is the same as with any other loan, which will depend on the counterparty and term of the operation.

FAQ3 *What is the treatment for the collateral received?*

According to NSF30.21, the NSFR treatment of collateral received in a reverse repo is determined by the collateral's balance sheet and accounting treatments, which should generally result in banks excluding from their assets, securities that they have borrowed in securities financing transactions (such as reverse repos and collateral swaps) which are kept off-balance sheet. In this case, there is no NSFR treatment for the collateral. If, however, the collateral received is kept on-balance sheet, such collateral must receive an RSF factor according to its characteristics (whether it is HQLA, its term, issuer, etc).

30.22 Amounts receivable and payable under these securities financing transactions should generally be reported on a gross basis, meaning that the gross amount of such receivables and payables should be reported on the RSF side and ASF side, respectively. The only exception is that securities financing transactions with a single counterparty may be measured on a net basis when calculating the NSFR, provided that the netting conditions for securities financing transactions set out in LEV30 are met.

30.23 Derivative assets are calculated first based on the replacement cost for derivative contracts (obtained by marking to market) where the contract has a positive value. When an eligible bilateral netting contract is in place that meets the conditions as specified in CRE52.7, the replacement cost for the set of derivative exposures covered by the contract must be the net replacement cost.

30.24 In calculating NSFR derivative assets, collateral received in connection with derivative contracts must not offset the positive replacement cost amount, regardless of whether or not netting is permitted under the bank's operative accounting or risk-based framework, unless it is received in the form of cash variation margin and meets the conditions as specified in LEV30 for the cash portion of variation margin exchanged between counterparties to be viewed as a form of pre-settlement payment.[13] Any remaining balance sheet liability associated with variation margin received that does not meet the criteria above or initial margin received may not offset derivative assets and should be assigned a 0% ASF factor.

Footnotes

[13] *NSFR derivative assets = (derivative assets) – (cash collateral received as variation margin on derivative assets)*

FAQ

FAQ1 *Does the existence of minimum thresholds of transfer amounts for exchange of collateral in derivative contracts automatically preclude such contracts from being considered for the condition of NSF30.24 to allow an offsetting of collateral received (in particular regarding the daily calculation and exchange of variation margins)?*

No. NSF30.24 refers to LEV30 which states that "variation margin exchanged is the full amount that would be necessary to fully extinguish the mark-to-market exposure of the derivative subject to the threshold and minimum transfer amounts applicable to the counterparty". The requirement on frequency of calculation and exchange of margins states that "Variation margin is calculated and exchanged on a daily basis based on mark-to-market valuation of derivatives positions".

FAQ2 *What is the appropriate treatment of initial margin and variation margin if they are not separate?*

For over-the-counter transactions, any fixed independent amount a bank was contractually required to post at the inception of the derivatives transaction should be considered as initial margin, regardless of whether any of this margin was returned to the bank in the form of variation margin payments. If the initial margin is formulaically defined at a portfolio level, the amount considered as initial margin should reflect this calculated amount as of the NSFR measurement date, even if, for example, the total amount of margin physically posted to the bank's counterparty is lower because of variation margin payments received. For centrally cleared transactions, the amount of initial margin should reflect the total amount of margin posted (initial margin and variation margin) less any mark-to-market losses on the applicable portfolio of cleared transactions.

FAQ3 *If an on-balance sheet asset is associated with collateral posted as initial margin for purposes of the NSFR, should it be treated as encumbered?*

To the extent that the bank's accounting framework reflects on balance sheet, in connection with a derivative contract, an asset associated with collateral posted as initial margin for purposes of the NSFR, that asset

should not be counted as an encumbered asset in the calculation of a bank's RSF to avoid any double-counting.

FAQ4 *Does the deduction of variation margin from replacement cost in connection with a derivative or bilateral netting contract include the portion of variation margin that is in excess of the replacement cost amount of that derivative or bilateral netting contract? Or do national supervisors only allow a variation margin deduction up to the amount of the derivative asset or liability?*

While national discretion exists on this matter, the amount of variation margin in connection with a derivative or bilateral netting contract that is in excess of the replacement cost of that derivative or bilateral netting contract must be adequately captured. This can be done by considering the full amount of variation margin in the calculation of the bank's net derivative asset or liability, or by excluding any amount of variation margin that is posted or received in excess of the replacement cost of the corresponding derivative or bilateral netting contract and treating them according to the corresponding balance-sheet treatment (ie, typically a loan), the period of encumbrance and, where applicable, the type of counterparty. The Committee intends to monitor the impact of this national discretion.

30.25 Assets assigned a 0% RSF factor comprise:

(1) coins and banknotes immediately available to meet obligations;

(2) all central bank reserves (including required reserves and excess reserves);[14]

(3) all claims[15] on central banks with residual maturities of less than six months; and

(4) "trade date" receivables arising from sales of financial instruments, foreign currencies and commodities that

(a) are expected to settle within the standard settlement cycle or period that is customary for the relevant exchange or type of transaction, or

(b) have failed to, but are still expected to, settle.

Footnotes

[14] *Supervisors may discuss and agree with the relevant central bank on the RSF factor to be assigned to required reserves, based in particular on consideration of whether or not the reserve requirement must be satisfied at all times and thus the extent to which reserve requirements in that jurisdiction exist on a longer-term horizon and therefore require associated stable funding.*

[15] *The term "claims" is broader than loans. The term "claims", for example, also includes central bank bills and the asset account created on banks' balance sheets by entering into repo transactions with central banks.*

FAQ

FAQ1 *What is the treatment in the NSFR of unsecured loans in precious metals extended by a bank or deposits in precious metals placed by a bank? Is the treatment according to NSF30.25 to NSF30.32 applicable?*

Yes, on-balance sheet unsecured loans in precious metals extended by a bank or deposits in precious metals placed by a bank that are settled by cash payment should receive the same RSF factors as other (cash) deposits and loans depending on the relevant characteristics such as counterparty type, maturity and encumbrance. Where physical delivery is assumed, loans extended in precious metals and deposits placed in precious metals should be treated like physically traded commodities and are subject to 85% RSF unless the loan (or deposit) is (i) extended to (or placed with) a financial counterparty and has a residual maturity of one year or greater or (ii) encumbered for a period of one year or more or (iii) non-performing, in which cases 100% RSF should be applied. The assumed type of settlement should be determined in accordance with the approach to determine inflows applied in the LCR, and, should jurisdictions opt for the alternative treatment of classification between cash settlement and physical delivery in line with LCR40.86 FAQ1, supervisors in such jurisdictions must publicly disclose these treatments.

30.26 Assets assigned a 5% RSF factor comprise unencumbered Level 1 assets as defined in LCR30.41, excluding assets receiving a 0% RSF as specified above, and including:

(1) marketable securities representing claims on or guaranteed by sovereigns, central banks, PSEs, the Bank for International Settlements, the International Monetary Fund, the European Central Bank and the European Community, or multilateral development banks that are assigned a 0% risk weight under CRE20; and

(2) certain non-0% risk-weighted sovereign or central bank debt securities (excluding claims on central banks with maturities of less than six months, which must receive a 0% RSF) as specified in the LCR standard.

FAQ

FAQ1 *Should sovereign bonds issued in foreign currencies that are excluded from HQLA according to LCR30.41 get the treatment of HQLA in the NSFR? (This question applies to those sovereign or central bank debt securities issued in foreign currencies which are not computable given that their amount exceeds the bank's stressed net cash outflows in that currency and country.)*

Yes, the total amount of these securities can be treated as Level 1 and assigned to the corresponding bucket.

30.27 Assets assigned a 10% RSF factor comprise unencumbered loans to financial institutions with residual maturities of less than six months, where the loan is secured against Level 1 assets as defined in LCR30.41, and where the bank has the ability to freely rehypothecate the received collateral for the life of the loan.

30.28 Assets assigned a 15% RSF factor comprise:

(1) unencumbered Level 2A assets as defined in LCR30.43, including:

(a) marketable securities representing claims on or guaranteed by sovereigns, central banks, PSEs or multilateral development banks that are assigned a 20% risk weight under CRE20; and

(b) corporate debt securities (including commercial paper) and covered bonds with a credit rating equal or equivalent to at least AA–;

(2) all other unencumbered loans to financial institutions with residual maturities of less than six months not included in NSF30.27.

30.29 Assets assigned a 50% RSF factor comprise:

(1) unencumbered Level 2B assets as defined and subject to the conditions set forth in LCR30.45, including:

(a) residential mortgage-backed securities with a credit rating of at least AA;

(b) corporate debt securities (including commercial paper) with a credit rating of between A+ and BBB–; and

(c) exchange-traded common equity shares not issued by financial institutions or their affiliates;

(2) any HQLA as defined in the LCR that are encumbered for a period of between six months and less than one year;

(3) all loans to financial institutions and central banks with residual maturity of between six months and less than one year;

(4) deposits held at other financial institutions for operational purposes, as outlined in LCR40.26 to LCR40.36, that are subject to the 50% ASF factor in NSF30.13(2); and

(5) all other non-HQLA not included in the above categories that have a residual maturity of less than one year, for example, loans to non-financial corporate clients, loans to retail customers (ie natural persons) and small business customers, and loans to sovereigns, national development banks and PSEs.

FAQ

FAQ1 *Corporates, PSEs and covered bonds with a credit rating equal or equivalent to at least AA– have an RSF of 15%. However, only corporates with a credit rating of between A+ and BBB– have an RSF of 50%, while this is not applicable for PSEs and covered bonds. Is this correct?*

Sovereign and PSEs bonds rated between A+ and BBB– are also eligible as Level 2B assets and, as such, would be subject to an RSF of 50%. This is also the case for corporate securities that would qualify as Level 2A assets but whose price has declined more than 10% within a 30-day period, but not over 20%. With respect to covered bonds, only those whose rating is above AA– are eligible as Level 2A assets, and the LCR does not contemplate including covered bonds as Level 2B assets. Those assets that do not qualify as HQLA should be classified according to their maturity.

30.30 Assets assigned a 65% RSF factor comprise:

(1) unencumbered residential mortgages with a residual maturity of one year or more that would qualify for a 35% or lower risk weight under CRE20; and

(2) other unencumbered loans, including loans to sovereigns, multilateral development banks, PSEs and national development banks, not included in the above categories, excluding loans to financial institutions, with a residual maturity of one year or more that would qualify for a 35% or lower risk weight under CRE20.

30.31 Assets assigned an 85% RSF factor comprise:

(1) cash, securities or other assets posted as initial margin for derivative contracts[16] and cash or other assets provided to contribute to the default fund of a central counterparty (CCP), in both cases regardless of whether recorded on or off the balance sheet. Where securities or other assets posted as initial margin for derivative contracts would otherwise receive a higher RSF factor, they should retain that higher factor.

(2) other unencumbered performing loans[17] that do not qualify for the 35% or lower risk weight under CRE20 and have residual maturities of one year or more, excluding loans to financial institutions;

(3) unencumbered securities with a remaining maturity of one year or more and exchange-traded equities, that are not in default and do not qualify as HQLA according to the LCR standard; and

(4) physical traded commodities, including gold.

Footnotes

[16] *Initial margin posted on behalf of a customer, where the bank provided a customer access to a third party (eg a CCP) for the purpose of clearing derivatives, where the transactions are executed in the name of the customer and the bank does not guarantee performance of the third party (eg the CCP), maybe exempt from this requirement.*

[17] *Performing loans are considered to be those that are not past due for more than 90 days or otherwise classified as a defaulted exposure under CRE20.*

30.32 Assets assigned a 100% RSF factor comprise:

(1) all assets that are encumbered for a period of one year or more;

(2) NSFR derivative assets as calculated according to NSF30.23 and NSF30.24 net of NSFR derivative liabilities as calculated according to NSF30.8 and NSF30.9, if NSFR derivative assets are greater than NSFR derivative liabilities; [18]

(3) assets without a stated maturity not included in NSF30.32(1) and NSF30.32(2) (including non-maturity reverse repos unless banks can demonstrate to supervisors that the non-maturity reverse repo would effectively mature in less than one year);

(4) all other assets not included in the above categories, including non-performing loans, loans to financial institutions with a residual maturity of one year or more, non-exchange-traded equities, fixed assets, items deducted from regulatory capital, retained interest, insurance assets, subsidiary interests and defaulted securities; and

(5) 5% to 20% (depending on national discretion) of all derivative liabilities (ie negative replacement cost amounts) as calculated according to NSF30.8 to NSF30.9 (before deducting variation margin posted).

Footnotes

[18] *RSF = 100% x MAX ((NSFR derivative assets – NSFR derivative liabilities), 0).*

FAQ

FAQ1 *NSF30 Footnote 18 states that NSFR derivative liabilities = (derivative liabilities) – (total collateral posted as variation margin on derivative liabilities). In contrast, NSF30.32(5) requires a 100% RSF factor to be applied to 5% to 20% (depending on national discretion) of derivative liabilities calculated before deducting variation margin posted. Should derivative liabilities be calculated before or after deducting collateral posted as variation margin on the derivative contracts? Additionally, would the 100% RSF factor be applied to the 5% to 20% (depending on national discretion) of derivatives liabilities even in cases when a bank is in a net derivative asset position (ie the net derivative asset is already subject to a 100% RSF factor)?*

NSFR derivative liabilities, as defined in NSF30.9, should be calculated after deducting collateral posted as variation margin on the derivative contracts. However, for the purpose of NSF30.32(5), the 5% to 20% RSF factor applies to the gross amount of derivative liabilities as defined in NSF30.8, ie before deducting the collateral posted. There are no exceptions to this treatment: thus, the 100% RSF factor is applied to 5% of the gross amount of derivatives liabilities in all cases, and is not dependent on a bank's net derivative position as described in NSF30.32 (2).

FAQ2 *How should derivatives structured as "settled-to-market" be captured?*

Derivatives structured as "settled-to-market" should be included in the calculation of the 5% to 20% of derivative liabilities specified in NSF30.32(5). The replacement cost amount of these derivatives should be calculated as if no settlement payments and receipts had been made to account for the changes in the value of a derivative transaction or a portfolio of derivative transactions.

30.33 Many potential off-balance sheet liquidity exposures require little direct or immediate funding but can lead to significant liquidity drains over a longer time horizon. The NSFR assigns an RSF factor to various off-balance sheet activities in order to ensure that institutions hold stable funding for the portion of off-balance sheet exposures that may be expected to require funding within a one-year horizon.

30.34 Consistent with the LCR, the NSFR identifies off-balance-sheet exposure categories based broadly on whether the commitment is a credit or liquidity facility or some other contingent funding obligation. Table 1 identifies the specific types of off-balance-sheet exposures to be assigned to each off-balance sheet category and their associated RSF factor.

Off-balance sheet categories and associated RSF factors Table 1

RSF factor	RSF category
5% of the currently undrawn portion	Irrevocable and conditionally revocable credit and liquidity facilities to any client
National supervisors may specify the RSF factors based on their national circumstances	Other contingent funding obligations, including products and instruments such as unconditionally revocable credit and liquidity facilities; trade finance-related obligations (including guarantees and letters of credit); guarantees and letters of credit unrelated to trade finance obligations; and non-contractual obligations (such as potential requests for debt repurchases of the bank's own debt or that of related conduits, securities investment vehicles and other such financing facilities, structured products where customers anticipate ready marketability, such as adjustable rate notes and variable rate demand notes or managed funds that are marketed with the objective of maintaining a stable value).

Interdependent assets and liabilities

30.35 National supervisors have discretion in limited circumstances to determine whether certain asset and liability items, on the basis of contractual arrangements, are interdependent such that the liability cannot fall due while the asset remains on the balance sheet, the principal payment flows from the asset cannot be used for something other than repaying the liability, and the liability cannot be used to fund other assets. For interdependent items, supervisors may adjust RSF and ASF factors so that they are both 0%, subject to the following criteria:

(1) The individual interdependent asset and liability items must be clearly identifiable.

(2) The maturity and principal amount of both the liability and its interdependent asset must be the same.

(3) The bank is acting solely as a pass-through unit to channel the funding received (the interdependent liability) into the corresponding interdependent asset.

(4) The counterparties for each pair of interdependent liabilities and assets must not be the same.

FAQ

FAQ1 *Do derivative transactions qualify for the treatment of interdependent assets and liabilities?*

No. National supervisors have discretion in limited circumstances to determine whether certain asset and liability items, on the basis of contractual arrangements, are interdependent. The strict conditions of NSF30.35 must all be fulfilled to allow this treatment to apply. This treatment, therefore, is not intended to be applied to derivative transactions, since it is rarely the case that derivatives would meet all conditions. Furthermore, the fulfilment of the conditions provided for by NSF30.35 would not automatically lead to the application of the treatment of interdependent assets, as supervisors are still required to consider whether perverse incentives or unintended consequences are being created by approving this treatment for certain operations, before exercising such discretion.

30.36 Before exercising this discretion, supervisors should consider whether perverse incentives or unintended consequences are being created.

30.37 The instances where supervisors will exercise the discretion to apply this exceptional treatment should be transparent, explicit and clearly outlined in the regulations of each jurisdiction, to provide clarity both within the jurisdiction and internationally.

NSF99

Definitions and applications

This chapter summarises the available and required stable funding factors, as well as giving guidance on the treatment of specific instruments.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Summary of available stable funding and required stable funding factors

99.1 Table 1 below summarises the components of each of the available stable funding (ASF) categories and the associated maximum ASF factor to be applied in calculating an institution's total amount of available stable funding under the standard.

Summary of liability categories and associated ASF factors Table 1

ASF factor	Components of ASF category
100%	Total regulatory capital as in NSF30.10 (excluding Tier 2 instruments with residual maturity of less than one year) Other capital instruments and liabilities with effective residual maturity of one year or more
95%	Stable non-maturity (demand) deposits and term deposits with residual maturity of less than one year provided by retail and small business customers
90%	Less stable non-maturity (demand) deposits and term deposits with residual maturity of less than one year provided by retail and small business customers
50%	Funding with residual maturity of less than one year provided by non-financial corporate customers Operational deposits Funding with residual maturity of less than one year from sovereigns, public sector entities (PSEs) and multilateral and national development banks Other funding with residual maturity between six months and less than one year not included in the above categories, including funding provided by central banks and financial institutions
0%	All other liabilities and equity not included in the above categories, including liabilities without a stated maturity (with a specific treatment for deferred tax liabilities and minority interests) Net stable funding ratio (NSFR) derivative liabilities net of NSFR derivative assets if NSFR derivative liabilities are greater than NSFR derivative assets "Trade date" payables arising from purchases of financial instruments, foreign currencies and commodities Liabilities with interdependent assets as in NSF30.35, subject to national discretion

99.2 Table 2 summarises the specific types of assets to be assigned to each asset category and their associated required stable funding (RSF) factor.

Summary of asset categories and associated RSF factors Table 2

RSF factor	Components of RSF category
0%	Coins and banknotes All central bank reserves All claims on central banks with residual maturities of less than six months "Trade date" receivables arising from sales of financial instruments, foreign currencies and commodities Assets with interdependent liabilities as in NSF30.35, subject to national discretion
5%	Unencumbered Level 1 assets, excluding coins, banknotes and central bank reserves
10%	Unencumbered loans to financial institutions with residual maturities of less than six months, where the loan is secured against Level 1 assets as defined in LCR30.41, and where the bank has the ability to freely rehypothecate the received collateral for the life of the loan
15%	All other unencumbered loans to financial institutions with residual maturities of less than six months not included in the above categories Unencumbered Level 2A assets
50%	Unencumbered Level 2B assets High-quality liquid assets (HQLA) encumbered for a period of six months or more and less than one year Loans to financial institutions and central banks with residual maturities between six months and less than one year Deposits held at other financial institutions for operational purposes All other assets not included in the above categories with residual maturity of less than one year, for example, loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, national development banks and PSEs
65%	Unencumbered residential mortgages with a residual maturity of one year or more and with a risk weight of less than or equal to 35% under the Standardised Approach in CRE20 Other unencumbered loans, including loans to sovereigns, MDBs, PSEs and national development banks, not included in the above categories, excluding loans to financial institutions, with a residual maturity of one

	year or more and with a risk weight of less than or equal to 35% under the standardised approach in CRE20
85%	Cash, securities or other assets posted as initial margin for derivative contracts and cash or other assets provided to contribute to the default fund of a central counterparty Other unencumbered performing loans with risk weights greater than 35% under the standardised approach in CRE20 and residual maturities of one year or more, excluding loans to financial institutions Unencumbered securities that are not in default and do not qualify as HQLA with a remaining maturity of one year or more and exchange-traded equities Physical traded commodities, including gold
100%	All assets that are encumbered for a period of one year or more NSFR derivative assets net of NSFR derivative liabilities if NSFR derivative assets are greater than NSFR derivative liabilities 5% to 20% of derivative liabilities as calculated according to NSF30.8 Assets without a stated maturity (including non-maturity reverse repos unless banks can demonstrate to supervisors that the non-maturity reverse repo would effectively mature in less than one year) All other assets not included in the above categories, including non-performing loans, loans to financial institutions with a residual maturity of one year or more, non-exchange-traded equities, fixed assets, items deducted from regulatory capital, retained interest, insurance assets, subsidiary interests and defaulted securities

99.3 Table 3 identifies the specific types of off-balance sheet exposures to be assigned to each off-balance sheet category and their associated RSF factor.

Summary of off-balance sheet categories and associated RSF factors Table 3

RSF factor	RSF category
5% of the currently undrawn portion	Irrevocable and conditionally revocable credit and liquidity facilities to any client
National supervisors can specify the RSF factors based on their national circumstances	Other contingent funding obligations, including products and instruments such as: • Unconditionally revocable credit and liquidity facilities • Trade finance-related obligations (including guarantees and letters of credit) • Guarantees and letters of credit unrelated to trade finance obligations • Non-contractual obligations such as: – potential requests for debt repurchases of the bank's own debt or that of related conduits, securities investment vehicles and other such financing facilities – structured products where customers anticipate ready marketability, such as adjustable rate notes and variable rate demand notes (VRDNs) – managed funds that are marketed with the objective of maintaining a stable value

Guidance on the treatment of specific instruments

99.4 Some loans are only partially secured and are therefore separated into secured and unsecured portions with different risk weights under the Basel capital framework. The specific characteristics of these portions of loans should be taken into account for the calculation of the NSFR: the secured and unsecured portions of a loan should each be treated according to its characteristics and assigned the corresponding RSF factor. If it is not possible to draw the distinction between the secured and unsecured part of the loan, the higher RSF factor must be applied to the whole loan.

99.5 Assets that are owned by banks, but segregated to satisfy statutory requirements for the protection of customer equity in margined trading accounts, must be reported in accordance with the underlying exposure, whether or not the segregation requirement is separately classified on a bank's balance sheet.

However, those assets must also be treated according to NSF30.20. That is, they may be subject to a higher RSF depending on (the term of) encumbrance. The (term of) encumbrance should be determined by authorities, taking into account whether the institution can freely dispose or exchange such assets and the term of the liability to the bank's customer(s) that generates the segregation requirement.

99.6 Non-operational deposits held at other financial institutions must be treated equivalently to loans to financial institutions, taking into account the term of the deposit.

LEX

Large exposures

Large exposures regulation limits the maximum loss that a bank could face in the event of a sudden counterparty failure to a level that does not endanger the bank's solvency. This standard requires banks to measure their exposures to a single counterparty or a group of connected counterparties and limit the size of large exposures in relation to their capital.

LEX10

Definitions and application

This chapter describes the scope of the large exposures framework and the definitions of a large exposure and connected counterparties.

Version effective as of 01 Jan 2023

Cross references to LEX30 updated.

Rationale and objectives of a large exposures framework

10.1 Throughout history there have been instances of banks failing due to concentrated exposures to individual counterparties or groups of connected counterparties. Large exposures regulation has been developed as a tool for limiting the maximum loss a bank could face in the event of a sudden counterparty failure to a level that does not endanger the bank's solvency.

10.2 A large exposures framework complements the Committee's risk-based capital standard because the latter is not designed specifically to protect banks from large losses resulting from the sudden default of a single counterparty or a group of connected counterparties. In particular, the minimum capital requirements (Pillar 1) of the Basel risk-based capital framework implicitly assume that a bank holds infinitely granular portfolios, ie no form of concentration risk is considered in calculating capital requirements. Contrary to this assumption, idiosyncratic risk due to large exposures to individual counterparties or groups of connected counterparties may be present in banks' portfolios. Although a supervisory review process (Pillar 2) concentration risk adjustment could be made to mitigate this risk,[1] these adjustments are neither harmonised across jurisdictions, nor designed to protect a bank against very large losses from the default of a single counterparty or a group of connected counterparties. For this reason, the risk-based capital framework is not sufficient to fully mitigate the microprudential risk from exposures that are large compared to a bank's capital resources. That framework needs to be supplemented with a simple large exposures framework that protects banks from traumatic losses caused by the sudden default of an individual counterparty or group of connected counterparties. To serve as a backstop to risk-based capital requirements, the large exposures framework should be designed so that the maximum possible loss a bank could incur if a single counterparty or group of connected counterparties were to suddenly fail would not endanger the bank's survival as a going concern.

Footnotes

[1] *The market risk standard MAR also explicitly requires that trading book models for specific risk capture concentration risk.*

10.3 The treatment of large exposures could also contribute to the stability of the financial system in a number of other ways. For example, material losses in one systemically important financial institution (SIFI) can trigger concerns about the solvency of other SIFIs, with potentially catastrophic consequences for global financial stability. There are at least two important channels for this contagion. First, investors may be concerned that other SIFIs might have exposures similar to those of the failing institution. Second, and more directly, investors may be concerned that other SIFIs have direct large exposures to the failing SIFI, in the form of either loans or credit guarantees. The Committee is of the view that the large exposures framework is a useful tool to mitigate the risk of contagion between global systemically important banks, thus supporting global financial stability. As a second example, this framework is also seen as a useful tool to contribute to strengthening the oversight and regulation of the shadow banking system in relation to large exposures, particularly the treatment of exposures to funds, securitisation structures and collective investment undertakings.

Scope and level of application

10.4 The large exposures framework is constructed to serve as a backstop and complement to the risk-based capital standards. As a consequence, it must apply at the same level as the risk-based capital requirements are required to be applied following SCO10, ie at every tier within a banking group.

10.5 The large exposures framework is applicable to all internationally active banks. As with all other standards issued by the Committee, member jurisdictions have the option to set more stringent standards. They also have the option to extend the application to a wider range of banks, with the possibility – if they deem it necessary – to develop a different approach for banks that usually fall outside the scope of the Basel framework.[2]

Footnotes

[2] *For instance, the Committee notes that for these banks that fall outside the scope of application of the Basel framework, there may be a case for recognising physical collateral, which is not recognised in the large exposures framework set out in this document.*

10.6 The application of the large exposures framework at the consolidated level implies that a bank must consider all exposures to third parties across the relevant regulatory consolidation group and compare the aggregate of those exposures with the group's Tier 1 capital.

Scope of counterparties and exemptions

10.7 A bank must consider exposures to any counterparty. The only counterparties that are exempted from the framework are sovereigns as defined in LEX30.31. LEX30.31 to LEX30.59 sets out the types of counterparties that are exempted from the large exposure limit or for which another specific treatment is necessary. Any exposure type not included in LEX30.31 to LEX30.59 is subject in all respects to the large exposure limit.

Definition of a large exposure

10.8 The sum of all exposure values of a bank to a counterparty or to a group of connected counterparties, as defined in LEX10.9 to LEX10.18, must be defined as a large exposure if it is equal to or above 10% of the bank's Tier 1 capital (as defined in CAP10.2). The exposure values must be measured as specified in LEX30.

Definition of connected counterparties

10.9 In some cases, a bank may have exposures to a group of counterparties with specific relationships or dependencies such that, were one of the counterparties to fail, all of the counterparties would very likely fail. A group of this sort, referred to in this framework as a group of connected counterparties, must be treated as a single counterparty. In this case, the sum of the bank's exposures to all the individual entities included within a group of connected counterparties is subject to the large exposure limit and to the regulatory reporting requirements as specified in LEX20.1 to LEX20.4.

10.10 Two or more natural or legal persons shall be deemed a group of connected counterparties if at least one of the following criteria is satisfied.

(1) Control relationship: one of the counterparties, directly or indirectly, has control over the other(s).

(2) Economic interdependence: if one of the counterparties were to experience financial problems, in particular funding or repayment difficulties, the other (s), as a result, would also be likely to encounter funding or repayment difficulties.

10.11 Banks must assess the relationship amongst counterparties with reference to LEX10.10(1) and LEX10.10(2) above in order to establish the existence of a group of connected counterparties.

10.12

In assessing whether there is a control relationship between counterparties, banks must automatically consider that criterion LEX10.10(1) is satisfied if one entity owns more than 50% of the voting rights of the other entity.

10.13 In addition, banks must assess connectedness between counterparties based on control using the following criteria:

(1) Voting agreements (eg control of a majority of voting rights pursuant to an agreement with other shareholders);

(2) Significant influence on the appointment or dismissal of an entity's administrative, management or supervisory body, such as the right to appoint or remove a majority of members in those bodies, or the fact that a majority of members have been appointed solely as a result of the exercise of an individual entity's voting rights;

(3) Significant influence on senior management, eg an entity has the power, pursuant to a contract or otherwise, to exercise a controlling influence over the management or policies of another entity (eg through consent rights over key decisions).

10.14 Banks are also expected to refer to criteria specified in appropriate internationally recognised accounting standards for further qualitative guidance when determining control.

10.15 Where control has been established based on any of these criteria, a bank may still demonstrate to its supervisor in exceptional cases, eg due to the existence of specific circumstances and corporate governance safeguards, that such control does not necessarily result in the entities concerned constituting a group of connected counterparties.

10.16 In establishing connectedness based on economic interdependence, banks must consider, at a minimum, the following qualitative criteria:

(1) Where 50% or more of one counterparty's gross receipts or gross expenditures (on an annual basis) is derived from transactions with the other counterparty (eg the owner of a residential/commercial property and the tenant who pays a significant part of the rent);

(2) Where one counterparty has fully or partly guaranteed the exposure of the other counterparty, or is liable by other means, and the exposure is so significant that the guarantor is likely to default if a claim occurs;

(3) Where a significant part of one counterparty's production/output is sold to another counterparty, which cannot easily be replaced by other customers;

(4) When the expected source of funds to repay the loans of both counterparties is the same and neither counterparty has another independent source of income from which the loan may be serviced and fully repaid;

(5) Where it is likely that the financial problems of one counterparty would cause difficulties for the other counterparties in terms of full and timely repayment of liabilities;

(6) Where the insolvency or default of one counterparty is likely to be associated with the insolvency or default of the other(s);

(7) When two or more counterparties rely on the same source for the majority of their funding and, in the event of the common provider's default, an alternative provider cannot be found – in this case, the funding problems of one counterparty are likely to spread to another due to a one-way or two-way dependence on the same main funding source.

10.17 There may, however, be circumstances where some of these criteria do not automatically imply an economic dependence that results in two or more counterparties being connected. Provided that the bank can demonstrate to its supervisor that a counterparty which is economically closely related to another counterparty may overcome financial difficulties, or even the second counterparty' s default, by finding alternative business partners or funding sources within an appropriate time period, the bank does not need to combine these counterparties to form a group of connected counterparties.

10.18 There are cases where a thorough investigation of economic interdependencies will not be proportionate to the size of the exposures. Therefore, banks are expected to identify possible connected counterparties on the basis of economic interdependence in all cases where the sum of all exposures to one individual counterparty exceeds 5% of Tier 1 capital.

LEX20

Requirements

This chapter establishes limits on large exposures, relative to a bank's Tier 1 capital, and regulatory reporting requirements.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Minimum requirement – the large exposure limit

20.1 The sum of all the exposure values of a bank to a single counterparty or to a group of connected counterparties must not be higher than 25% of the bank's Tier 1 capital at all times. However, as explained in LEX40, this figure is set at 15% for a global systemically important bank's (G-SIB's) exposures to another GSIB.

20.2 The exposures must be measured as specified in LEX30. Tier 1 capital for the purpose of the large exposures framework is the Tier 1 capital defined in CAP10.2.

20.3 Breaches of the limit, which must remain the exception, must be communicated immediately to the supervisor and must be rapidly rectified.

Regulatory reporting

20.4 Banks must report to the supervisor the exposure values before and after application of the credit risk mitigation techniques. Banks must report to the supervisor:

(1) all exposures with values measured as specified in LEX30 equal to or above 10% of the bank's Tier 1 capital (ie meeting the definition of a large exposure in LEX10.8);

(2) all other exposures with values measured as specified in LEX30 without the effect of credit risk mitigation being taken into account equal to or above 10% of the bank's Tier 1 capital;

(3) all the exempted exposures with values equal to or above 10% of the bank's Tier 1 capital; and

(4) their largest 20 exposures to counterparties measured as specified in LEX30 and included in the scope of application, irrespective of the values of these exposures relative to the bank's Tier 1 capital.

LEX30

Exposure measurement

This chapter describes the value of exposures to counterparties used in the large exposures framework, including those for which a specific treatment is deemed necessary.

Version effective as of 01 Jan 2023

Reflects changes in market risk requirements published January 2017 and the revised implementation date announced on 27 March 2020.

General measurement principles

30.1 The exposure values a bank must consider in order to identify large exposures to a counterparty are all those exposures defined under the risk-based capital framework. It must consider both on- and off-balance sheet exposures included in either the banking or trading book and instruments with counterparty credit risk under the risk-based capital framework.

30.2 An exposure amount to a counterparty that is deducted from capital must not be added to other exposures to that counterparty for the purpose of the large exposure limit.[1]

Footnotes

[1] *This general approach does not apply where an exposure is 1,250% risk-weighted. When this is the case, this exposure must be added to any other exposures to the same counterparty and the sum is subject to the large exposure limit, except if this exposure is specifically exempted for other reasons.*

Definition of exposure value

30.3 The exposure value must be defined as the accounting value of the exposure.[2] As an alternative, a bank may consider the exposure value gross of specific provisions and value adjustments

Footnotes

[2] *Net of specific provisions and value adjustments.*

30.4 The exposure value for instruments that give rise to counterparty credit risk and are not securities financing transactions must be the exposure at default according to the standardised approach for counterparty credit risk (SA-CCR).[3]

Footnotes

[3] *See CRE52.*

30.5

Banks should calculate the exposure value for their securities financing transaction (SFT) exposures applying the comprehensive approach with supervisory haircuts described in CRE22.

30.6 For the purpose of the large exposures framework, off-balance sheet items will be converted into credit exposure equivalents through the use of credit conversion factors (CCFs) by applying the CCFs set out for the standardised approach for credit risk for risk-based capital requirements, with a floor of 10%.

Eligible credit risk mitigation techniques

30.7 Eligible credit risk mitigation (CRM) techniques for large exposures purposes are those that meet the minimum requirements and eligibility criteria for the recognition of unfunded credit protection[4] and financial collateral that qualify as eligible financial collateral under the standardised approach for risk-based capital requirement purposes.

Footnotes

[4] *Unfunded credit protection refers collectively to guarantees and credit derivatives the treatment of which is described in CRE22.*

30.8 Other forms of collateral that are only eligible under the internal-ratings based approach in accordance with CRE32.8 (receivables, commercial and residential real estate and other collateral) are not eligible to reduce exposure values for large exposures purposes.

30.9 A bank must recognise an eligible CRM technique in the calculation of an exposure whenever it has used this technique to calculate the risk-based capital requirements, and provided it meets the conditions for recognition under the large exposures framework.

30.10 In accordance with provisions set out in the risk-based capital framework,[5] hedges with maturity mismatches are recognised only when their original maturities are equal to or greater than one year and the residual maturity of a hedge is not less than three months.

Footnotes

[5] *See CRE22.10 to CRE22.14.*

30.11 If there is a maturity mismatch in respect of credit risk mitigants (collateral, on-balance sheet netting, guarantees and credit derivatives) recognised in the risk-based capital requirement, the adjustment of the credit protection for the purpose of calculating large exposures is determined using the same approach as in the risk-based capital requirement.[6]

Footnotes

[6] *See CRE22.10 to CRE22.14.*

30.12 Where a bank has in place legally enforceable netting arrangements for loans and deposits, it may calculate the exposure values for large exposures purposes according to the calculation it uses for capital requirements purposes – ie on the basis of net credit exposures subject to the conditions set out in the approach to on-balance sheet netting in the risk-based capital requirement.[7]

Footnotes

[7] *See CRE22.68 and CRE22.69.*

Recognition of CRM techniques in reduction of original exposure

30.13 A bank must reduce the value of the exposure to the original counterparty by the amount of the eligible CRM technique recognised for risk-based capital requirements purposes. This recognised amount is:

(1) the value of the protected portion in the case of unfunded credit protection;

(2) the value of the portion of claim collateralised by the market value of the recognised financial collateral when the bank uses the simple approach for risk-based capital requirements purposes;

(3) the value of the collateral as recognised in the calculation of the counterparty credit risk exposure value for any instruments with counterparty credit risk, such as over-the-counter derivatives;

(4) the value of collateral adjusted after applying the required haircuts, in the case of financial collateral when the bank applies the comprehensive approach. The haircuts used to reduce the collateral amount are the supervisory haircuts under the comprehensive approach.[8] Internally modelled haircuts must not be used.

Footnotes

[8] *The supervisory haircuts are described in CRE22.49 and CRE22.50.*

Recognition of exposures to CRM providers

30.14 Whenever a bank is required to recognise a reduction of the exposure to the original counterparty due to an eligible CRM technique, it must also recognise an exposure to the CRM provider. The amount assigned to the CRM provider is the amount by which the exposure to the original counterparty is reduced (except in the cases defined in LEX30.28).

Calculation of exposure value for trading book positions

30.15 A bank must add any exposures to a single counterparty arising in the trading book to any other exposures to that counterparty that lie in the banking book to calculate its total exposure to that counterparty.

30.16 The exposures considered in this section correspond to concentration risk associated with the default of a single counterparty for exposures included in the trading book. Therefore, positions in financial instruments such as bonds and equities must be constrained by the large exposure limit, but concentrations in a particular commodity or currency need not be.

30.17 The exposure value for trading book positions to any single counterparty must be calculated as the gross jump-to-default amount defined in MAR22.9 to MAR22.14 without application of risk weighting[9] with the exception that all instruments must be assigned a loss-given-default of 100%.

Footnotes

[9] *Sovereign exposures held in the trading book are excluded from the large exposures framework as set out in LEX10.7 and LEX30.31 to LEX30.34.*

30.18 The maturity adjustments set out in MAR22.15 to MAR22.18 are not applicable in the context of the large exposure standards.

30.19 The exposure value for trading book positions to a group of connected counterparties is the sum of positive (ie net long) gross jump-to-defaults for each counterparty within that group.

30.20

Exposure values of banks' investments in transactions (ie index positions, securitisations, hedge funds or investment funds) must be calculated applying the same rules as for similar instruments in the banking book (see LEX30.41 to LEX30.53). Hence, the amount invested in a particular structure may be assigned to the structure itself, defined as a distinct counterparty, to the counterparties corresponding to the underlying assets, or to the unknown client, following the rules described in LEX30.41 to LEX30.46).

30.21 Covered bonds held in the trading book are subject to the treatment described in LEX30.37 to LEX30.40.

Offsetting long and short positions in the trading book

30.22 Banks may offset long and short positions in the same issue (two issues are defined as the same if the issuer, coupon, currency and maturity are identical). Consequently, banks may consider a net position in a specific issue for the purpose of calculating a bank's exposure to a particular counterparty.

30.23 Positions in different issues from the same counterparty may be offset only when the short position is junior to the long position, or if the positions are of the same seniority.

30.24 Similarly, for positions hedged by credit derivatives, the hedge may be recognised provided the underlying of the hedge and the position hedged fulfil the provision of LEX30.23 (the short position is junior or of equivalent seniority to the long position).

30.25 In order to determine the relative seniority of positions, securities may be allocated into broad buckets of degrees of seniority (for example, "Equity", "Subordinated Debt" and "Senior Debt").

30.26 For those banks that find it excessively burdensome to allocate securities to different buckets based on relative seniority, they may recognise no offsetting of long and short positions in different issues relating to the same counterparty in calculating exposures.

30.27 In addition, in the case of positions hedged by credit derivatives, any reduction in exposure to the original counterparty will correspond to a new exposure to the credit protection provider, following the principles underlying the substitution approach stated in LEX30.14, except in the case described in LEX30.28.

30.28 When the credit protection takes the form of a credit default swap (CDS) and either the CDS provider or the referenced entity is not a financial entity, the amount to be assigned to the credit protection provider is not the amount by which the exposure to the original counterparty is reduced but, instead, the counterparty credit risk exposure value calculated according to the SA-CCR.[10] For the purposes of this paragraph, financial entities comprise:

(1) regulated financial institutions, defined as a parent and its subsidiaries where any substantial legal entity in the consolidated group is supervised by a regulator that imposes prudential requirements consistent with international norms. These include, but are not limited to, prudentially regulated insurance companies, broker/dealers, banks, thrifts and futures commission merchants; and

(2) unregulated financial institutions, defined as legal entities whose main business includes: the management of financial assets, lending, factoring, leasing, provision of credit enhancements, securitisation, investments, financial custody, central counterparty services, proprietary trading and other financial services activities identified by supervisors.

Footnotes

[10] *See CRE52.*

30.29 Netting across the banking and trading books is not permitted.

30.30 When the result of the offsetting is a net short position with a single counterparty, this net exposure need not be considered as an exposure for large exposure purposes (see LEX30.16).

Sovereign exposures and entities connected with sovereigns

30.31 As set out in LEX10.7, banks' exposures to sovereigns and their central banks as set out in CRE20.7 to CRE20.10 are exempted. This exemption also applies to public sector entities treated as sovereigns according to CRE20. Any portion of an exposure guaranteed by, or secured by financial instruments issued by, sovereigns would be similarly excluded from the scope of this framework to the extent that the eligibility criteria for recognition of the credit risk mitigation are met.

30.32 Where two (or more) entities that are outside the scope of the sovereign exemption are controlled by or economically dependent on an entity that falls within the scope of the sovereign exemption defined in LEX30.31, and are otherwise not connected, those entities need not be deemed to constitute a group of connected counterparties pursuant to LEX10.9 to LEX10.15.

30.33 However, as specified in LEX20.4, a bank must report exposures subject to the sovereign exemption if these exposures meet the criteria for definition as a large exposure (see LEX10.8).

30.34 In addition, if a bank has an exposure to an exempted entity which is hedged by a credit derivative, the bank will have to recognise an exposure to the counterparty providing the credit protection as prescribed in LEX30.14 and LEX30.28, notwithstanding the fact that the original exposure is exempted.

Interbank exposures

30.35 To avoid disturbing the payment and settlement processes, intraday interbank exposures are not subject to the large exposures framework, either for reporting purposes or for application of the large exposure limit.

30.36 In stressed circumstances, supervisors may have to accept a breach of an interbank limit ex post, in order to help ensure stability in the interbank market.

Covered bonds

30.37 Covered bonds are bonds issued by a bank or mortgage institution and are subject by law to special public supervision designed to protect bond holders. Proceeds deriving from the issue of these bonds must be invested in conformity with the law in assets which, during the whole period of the validity of the bonds, are capable of covering claims attached to the bonds and which, in the event of the failure of the issuer, would be used on a priority basis for the reimbursement of the principal and payment of the accrued interest.

30.38 A covered bond satisfying the conditions set out in LEX30.37 may be assigned an exposure value of no less than 20% of the nominal value of the bank's covered bond holding. Other covered bonds must be assigned an exposure value equal to 100% of the nominal value of the bank's covered bond holding. The counterparty to which the exposure value is assigned is the issuing bank.

30.39 To be eligible to be assigned an exposure value of less than 100%, a covered bond must satisfy all the following conditions:

(1) it must meet the general definition set out in LEX30.37;

(2) the pool of underlying assets must exclusively consist of:

(a) claims on, or guaranteed by, sovereigns, their central banks, public sector entities or multilateral development banks;

(b) claims secured by mortgages on residential real estate that would qualify for a 35% or lower risk weight under CRE20 for credit risk and have a loan-to-value ratio of 80% or lower; and/or

(c) claims secured by commercial real estate that would qualify for the 100% or lower risk-weight under CRE20 and with a loan-to-value ratio of 60% or lower;

(3) The nominal value of the pool of assets assigned to the covered bond instrument(s) by its issuer should exceed its nominal outstanding value by at least 10%. The value of the pool of assets for this purpose does not need to be that required by the legislative framework. However, if the legislative framework does not stipulate a requirement of at least 10%, the issuing bank needs to publicly disclose on a regular basis that their cover pool meets the 10% requirement in practice. In addition to the primary assets listed in LEX30.39(2), the additional collateral may include substitution assets (cash or short term liquid and secure assets held in substitution of the primary assets to top up the cover pool for management purposes) and derivatives entered into for the purposes of hedging the risks arising in the covered bond programme.

30.40 In order to calculate the required maximum loan-to-value ratio for residential real estate and commercial real estate refered to in LEX30.39, the operational requirements included in CRE36.131 regarding the objective market value of collateral and the frequent revaluation must be used. The conditions set out in LEX30.39 must be satisfied at the inception of the covered bond and throughout its remaining maturity.

Collective investment undertakings, securitisation vehicles and other structures

30.41 Banks must consider exposures even when a structure lies between the bank and the exposures, that is, even when the bank invests in structures through an entity which itself has exposures to assets (hereafter referred to as the "underlying assets"). Banks must assign the exposure amount, ie the amount invested in a particular structure, to specific counterparties following the approach described below. Such structures include funds, securitisations and other structures with underlying assets.

30.42 A bank may assign the exposure amount to the structure itself, defined as a distinct counterparty, if it can demonstrate that the bank's exposure amount to each underlying asset of the structure is smaller than 0.25% of its Tier 1 capital, considering only those exposures to underlying assets that result from the investment in the structure itself and using the exposure value calculated according to LEX30.48 and LEX30.49.[11] In this case, a bank is not required to look through the structure to identify the underlying assets.

Footnotes

[11] *By definition, this required test will be passed if the bank's whole investment in a structure is below 0.25% of its Tier 1 capital.*

30.43 A bank must look through the structure to identify those underlying assets for which the underlying exposure value is equal to or above 0.25% of its Tier 1 capital. In this case, the counterparty corresponding to each of the underlying assets must be identified so that these underlying exposures can be added to any other direct or indirect exposure to the same counterparty. The bank's exposure amount to the underlying assets that are below 0.25% of the bank's Tier 1 capital may be assigned to the structure itself (ie partial look-through is permitted).

30.44 If a bank is unable to identify the underlying assets of a structure:

(1) where the total amount of its exposure does not exceed 0.25% of its Tier 1 capital, the bank must assign the total exposure amount of its investment to the structure;

(2) otherwise, it must assign this total exposure amount to the unknown client.

30.45 The bank must aggregate all unknown exposures as if they related to a single counterparty (the unknown client), to which the large exposure limit would apply.

30.46

When the look-through approach (LTA) is not required according to LEX30.42, a bank must nevertheless be able to demonstrate that regulatory arbitrage considerations have not influenced the decision whether to look through or not - eg that the bank has not circumvented the large exposure limit by investing in several individually immaterial transactions with identical underlying assets.

30.47 If the LTA need not be applied, a bank's exposure to the structure must be the nominal amount it invests in the structure.

30.48 When the LTA is required according to the paragraphs above, the exposure value assigned to a counterparty is equal to the pro rata share that the bank holds in the structure multiplied by the value of the underlying asset in the structure. Thus, a bank holding a 1% share of a structure that invests in 20 assets each with a value of 5 must assign an exposure of 0.05 to each of the counterparties. An exposure to a counterparty must be added to any other direct or indirect exposures the bank has to that counterparty.

30.49 When the LTA is required according to the paragraphs above, the exposure value to a counterparty is measured for each tranche within the structure, assuming a pro rata distribution of losses amongst investors in a single tranche. To compute the exposure value to the underlying asset, a bank must:

(1) first, consider the lower of the value of the tranche in which the bank invests and the nominal value of each underlying asset included in the underlying portfolio of assets

(2) second, apply the pro rata share of the bank's investment in the tranche to the value determined in the first step above.

30.50 Banks must identify third parties that may constitute an additional risk factor inherent in a structure itself rather than in the underlying assets. Such a third party could be a risk factor for more than one structure that a bank invests in. Examples of roles played by third parties include originator, fund manager, liquidity provider and credit protection provider.

30.51 The identification of an additional risk factor has two implications.

(1) The first implication is that banks must connect their investments in those structures with a common risk factor to form a group of connected counterparties. In such cases, the manager would be regarded as a distinct counterparty so that the sum of a bank's investments in all of the funds managed by this manager would be subject to the large exposure limit, with the exposure value being the total value of the different investments. But in other cases, the identity of the manager may not comprise an additional risk factor - for example, if the legal framework governing the regulation of particular funds requires separation between the legal entity that manages the fund and the legal entity that has custody of the fund's assets. In the case of structured finance products, the liquidity provider or sponsor of short-term programmes (asset-backed commercial paper conduits and structured investment vehicles) may warrant consideration as an additional risk factor (with the exposure value being the amount invested). Similarly, in synthetic deals, the protection providers (sellers of protection by means of CDS/guarantees) may be an additional source of risk and a common factor for interconnecting different structures (in this case, the exposure value would correspond to the percentage value of the underlying portfolio).

(2) The second implication is that banks may add their investments in a set of structures associated with a third party that constitutes a common risk factor to other exposures (such as a loan) it has to that third party. Whether the exposures to such structures must be added to any other exposures to the third party would again depend on a case-by-case consideration of the specific features of the structure and on the role of the third party. In the example of the fund manager, adding together the exposures may not be necessary because potentially fraudulent behaviour may not necessarily affect the repayment of a loan. The assessment may be different where the risk to the value of investments underlying the structures arises in the event of a third-party default. For example, in the case of a credit protection provider, the source of the additional risk for the bank investing in a structure is the default of the credit protection provider. The bank must add the investment in the structure to the direct exposures to the credit protection provider since both exposures might crystallise into losses in the event that the protection provider defaults (ignoring the covered part of the exposures may lead to the undesirable situation of a high concentration risk exposure to issuers of collateral or providers of credit protection).

30.52 It is conceivable that a bank may consider multiple third parties to be potential drivers of additional risk. In this case, the bank must assign the exposure resulting from the investment in the relevant structures to each of the third parties.

30.53 The requirement set out in LEX30.47 to recognise a structural risk inherent in the structure instead of the risk stemming from the underlying exposures is independent of whatever the general assessment of additional risks concludes.

Exposures to central counterparties

30.54 Banks' exposures to qualifying central counterparties (QCCPs)[12] related to clearing activities are exempted from the large exposures framework. However, these exposures are subject to the regulatory reporting requirements as defined in LEX20.4.

Footnotes

[12] *The definition of QCCP for large exposures purposes is the same as that used for risk-based capital requirement purposes. A QCCP is an entity that is licensed to operate as a central counterparty (CCP) (including a license granted by way of confirming an exemption), and is permitted by the appropriate regulator/overseer to operate as such with respect to the products offered. This is subject to the provision that the CCP is based and prudentially supervised in a jurisdiction where the relevant regulator/overseer has established, and publicly indicated that it applies to the CCP on an ongoing basis, domestic rules and regulations that are consistent with the Committee on Payment and Financial Infrastructure and International Organization of Securities Commissions' Principles for Financial Market Infrastructures.*

30.55 In the case of non-QCCPs, banks must measure their exposure as a sum of both the clearing exposures described in LEX30.57 and the non-clearing exposures described in LEX30.59, and must respect the general large exposure limit of 25% of the Tier 1 capital.

30.56 The concept of connected counterparties described in LEX10.9 to LEX10.18 does not apply in the context of exposure to central counterparties (CCPs) that are specifically related to clearing activities.

FAQ

FAQ1 *Could you explain how to aggregate exposures to a CCP when the bank has both exposures related to clearing and exposures unrelated to clearing towards the CCP with an example?*

According to LEX30.56 clearing exposures to CCPs are not subject to the concept of connected counterparties described in LEX10.9 to LEX10.18, whereas non-clearing exposures are subject to the concept. Therefore, banks must separately measure and report to their supervisors clearing and non-clearing exposures to CCPs and, for the latter, to check whether the CCP is connected to other counterparties by meeting either the control relationship or the economic interdependence criteria.

As an example, if a bank has exposures to a QCCP for a total of 100 made up of 50 trade exposures, 10 default fund contribution and 40 liquidity line, it should report 60 under exposures related to clearing. For the other 40, it should check whether the QCCP is connected to other of its counterparties, including other CCPs. Assuming that the QCCP is also part of a group of connected counterparties, the bank would have to add this 40 from liquidity line to other exposures to counterparties in the same group. The sum of these exposures will be subject to the 25% large exposure limit.

30.57 Banks must identify exposures to a CCP related to clearing activities and sum together these exposures. Exposures related to clearing activities are listed in the table below together with the exposure value to be used:

Exposures related to clearing activities Table 1

Type of exposure	Exposure value
Trade exposures	The exposure value of trade exposures must be calculated using the exposure measures prescribed in other parts of this framework for the respective type of exposures (eg using the SA-CCR for derivative exposures).
Segregated initial margin	The exposure value is zero.[13]
Non-segregated initial margin	The exposure value is the nominal amount of initial margin posted.
Pre-funded default fund contributions	Nominal amount of the funded contribution.[14]
Unfunded default fund contributions	The exposure value is zero.
Equity stakes	The exposure value is the nominal amount.[15]

Footnotes

[13] *When the initial margin (IM) posted is bankruptcy-remote from the CCP – in the sense that it is segregated from the CCP's own accounts, eg when the IM is held by a third-party custodian – this amount cannot be lost by the bank if the CCP defaults; therefore, the IM posted by the bank can be exempted from the large exposure limit.*

[14] *The exposure value for pre-funded default fund contributions may need to be revised if applied to QCCPs and not only to non-QCCPs.*

[15] *If equity stakes are deducted from the level of capital on which the large exposure limit is based, such exposures must be excluded from the definition of an exposure to a CCP.*

30.58 Regarding exposures subject to clearing services (the bank acting as a clearing member or being a client of a clearing member), the bank must determine the counterparty to which exposures must be assigned by applying the provisions of the risk-based capital requirements.[16]

Footnotes

[16] *See CRE54.*

30.59 Other types of exposures that are not directly related to clearing services provided by the CCP, such as funding facilities, credit facilities, guarantees etc, must be measured according to the rules set out in this chapter, as for any other type of counterparty. These exposures will be added together and be subjected to the large exposure limit.

LEX40

Large exposure rules for global systemically important banks

This chapter describes the tighter limits applying to exposures between global systemically important banks.

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First version in the format of the consolidated framework.

40.1 The large exposure limit applied to a global systemically important bank's (G-SIB's) exposure to another G-SIB is set at 15% of Tier 1 capital. The limit applies to G-SIBs as identified by the Basel Committee (see SCO40) and published annually by the Financial Stability Board (FSB). When a bank becomes a G-SIB, it and other G-SIBs must apply the 15% limit within 12 months of this event, which is the same time frame within which a bank that has become a G-SIB would need to satisfy its higher loss absorbency requirement (see RBC40.6).

40.2 Member countries are at liberty to set more stringent standards, as with any other standards approved by the Committee. In particular, the concern about contagion that has led the Committee to propose a relatively tighter limit on exposures between G-SIBs applies, in principle, at the jurisdictional level to domestic systemically important banks (D-SIBs). The Committee therefore encourages jurisdictions to consider applying stricter limits to exposures between D-SIBs and to exposures of smaller banks to G-SIBs. The same logic would also be valid for the application of tighter limits to exposures to non-bank global systemically important financial institutions, and such a limit might be considered by the Committee in the future.

40.3 The assessment of the systemic importance of G-SIBs is made using data that relate to the consolidated group (see SCO40.5) and, consistent with this, the additional loss absorbency requirement will apply to the consolidated group. But, consistent with the additional loss absorbency requirement for G-SIBs, the application of the relatively tighter limit on exposures between G-SIBs at the consolidated level does not rule out the option for host jurisdictions of subsidiaries of a group that is identified as a G-SIB to also apply the limit at the individual legal entity or consolidated level within their jurisdiction, ie to impose the 15% limit on the subsidiaries' exposures to other G-SIBs (defined at the individual legal entity or consolidated level within their jurisdiction).

MGN

Margin requirements

This standard establishes minimum standards for margin requirements for non-centrally cleared derivatives. Such requirements reduce systemic risk with respect to non-standardised derivatives by reducing contagion and spillover risks and promoting central clearing.

MGN10

Definitions and application

This chapter describes the instruments, transactions and entities to which margin requirements apply. It also describes regulatory activities to ensure consistent and non-duplicative margin requirements across jurisdictions.

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Scope of coverage – instruments subject to the requirements

10.1 Appropriate margining practices should be in place with respect to all derivatives transactions that are not cleared by central counterparties (CCPs).[1]

Footnotes

[1] *These margining practices only apply to derivatives transactions that are not cleared by CCPs and do not apply to other transactions, such as repurchase agreements and security lending transactions that are not themselves derivatives but share some attributes with derivatives. In addition, indirectly cleared derivatives transactions that are intermediated through a clearing member on behalf of a non-member customer are not subject to these requirements as long as (a) the non-member customer is subject to the margin requirements of the clearing house or (b) the non-member customer provides margin consistent with the relevant corresponding clearing house's margin requirements.*

10.2 Except for physically settled foreign exchange (FX) forwards and swaps, the margin requirements apply to all non-centrally cleared derivatives. The margin requirements described in this standard do not apply to physically settled FX forwards and swaps. However, the Basel Committee and the International Organization of Securities Commissions (IOSCO) recognise that variation margining of such derivatives is a common and established practice among significant market participants. The Basel Committee and IOSCO recognise that the exchange of variation margin is a prudent risk management tool that limits the build-up of systemic risk. Accordingly, the Basel Committee and IOSCO agree that standards apply for variation margin to be exchanged on physically settled FX forwards and swaps in a manner consistent with the final policy framework set out in this document and that those variation margin standards are implemented either by way of supervisory guidance or national regulation. The Basel Committee and IOSCO note that the Basel Committee has updated the supervisory guidance for managing settlement risk in FX transactions.[2] The update to the supervisory guidance covers margin requirements for physically settled FX forwards and swaps. In developing variation margin standards for physically settled FX forwards and swaps, national supervisors should consider the recommendations in the Basel Committee supervisory guidance.

Footnotes

[2] *The Basel Committee has issued supervisory guidance for managing risks associated with the settlement of FX transactions: www.bis.org /publ/bcbs241.htm .*

10.3 Initial margin requirements for cross-currency swaps do not apply to the fixed physically settled FX transactions associated with the exchange of principal of cross-currency swaps. In practice, the margin requirements for cross-currency swaps may be computed in one of two ways. Initial margin may be computed by reference to the "interest rate" portion of the standardised initial margin schedule that is discussed below and presented in the appendix. Alternatively, if initial margin is being calculated pursuant to an approved initial margin model, the initial margin model need not incorporate the risk associated with the fixed physically settled FX transactions associated with the exchange of principal. All other risks that affect cross-currency swaps, however, must be considered in the calculation of the initial margin amount.[3] Finally, the variation margin requirements that are described below apply to all components of cross-currency swaps.

Footnotes

[3] *In the interest of clarity, the only payments to be excluded from initial margin requirements for a cross-currency swap are the fixed physically settled FX transactions associated with the exchange of principal (which have the same characteristics as FX forward contracts). All other payments or cash flows that occur during the life of the swap must be subject to initial margin requirements.*

10.4 Derivatives transactions between covered entities with zero counterparty risk require zero initial margin and may be excluded from the initial margin calculation. As an example, consider a European call option on a single stock. Suppose that one party, the option writer, agrees to sell a fixed number of shares to another party, the option purchaser, at a predetermined price at some specific future date, the contract's expiry, if the option purchaser wishes to do so. Suppose further that the option purchaser makes a payment to the option writer at the outset of the transaction that fully compensates the option writer for the possibility that it will have to sell shares at contract expiry at the predetermined price. In this case, the option writer faces zero counterparty risk while the option purchaser faces counterparty risk. The option writer has received the full value of the option at the outset of the transaction. The option purchaser, on the other hand, faces counterparty risk since the option writer may not be willing or able to sell shares to the option purchaser at the predetermined price at the expiry of the

contract. In this case, the option writer would not be obliged to collect any initial margin from the option purchaser and the call option could be excluded from the initial margin calculation. Since the option purchaser faces counterparty risk, the option purchaser must collect initial margin from the option writer in a manner consistent with the requirements of this standard.

Scope of coverage – covered entities

10.5 All covered entities (ie financial firms and systemically important non-financial entities) that engage in non-centrally cleared derivatives must exchange initial and variation margin as appropriate to the counterparty risks posed by such transactions.[4]

Footnotes

[4] *The Basel Committee and IOSCO note that different treatment is applied with respect to transactions between affiliated entities, as described under MGN10.13 below.*

10.6 Covered entities include all financial firms and systemically important non-financial firms. Central banks, sovereigns,[5] multilateral development banks, the Bank for International Settlements, and non-systemic, non-financial firms are not covered entities.[6]

Footnotes

[5] *Subject to national discretion, public sector entities (PSEs) may be treated as sovereigns for the purpose of determining the applicability of margin requirements. In considering whether a PSE should be treated as a sovereign for the purpose of determining the applicability of margin requirements, national supervisors should consider the counterparty credit risk of the PSE, as reflected by, for example, whether the PSE has revenue-raising powers and the extent of guarantees provided by the central government.*

[6] *Multilateral development banks (MDBs) exempted from this requirement are those that are eligible for a zero risk-weight under the Basel capital framework (see CRE20).*

10.7 The precise definition of financial firms, non-financial firms and systemically important non-financial firms will be determined by appropriate national regulation. Only non-centrally cleared derivatives transactions between two covered entities are governed by this standard.

10.8 All covered entities must exchange, on a bilateral basis, initial margin with a threshold not to exceed €50 million. The threshold is applied at the level of the consolidated group to which the threshold is being extended and is based on all non-centrally cleared derivatives between the two consolidated groups.[7]

Footnotes

[7] *Investment funds that are managed by an investment advisor are considered distinct entities that are treated separately when applying the threshold as long as the funds are distinct legal entities that are not collateralised by or are otherwise guaranteed or supported by other investment funds or the investment advisor in the event of fund insolvency or bankruptcy.*

10.9 The requirement that the threshold be applied on a consolidated group basis is intended to prevent the proliferation of affiliates and other legal entities within larger entities for the sole purpose of circumventing the margin requirements. The following example describes how the threshold would be applied by an entity that is facing three distinct legal entities within a larger consolidated group.

10.10 Suppose that a firm engages in separate derivatives transactions, executed under separate legally enforceable netting agreements, with three counterparties, A1, A2, A3. A1, A2 and A3, all belong to the same larger consolidated group such as a bank holding company. Suppose further that the initial margin requirement (as described in MGN20) is €100 million for each of the firm's netting sets with A1, A2 and A3. Then the firm dealing with these three affiliates must collect at least €250 million (250=100+100+100–50) from the consolidated group. Exactly how the firm allocates the €50 million threshold among the three netting sets is subject to agreement between the firm and its counterparties. The firm may not extend a €50 million threshold to each netting set with, A1, A2, A3, so that the total amount of initial margin collected is only €150 million (150=100-50+100-50+100–50).

10.11 Furthermore, the requirement to apply the threshold on a fully consolidated basis applies to both the counterparty to which the threshold is being extended and the counterparty that is extending the threshold. As a specific example, suppose that in the example above the firm (as referenced above) is itself organised into, say, three subsidiaries F1, F2 and F3 and that each of these subsidiaries engages in non-centrally cleared derivatives transactions with A1, A2 and A3. In this case, the extension of the €50 million threshold by the firm to A1, A2 and A3 is considered across the entirety of the firm, ie F1, F2, and F3, so that all subsidiaries of the firm extend in the aggregate no more than €50 million in an initial margin threshold to all of A1, A2 and A3.

10.12 The implementation of this approach requires appropriate cooperation between home and host supervisors. As the threshold is applied on a consolidated basis, only the home supervisor of the consolidated group will necessarily be able to verify that the group does not exceed this threshold with all of its counterparties. The host supervisors of subsidiaries of a group would not be able to assess whether the local subsidiaries under their responsibility comply with the threshold allocated by the group to each of its subsidiaries. Communication between the home consolidated supervisors and host supervisors is therefore necessary to ensure that the latter have access to information on the threshold allocated to the local subsidiary under their responsibility.

Treatment of transactions with affiliates

10.13 Transactions between a firm and its affiliates should be subject to appropriate regulation in a manner consistent with each jurisdiction's legal and regulatory framework. Local supervisors should review their own legal frameworks and market conditions and put in place initial and variation margin requirements as appropriate.

Interaction of national regimes in cross-border transactions

10.14 Regulatory regimes should interact so as to result in sufficiently consistent and non-duplicative regulatory margin requirements for non-centrally cleared derivatives across jurisdictions.

10.15 It is recommended that home and host country supervisors closely cooperate to identify conflicts and inconsistencies between regimes with respect to cross-border application of margin requirements. It is further recommended that authorities coordinate their approaches via multilateral or bilateral channels to reduce such issues, to the extent possible.

10.16 The margin requirements in a jurisdiction may be applied to legal entities established in that local jurisdiction, which would include locally established subsidiaries of foreign entities, in relation to the initial and variation margins that they collect. Home-country supervisors may permit a covered entity to comply with the margin requirements of a host-country margin regime with respect to its derivatives activities, provided that the home-country supervisor considers the host-country margin regime to be consistent with the margin requirements described in this framework. A branch is part of the same legal entity as the headquarters; it may be subject to either the margin requirements of the jurisdiction where the headquarters is established or the requirements of the host country.

MGN20

Requirements

This chapter sets out baseline requirements and methodologies for initial and variation margin, including eligible collateral. Banks may use standardised approaches to calculate margin requirements or, subject to supervisory approval, internal models.

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Introduction

20.1 Margin requirements for non-centrally cleared derivatives have two main benefits:

(1) Reduction of systemic risk: only standardised derivatives are suitable for central clearing. A substantial fraction of derivatives are not standardised and cannot be centrally cleared. These non-centrally cleared derivatives, totalling hundreds of trillions of dollars in notional amounts, pose the same type of systemic contagion and spillover risks that materialised in the recent financial crisis. Margin requirements for non-centrally cleared derivatives would be expected to reduce contagion and spillover effects by ensuring that collateral is available to offset losses caused by the default of a derivatives counterparty. Margin requirements can also have broader macroprudential benefits, by reducing the financial system's vulnerability to potentially destabilising procyclicality and limiting the build-up of uncollateralised exposures within the financial system.

(2) Promotion of central clearing: in many jurisdictions, central clearing will be mandatory for most standardised derivatives. But clearing imposes costs, in part because central counterparties (CCPs) require margin to be posted. Margin requirements on non-centrally cleared derivatives, by reflecting the generally higher risk associated with these derivatives, will promote central clearing, making the Group of Twenty's original 2009 reform programme more effective. This could, in turn, contribute to the reduction of systemic risk.

20.2 Setting margin requirements at the international level is important, to avoid activity moving to locations with lower margin requirements. Such movement would raise concerns about the effectiveness of the margin requirements (eg regulatory arbitrage) or about financial institutions operating in low-margin locations gaining a competitive advantage (ie unlevel playing field).

Minimum requirements

20.3 All covered entities (ie financial firms and systemically important non-financial entities) that engage in non-centrally cleared derivatives must exchange initial and variation margin as appropriate to the counterparty risks posed by such transactions.[1]

Footnotes

[1] *The Basel Committee and the International Organization of Securities Commissions (IOSCO) note that different treatment is applied with respect to transactions between affiliated entities, as described under MGN10.15.*

20.4 All covered entities that engage in non-centrally cleared derivatives must exchange, on a bilateral basis, the full amount of variation margin (ie a zero threshold) on a regular basis (eg daily).

20.5 All covered entities must exchange, on a bilateral basis, initial margin with a threshold not to exceed €50 million. The threshold is applied at the level of the consolidated group to which the threshold is being extended and is based on all non-centrally cleared derivatives between the two consolidated groups.[2]

Footnotes

[2] *Investment funds that are managed by an investment advisor are considered distinct entities that are treated separately when applying the threshold as long as the funds are distinct legal entities that are not collateralised by or are otherwise guaranteed or supported by other investment funds or the investment advisor in the event of fund insolvency or bankruptcy.*

20.6 All margin transfers between parties may be subject to a de-minimis minimum transfer amount not to exceed €500,000.

20.7 Initial margin requirements will be phased-in, but at the end of the phase-in period there will be a minimum level of non-centrally cleared derivatives activity (€8 billion of gross notional outstanding amount) necessary for covered entities to be subject to initial margin requirements.

20.8 The methodologies for calculating initial and variation margin that serve as the baseline for margin collected from a counterparty should:

(1) be consistent across entities covered by the requirements and reflect the potential future exposure (initial margin) and current exposure (variation margin) associated with the particular portfolio of non-centrally cleared derivatives at issue; and

(2) ensure that all counterparty risk exposures are covered fully with a high degree of confidence.

Baseline minimum amounts and methodologies for initial margin

20.9 For the purpose of informing the initial margin baseline, the potential future exposure of a non-centrally cleared derivatives should reflect an extreme but plausible estimate of an increase in the value of the instrument that is consistent with a one-tailed 99 per cent confidence interval over a 10-day horizon,[3] based on historical data that incorporates a period of significant financial stress.[4] The initial margin amount must be calibrated to a period that includes financial stress to ensure that sufficient margin will be available when it is most needed and to limit the extent to which the margin can be procyclical.

Footnotes

[3] *The 10-day requirement should apply in the case that variation margin is exchanged daily. If variation margin is exchanged at less than daily frequency then the minimum horizon should be set equal to 10 days plus the number of days in between variation margin exchanges; the threshold calculation set out in MGN20.5 should nonetheless be made irrespective of the frequency with which variation margin is exchanged.*

[4] *Because of the discrete subset of transactions covered by the margin requirements, these assumptions differ somewhat from the assumptions used to calculate potential future exposure under the Basel regulatory capital framework for over-the-counter derivatives.*

20.10 The required amount of initial margin may be calculated by reference to either:

(1) a quantitative portfolio margin model; or

(2) a standardised margin schedule.

20.11 When initial margin is calculated by reference to an initial margin model, the period of financial stress used for calibration should be identified and applied separately for each broad asset class for which portfolio margining is allowed, as set out below. In addition, the identified period must include a period of financial stress and should cover a historical period not to exceed five years. Additionally, the data within the identified period should be equally weighted for calibration purposes.

20.12 Non-centrally cleared derivatives will often be exposed to a number of complex and interrelated risks. Internal or third-party quantitative models that assess these risks in a granular form can be useful for ensuring that the relevant initial margin amounts are calculated in an appropriately risk-sensitive manner. Moreover,

current practice among a number of large and active central counterparties is to use internal quantitative models when determining initial margin amounts.

20.13 Notwithstanding the utility of quantitative models, the use of such models is predicated on the satisfaction of several prerequisite conditions. These additional requirements are intended to ensure that the use of models does not lead to a lowering of margin standards. The use of models is also not intended to lower margin standards that may already exist in the context of some non-centrally cleared derivatives. Rather, the use of models is intended to produce appropriately risk-sensitive assessments of potential future exposure so as to promote robust margin requirements.

(1) Any quantitative model that is used for initial margin purposes must be approved by the relevant supervisory authority. Models that have not been granted explicit approval may not be used for initial margin purposes. Models may be either internally developed or sourced from the counterparties or third-party vendors but in all such cases these models must be approved by the appropriate supervisory authority. Moreover, in the event that a third party-provided model is used for initial margin purposes, the model must be approved for use within each jurisdiction and by each institution seeking to use the model. Similarly, an unregulated counterparty that wishes to use a quantitative model for initial margin purposes may use an approved initial margin model. There will be no presumption that approval by one supervisor in the case of one or more institutions will imply approval for a wider set of jurisdictions and/or institutions.

(2) Quantitative initial margin models must be subject to an internal governance process that continuously assesses the value of the model's risk assessments, tests the model's assessments against realised data and experience, and validates the applicability of the model to the derivatives for which it is being used. The process must take into account the complexity of the products covered (eg barrier options and other more complex structures).

20.14 Quantitative initial margin models may account for risk on a portfolio basis. More specifically, the initial margin model may consider all of the derivatives that are approved for model use that are subject to a single legally enforceable netting agreement. Derivatives between counterparties that are not subject to the same legally enforceable netting agreement must not be considered in the same initial margin model calculation.

20.15

Derivative portfolios are often exposed to a number of offsetting risks that can and should be reliably quantified for the purposes of calculating initial margin requirements. At the same time, a distinction must be made between offsetting risks that can be reliably quantified and those that are more difficult to quantify. In particular, inter-relationships between derivatives in distinct asset classes, such as equities and commodities, are difficult to model and validate. Moreover, this type of relationship is prone to instability and may be more likely to break down in a period of financial stress. Accordingly, initial margin models may account for diversification, hedging and risk offsets within well defined asset classes such as currency/rates,[5] [6] equity, credit, or commodities, but not across such asset classes and provided these instruments are covered by the same legally enforceable netting agreement. However, any such incorporation of diversification, hedging and risk offsets by an initial margin model will require approval by the relevant supervisory authority. Initial margin calculations for derivatives in distinct asset classes must be performed without regard to derivatives in other asset classes. As a specific example, for a derivatives portfolio consisting of a single credit derivative and a single commodity derivative, an initial margin calculation that uses an internal model would proceed by first calculating the initial margin requirement on the credit derivatives and then calculating the initial margin requirement on the commodity derivative. The total initial margin requirement for the portfolio would be the sum of the two individual initial margin amounts because they are in two different asset classes (commodities and credit). Finally, derivatives for which a firm faces no (ie zero) counterparty risk require no initial margin to be collected and may be excluded from the initial margin calculation.

Footnotes

[5] *Currency and interest rate derivatives may be portfolio margined together for the purposes of these requirements. As an example, an interest rate swap and a currency option may be margined on a portfolio basis as part of a single asset class.*

[6] *Inflation swaps, which transfer inflation risk between counterparties, may be considered as part of the currency/rates asset class for the purpose of computing model-based initial margin requirements, and as part of the interest rate asset class for the purposes of computing standardised initial margin requirements.*

20.16 While quantitative, portfolio-based initial margin models can be a good risk management tool if monitored and governed appropriately; there are some instances in which a simpler and less risk-sensitive approach to initial margin calculations may be warranted. In particular, smaller market participants may not wish or may be unable to develop and maintain a quantitative model and may be unwilling to rely on counterparty's model. In addition, some market participants may value simplicity and transparency in initial margin calculations, without resorting to a complex quantitative model. Further, an appropriately conservative alternative for calculating initial margin is needed in the event that no approved initial margin model exists to cover a specific transaction. Accordingly, the Basel Committee and the International Organization of Securities Commissions (IOSCO) have provided an initial margin schedule, included as Table 1, which may be used to compute the amount of initial margin required on a set of derivatives transactions.

Standardised initial margin schedule — Table 1

Asset class	Initial margin requirement (% of notional exposure)
Credit: 0-2 year duration	2
Credit: 2-5 year duration	5
Credit: 5+ year duration	10
Commodity	15
Equity	15
Foreign exchange	6
Interest rate: 0-2 year duration	1
Interest rate: 2-5 year duration	2
Interest rate: 5+ year duration	4
Other	15

20.17 The required initial margin will be computed by referencing the standardised margin rates in MGN20.16 and by adjusting the gross initial margin amount by an amount that relates to the net-to-gross ratio (NGR) pertaining to all derivatives in the legally enforceable netting set. The use of the net-to-gross ratio is an accepted practice in the context of bank capital regulation and recognises

important offsets that would not be recognised by strict application of a standardised margin schedule. The required initial margin amount would be calculated in two steps.

(1) First, the margin rate in the provided schedule would be multiplied by the gross notional size of the derivatives contract, and then this calculation would be repeated for each derivatives contract.[7]

(2) Second, the gross initial margin amount is adjusted by the ratio of the net curr cost to gross current replacement cost (NGR). The NGR is defined as the level c cost over the level of gross replacement cost for transactions subject to legally netting agreements. The total amount of initial margin required on a portfolio standardised margin schedule would be the net standardised initial margin am expressed through the following formula:

$$\textit{Net standardised initial margin} = 0.4 \times \textit{gross initial margin} + 0.6 \times \textit{NGR} \times \textit{gross initial margin}$$

Footnotes

[7] *Subject to approval by the relevant supervisory authority, a limited degree of netting may be performed at the level of a specific derivatives contract to compute the notional amount that is applied to the margin rate. As an example, one pay-fixed-interest-rate swap with a maturity of three years and a notional of 100 could be netted against another pay-floating-interest-rate swap with a maturity of three years and a notional of 50 to arrive at a single notional of 50 to which the appropriate margin rate would be applied. Derivatives with different fundamental characteristics such as underlying, maturity and so forth may not be netted against each other for the purpose of computing the notional amount against which the standardised margin rate is applied.*

20.18 However, if a regulated entity is already using a schedule-based margin to satisfy requirements under its required capital regime, the appropriate supervisory authority may permit the use of the same schedule for initial margin purposes, provided that it is at least as conservative.

20.19

As in the case where firms use quantitative models to calculate initial margin, derivatives for which a firm faces no (ie zero) counterparty risk require no initial margin to be collected and may be excluded from the standardised initial margin calculation.

20.20 Derivatives market participants should not be allowed to switch between model- and schedule- based margin calculations in an effort to "cherry pick" the most favourable initial margin terms. Accordingly, the choice between model- and schedule-based initial margin calculations should be made consistently over time for all transactions within the same well defined asset class and, if applicable, it should comply with any other requirements imposed by the entity's supervisory authority.

20.21 At the same time, it is quite possible that a market participant may use a model-based initial margin calculation for one class of derivatives in which it commonly deals and a schedule-based initial margin in the case of some derivatives that are less routinely employed in its trading activities. A firm need not restrict itself to a model-based approach or to a schedule-based approach for the entirety of its derivatives activities. Rather, this requirement is meant to ensure that market participants do not use model-based margin calculations in those instances in which such calculations are more favourable than schedule-based requirements and schedule-based margin calculations when those requirements are more favourable than model-based margin requirements.

20.22 Initial margin should be collected at the outset of a transaction, and collected thereafter on a routine and consistent basis upon changes in measured potential future exposure, such as when trades are added to or subtracted from the portfolio. To mitigate procyclicality impacts, large discrete calls for (additional) initial margin due to "cliff-edge" triggers should be discouraged.

20.23 The build-up of additional initial margin should be gradual so that it can be managed over time. Moreover, margin levels should be sufficiently conservative, even during periods of low market volatility, to avoid procyclicality. The specific requirement that initial margin be set consistent with a period that includes stress is meant to limit procyclical changes in the amount of initial margin required.

20.24 Parties to derivatives contracts should have rigorous and robust dispute resolution procedures in place with their counterparty before the onset of a transaction. In particular, the amount of initial margin to be collected from one party by another will be the result of either an approved model calculation or the standardised schedule. The specific method and parameters that will be used by each party to calculate initial margin should be agreed and recorded at the onset of the transaction to reduce potential disputes. Moreover, parties may agree to use a single model for the purposes of such margin model calculations subject to bilateral agreement and appropriate regulatory approval. In the event that a margin dispute arises, both parties should make all necessary and appropriate efforts, including timely initiation of dispute resolution protocols, to resolve the dispute and exchange the required amount of initial margin in a timely fashion.

20.25 The applicable netting agreements used by market participants will need to be effective under the laws of the relevant jurisdictions and supported by periodically updated legal opinions. Supervisory authorities and relevant market participants should consider how those requirements could best be complied with in practice.

Baseline minimum amounts and methodologies for variation margin

20.26 For variation margin, the full amount necessary to fully collateralise the mark-to-market exposure of the non-centrally cleared derivatives must be exchanged.

20.27 To reduce adverse liquidity shocks and in order to effectively mitigate counterparty credit risk, variation margin should be calculated and exchanged for non-centrally cleared derivatives subject to a single, legally enforceable netting agreement with sufficient frequency (eg daily).

20.28 The valuation of a derivative's current exposure can be complex and, at times, become subject to question or dispute by one or both parties. In the case of non-centrally cleared derivatives, these instruments are likely to be relatively illiquid. The associated lack of price transparency further complicates the process of agreeing on current exposure amounts for variation margin purposes. Accordingly, parties to derivatives contracts should have rigorous and robust dispute resolution procedures in place with their counterparty before the onset of a transaction. In the event that a margin dispute arises, both parties should make all necessary and appropriate efforts, including timely initiation of dispute resolution protocols, to resolve the dispute and exchange the required amount of variation margin in a timely fashion.

Eligible collateral for margin

20.29 To ensure that assets collected as collateral for initial and variation margin purposes can be liquidated in a reasonable amount of time to generate proceeds that could sufficiently protect collecting entities covered by the requirements from losses on non-centrally cleared derivatives in the event of a counterparty default, these assets should be highly liquid and should, after accounting for an appropriate haircut, be able to hold their value in a time of financial stress. The set of eligible collateral should take into account that assets which are liquid in normal market conditions may rapidly become illiquid in times of financial stress. In addition to having good liquidity, eligible collateral should not be exposed to excessive credit, market and foreign exchange (FX) risk (including through differences between the currency of the collateral asset and the currency of settlement). To the extent that the value of the collateral is exposed to these risks, appropriately risk-sensitive haircuts should be applied. More importantly, the value of the collateral should not exhibit a significant correlation with the creditworthiness of the counterparty or the value of the underlying non-centrally cleared derivatives portfolio in such a way that would undermine the effectiveness of the protection offered by the margin collected (ie the so-called "wrong way risk"). Accordingly, securities issued by the counterparty or its related entities should not be accepted as collateral. Accepted collateral should also be reasonably diversified.

20.30 National supervisors should develop their own list of eligible collateral assets based on the key principle, taking into account the conditions of their own markets. As a guide, examples of the types of eligible collateral that satisfy the key principle would generally include:

(1) cash;

(2) high-quality government and central bank securities;

(3) high-quality corporate bonds;

(4) high-quality covered bonds;

(5) equities included in major stock indices; and

(6) gold.

20.31 The illustrative list in MGN20.30 should not be viewed as being exhaustive. Additional assets and instruments that satisfy the key principle may also serve as eligible collateral. Also, in different jurisdictions, some particular forms of collateral may be more abundant or generally available due to institutional market practices or norms. Eligible collateral can be denominated in any currency

in which payment obligations under the non-centrally cleared derivatives may be made, or in highly liquid foreign currencies subject to appropriate haircuts to reflect the inherent FX risk involved.

20.32 Haircut requirements should be transparent and easy to calculate, so as to facilitate payments between counterparties, avoid disputes and reduce overall operational risk. Haircut levels should be risk-based and should be calibrated appropriately to reflect the underlying risks that affect the value of eligible collateral, such as market price volatility, liquidity, credit risk and FX volatility, during both normal and stressed market conditions. Haircuts should be set conservatively to avoid procyclicality. For example, haircuts should be set at a sufficiently high level during "good times" to avoid the need for sharp and sudden increases in times of stress. Potential methods for determining appropriate haircuts could include either internal or third-party quantitative model-based haircuts or schedule-based haircuts. Each alternative is briefly discussed below.

20.33 As in the case of initial margin models, risk-sensitive quantitative models, both internal or third-party, could be used to establish haircuts provided that the model is approved by supervisors and is subject to appropriate internal governance standards. As in the case of initial margin models, an unregulated derivatives counterparty may use an approved quantitative model. In addition to the points regarding the use of internal models discussed in the context of initial margin, the Basel Committee and IOSCO also note that eligible collateral may vary across national jurisdictions owing to differences in the availability and liquidity of certain types of collateral. As a result, it may be difficult to establish a standardised set of haircuts that would apply to all types of collateral across all jurisdictions that are consistent with the key principle.

20.34 In addition to haircuts based on quantitative models, as in the case of initial margin, derivatives counterparties should also have the option of using standardised haircuts that would provide transparency and limit procyclical effects. The Basel Committee and IOSCO have established a standardised schedule of haircuts for the list of assets appearing above. The haircut levels are derived from the standard supervisory haircuts adopted in the Basel Accord's comprehensive approach to collateralised transactions framework, and can be found in Table 2. In the event that the Basel Committee chooses to make changes to these haircuts for regulatory capital purposes, the Basel Committee and IOSCO would expect to adopt these changes in the context of the margin requirements for non-centrally cleared derivatives absent a compelling policy reason not to do so. However, if a regulated entity is subject to an existing standardised haircut-based approach under its required capital regime, the appropriate supervisory authority may permit the use of the same haircuts for initial margin purposes, provided that they are at least as conservative. While haircuts serve a critical risk management function in ensuring that pledged collateral is sufficient to cover margin needs in a time of financial stress, other risk mitigants should also be considered when accepting non-cash collateral. In particular, entities covered by the requirements should ensure that the collateral collected is not overly concentrated in terms of an individual issuer, issuer type and asset type.

Standardised haircut schedule Table 2

Asset class	Haircut (% of market value)
Cash in same currency	0
High-quality government and central bank securities: residual maturity less than one year	0.5
High-quality government and central bank securities: residual maturity between one and five years	2
High-quality government and central bank securities: residual maturity greater than five years	4
High-quality corporate / covered bonds: residual maturity less than one year	1
High-quality corporate / covered bonds: residual maturity greater than one year and less than five years	4
High-quality corporate / covered bonds: residual maturity greater than five years	8
Equities included in major stock indices	15
Gold	15
Additional (additive) haircut in which the currency of the derivatives obligation differs from that of the collateral asset	8

20.35 Schedule-based haircuts should be stringent enough to give firms an incentive to develop internal models. To prevent firms from selectively applying the standardised tables where this would produce a lower haircut, firms would have to consistently adopt either the standardised tables approach or the internal /third-party models approach for all the collateral assets within the same well defined asset class.

20.36 In the event that a dispute arises over the value of eligible collateral, both parties should make all necessary and appropriate efforts, including timely initiation of dispute resolution protocols, to resolve the dispute and exchange any required margin in a timely fashion.

20.37 Collateral that is posted by a counterparty to satisfy margin requirements may, at some point in time before the end of the derivatives contract, be needed by the counterparty for some particular reason or purpose. Alternative collateral may be substituted or exchanged for the collateral that was originally posted provided that both parties agree to the substitution and that the substitution or exchange is made on the terms applicable to their agreement. When collateral is substituted, the alternative collateral must meet all the requirements outlined above. Further, the value of the alternative collateral, after the application of haircuts, must be sufficient to meet the margin requirement.

Treatment of provided initial margin

20.38 Because the exchange of initial margin on a net basis may be insufficient to protect two market participants with large gross derivatives exposures to each other in the case of one firm's failure, the gross initial margin between such firms should be exchanged. Initial margin collected should be held in such a way as to ensure that:

(1) the margin collected is immediately available to the collecting party in the event of the counterparty's default, and

(2) the collected margin must be subject to arrangements that protect the posting party to the extent possible under applicable law in the event that the collecting party enters bankruptcy.

20.39 The collateral arrangements used will need to be effective under the relevant laws and supported by periodically updated legal opinions. Jurisdictions are encouraged to review the relevant local laws to ensure that collateral can be sufficiently protected in the event of bankruptcy.

20.40 Initial margin should be exchanged on a gross basis and held in a manner consistent with the key principle in MGN20.38.

20.41 Except where re-hypothecated, re-pledged or re-used in accordance with MGN20.42, cash and non-cash collateral collected as initial margin should not be re-hypothecated, re-pledged or re-used. A jurisdiction may allow the initial margin collector (initial margin collector) to re-hypothecate, re-pledge or re-use certain initial margin collected from a customer (customer) provided that the strict circumstances provided in MGN20.42 are fully adhered to and that the jurisdiction determines that appropriate controls are in place to ensure that such collateral use would only allow a one-time re-hypothecation, re-pledge or re-use in the global financial system; that is, once initial margin collateral has been re-hypothecated, re-pledged or re-used to a third party (third party) in accordance with MGN20.42, no further re-hypothecation, re-pledging or re-use of such initial margin collateral by the third party is permitted. Moreover, collected collateral must be segregated from the initial margin collector's proprietary assets. In addition, the initial margin collector must give the customer the option to segregate the collateral that it posts from the assets of all the initial margin collector's other customers and counterparties (ie individual segregation).

20.42 Cash and non-cash collateral collected as initial margin from a customer may be re-hypothecated, re-pledged or re-used (henceforth re-hypothecated) to a third party only for purposes of hedging the initial margin collector's derivatives position arising out of transactions with customers for which initial margin was collected and it must be subject to conditions that protect the customer's rights in the collateral, to the extent permitted by applicable national law. In this context, customers should only include "buy-side" financial firms as well as non-financial entities, but shall not include entities that regularly hold themselves out as making a market in derivatives, routinely quote bid and offer prices on derivative contracts and routinely respond to requests for bid or offer prices on derivative contracts. In any event, the customer's collateral may be re-hypothecated only if the conditions described below are met:

(1) The customer, as part of its contractual agreement with the initial margin collector and after disclosure by the initial margin collector of both its right not to permit re-hypothecation and the risks associated with the nature of the customer's claim to the re-hypothecated collateral in the event of the insolvency of the initial margin collector or the third party, gives express consent in writing to the re-hypothecation of its collateral. In addition, the initial margin collector must give the customer the option to individually segregate the collateral that it posts.

(2) The initial margin collector is subject to regulation of liquidity risk.

(3) Collateral collected as initial margin from the customer is treated as a customer asset, and is segregated from the initial margin collector's proprietary assets until re-hypothecated. Once re-hypothecated, the third party must treat the collateral as a customer asset, and must segregate it from the third party's proprietary assets. Assets returned to the initial margin collector after re-hypothecation must also be treated as customer assets and must be segregated from the initial margin collector's proprietary assets.

(4) The collateral of customers that have consented to the re-hypothecation of their collateral must be segregated from that of customers that have not so consented.

(5) Where initial margin has been individually segregated, the collateral must only be re-hypothecated for the purpose of hedging the initial margin collector's derivatives position arising out of transactions with the customer in relation to which the collateral was provided.

(6) Where initial margin has been individually segregated and subsequently re-hypothecated, the initial margin collector must require the third party similarly to segregate the collateral from the assets of the third party's other customers, counterparties and its proprietary assets.

(7) Protection is given to the customer from the risk of loss of initial margin in circumstances where either the initial margin collector or the third party becomes insolvent and where both the initial margin collector and the third party become insolvent.

(8) Where the initial margin collector re-hypothecates initial margin, the agreement with the recipient of the collateral (ie the third party) must prohibit the third party from further re-hypothecating the collateral.

(9) Where collateral is re-hypothecated, the initial margin collector must notify the customer of that fact. Upon request by the customer and where the customer has opted for individual segregation, the initial margin collector must notify the customer of the amount of cash collateral and the value of non-cash collateral that has been re-hypothecated.

(10) Collateral must only be re-hypothecated to, and held by, an entity that is regulated in a jurisdiction that meets all of the specific conditions contained in this section and in which the specific conditions can be enforced by the initial margin collector.

(11) The customer and the third party may not be within the same group.

(12) The initial margin collector and the third party must keep appropriate records to show that all the above conditions have been met.

20.43 The level and volume of re-hypothecation should be disclosed to authorities so that they can monitor any resulting risk.

20.44 Cash and non-cash collateral collected as variation margin may be re-hypothecated, re-pledged or re-used.

MGN90

Transition

This chapter sets out the transitional arrangements that apply to the margin requirements.

Version effective as of 03 Apr 2020

Transitional arrangements updated to reflect 3 April 2020 publication by BCBS and IOSCO.

Introduction

90.1 The requirements described in MGN should be phased in so that the systemic risk reductions and incentive benefits are appropriately balanced against the liquidity, operational and transition costs associated with implementing the requirements. In addition, the requirements should be regularly reviewed to evaluate their efficacy, soundness and relationship to other existing and related regulatory initiatives, and to ensure harmonisation across jurisdictions.

Transitional arrangements for initial margin

90.2 The requirement to exchange two-way initial margin with a threshold of up to €50 million will be staged as follows.

(1) From 1 September 2018 to 31 August 2019, any covered entity belonging to a group whose aggregate month-end average notional amount of non-centrally cleared derivatives for March, April, and May of 2018 exceeds €1.5 trillion will be subject to the requirements when transacting with another covered entity (provided that it also meets that condition).

(2) From 1 September 2019 to 31 August 2021, any covered entity belonging to a group whose aggregate month-end average notional amount of non-centrally cleared derivatives for March, April, and May of 2019 exceeds €0.75 trillion will be subject to the requirements when transacting with another covered entity (provided that it also meets that condition).

(3) From 1 September 2021 to 31 August 2022, any covered entity belonging to a group whose aggregate month-end average notional amount of non-centrally cleared derivatives for March, April, and May of 2021 exceeds €50 billion will be subject to the requirements when transacting with another covered entity (provided that it also meets that condition).

(4) On a permanent basis (ie from 1 September 2022), any covered entity belonging to a group whose aggregate month-end average notional amount of non-centrally cleared derivatives for March, April, and May of the year exceeds €8 billion will be subject to the requirements described in this paper during the one-year period from 1 September of that year to 31 August of the following year when transacting with another covered entity (provided that it also meets that condition). Any covered entity belonging to a group whose aggregate month-end average notional amount of non-centrally cleared derivatives for March, April, and May of the year is less than €8 billion will not be subject to the initial margin requirements described in MGN.

90.3 For the purposes of calculating the group aggregate month-end average notional amount for determining whether a covered entity will be subject to the initial margin requirements described in this paper, all of the group's non-centrally cleared derivatives, including physically settled foreign exchange forwards and swaps, should be included.

90.4 Initial margin requirements will apply to all new contracts entered into during the periods described above. Applying the initial margin requirements to existing derivatives contracts is not required.[1]

Footnotes

[1] *Genuine amendments to existing derivatives contracts do not qualify as a new derivatives contract. Any amendment that is intended to extend an existing derivatives contract for the purpose of avoiding margin requirements will be considered a new derivatives contract.*

90.5 Global regulators will work together to ensure that there is sufficient transparency regarding which entities are and are not subject to the initial margin requirements during the phase-in period.

Transitional arrangements for variation margin

90.6 From 1 September 2016, any covered entity belonging to a group whose aggregate month-end average notional amount of non-centrally cleared derivatives from March, April and May 2016 exceeds €3.0 trillion will be required to exchange variation margin when transacting with another covered entity (provided that it also meets that condition). The requirements to exchange variation margin between these covered entities only applies to new contracts entered into after 1 September 2016. Exchange of variation margin on other contracts is subject to bilateral agreement.

90.7 From 1 March 2017, all covered entities will be required to exchange initial margin. Subject to MGN90.6, the requirement to exchange variation margin between covered entities only applies to new contracts entered into after 1 March 2017. Exchange of variation margin on other contracts is subject to bilateral agreement.

SRP

Supervisory review process

The Pillar 2 supervisory review process ensures that banks have adequate capital and liquidity to support all the risks in their business, especially with respect to risks not fully captured by the Pillar 1 process, and encourages good risk management.

SRP10

Importance of supervisory review

This chapter describes the objectives and importance of the supervisory review process.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Importance of supervisory review

10.1 The supervisory review process of the Framework is intended not only to ensure that banks have adequate capital and liquidity to support all the risks in their business, but also to encourage banks to develop and use better risk management techniques in monitoring and managing their risks.

10.2 The supervisory review process recognises the responsibility of bank management in developing an internal capital assessment process and setting capital targets that are commensurate with the bank's risk profile and control environment. In the Framework, bank management continues to bear responsibility for ensuring that the bank has adequate capital to support its risks beyond the core minimum requirements.

10.3 Supervisors are expected to evaluate how well banks are assessing their capital needs relative to their risks and to intervene, where appropriate. This interaction is intended to foster an active dialogue between banks and supervisors such that when deficiencies are identified, prompt and decisive action can be taken to reduce risk or restore capital. Accordingly, supervisors may wish to adopt an approach to focus more intensely on those banks with risk profiles or operational experience that warrants such attention.

10.4 The Committee recognises the relationship that exists between the amount of capital held by the bank against its risks and the strength and effectiveness of the bank's risk management and internal control processes. However, increased capital should not be viewed as the only option for addressing increased risks confronting the bank. Other means for addressing risk, such as strengthening risk management, applying internal limits, strengthening the level of provisions and reserves, and improving internal controls, must also be considered. Furthermore, capital should not be regarded as a substitute for addressing fundamentally inadequate control or risk management processes.

10.5 There are three main areas that might be particularly suited to treatment under Pillar 2: risks considered under Pillar 1 that are not fully captured by the Pillar 1 process (eg credit concentration risk); those factors not taken into account by the Pillar 1 process (eg interest rate risk in the banking book, business and strategic risk); and factors external to the bank (eg business cycle effects). A further important aspect of Pillar 2 is the assessment of compliance with the minimum standards and disclosure requirements of the more advanced methods in Pillar 1. Supervisors must ensure that these requirements are being met, both as qualifying criteria and on a continuing basis.

SRP20

Four key principles

The Committee has identified four key principles of supervisory review under Pillar 2. These complement other supervisory guidance published by the Committee, including the Basel Core Principles.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

The four key principles

20.1 Principle 1: Banks should have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels.

20.2 Principle 2: Supervisors should review and evaluate banks' internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the result of this process.

20.3 Principle 3: Supervisors should expect banks to operate above the minimum regulatory capital ratios and should have the ability to require banks to hold capital in excess of the minimum.

20.4 Principle 4: Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular bank and should require rapid remedial action if capital is not maintained or restored.

Principle 1 – banks' process for assessing capital adequacy

20.5 Banks must be able to demonstrate that chosen internal capital targets are well founded and that these targets are consistent with their overall risk profile and current operating environment. In assessing capital adequacy, bank management needs to be mindful of the particular stage of the business cycle in which the bank is operating. Rigorous, forward-looking stress testing that identifies possible events or changes in market conditions that could adversely impact the bank should be performed. Bank management clearly bears primary responsibility for ensuring that the bank has adequate capital to support its risks.

20.6 The five main features of a rigorous process are as follows:

(1) board and senior management oversight;[1]

(2) sound capital assessment;

(3) comprehensive assessment of risks;

(4) monitoring and reporting; and

(5) internal control review.

Footnotes

[1] *This chapter refers to a management structure composed of a board of directors and senior management. The Committee is aware that there are significant differences in legislative and regulatory frameworks across countries as regards the functions of the board of directors and senior management. In some countries, the board has the main, if not exclusive, function of supervising the executive body (senior management, general management) so as to ensure that the latter fulfils its tasks. For this reason, in some cases, it is known as a supervisory board. This means that the board has no executive functions. In other countries, by contrast, the board has a broader competence in that it lays down the general framework for the management of the bank. Owing to these differences, the notions of the board of directors and senior management are used in this section not to identify legal constructs but rather to label two decision-making functions within a bank.*

Board and senior management oversight

20.7 A sound risk management process is the foundation for an effective assessment of the adequacy of a bank's capital position. Bank management is responsible for understanding the nature and level of risk being taken by the bank and how this risk relates to adequate capital levels. It is also responsible for ensuring that the formality and sophistication of the risk management processes are appropriate in light of the risk profile and business plan.

20.8 The analysis of a bank's current and future capital requirements in relation to its strategic objectives is a vital element of the strategic planning process. The strategic plan should clearly outline the bank's capital needs, anticipated capital expenditures, desirable capital level, and external capital sources. Senior management and the board should view capital planning as a crucial element in being able to achieve its desired strategic objectives.

20.9 The bank's board of directors has responsibility for setting the bank's tolerance for risks. It should also ensure that management establishes a framework for assessing the various risks, develops a system to relate risk to the bank's capital level, and establishes a method for monitoring compliance with internal policies. It is likewise important that the board of directors adopts and supports strong internal controls and written policies and procedures and ensures that management effectively communicates these throughout the organisation.

Sound capital assessment

20.10 Fundamental elements of sound capital assessment include:

(1) policies and procedures designed to ensure that the bank identifies, measures, and reports all material risks;

(2) a process that relates capital to the level of risk;

(3) a process that states capital adequacy goals with respect to risk, taking account of the bank's strategic focus and business plan; and

(4) a process of internal controls, reviews and audit to ensure the integrity of the overall management process.

Comprehensive assessment of risks

20.11 All material risks faced by the bank should be addressed in the capital assessment process. While the Committee recognises that not all risks can be measured precisely, a process should be developed to estimate risks. Therefore, the following risk exposures, which by no means constitute a comprehensive list of all risks, should be considered.

20.12 Credit risk: Banks should have methodologies that enable them to assess the credit risk involved in exposures to individual borrowers or counterparties as well as at the portfolio level. Banks should assess exposures, regardless of whether they are rated or unrated, and determine whether the risk weights applied to such exposures, under the Standardised Approach, are appropriate for their inherent risk. In those instances where a bank determines that the inherent risk of such an exposure, particularly if it is unrated, is significantly higher than that implied by the risk weight to which it is assigned, the bank should consider the higher degree of credit risk in the evaluation of its overall capital adequacy. For more sophisticated banks, the credit review assessment of capital adequacy, at a minimum, should cover four areas:

(1) risk-rating systems,

(2) portfolio analysis / aggregation;

(3) securitisation / complex credit derivatives; and

(4) large exposures and risk concentrations.

20.13 Internal risk ratings are an important tool in monitoring credit risk. Internal risk ratings should be adequate to support the identification and measurement of risk

from all credit exposures, and should be integrated into an institution's overall analysis of credit risk and capital adequacy. The ratings system should provide detailed ratings for all assets, not only for criticised or problem assets. Loan loss reserves should be included in the credit risk assessment for capital adequacy.

20.14 The analysis of credit risk should adequately identify any weaknesses at the portfolio level, including any concentrations of risk. It should also adequately take into consideration the risks involved in managing credit concentrations and other portfolio issues through such mechanisms as securitisation programmes and complex credit derivatives. Further, the analysis of counterparty credit risk should include consideration of public evaluation of the supervisor's compliance with the Core Principles for Effective Banking Supervision (BCP).

20.15 Operational risk: the Committee believes that similar rigour should be applied to the management of operational risk, as is done for the management of other significant banking risks. The failure to properly manage operational risk can result in a misstatement of an institution's risk/return profile and expose the institution to significant losses.

20.16 A bank should develop a framework for managing operational risk and evaluate the adequacy of capital given this framework. The framework should cover the bank's appetite and tolerance for operational risk, as specified through the policies for managing this risk, including the extent and manner in which operational risk is transferred outside the bank. It should also include policies outlining the bank's approach to identifying, assessing, monitoring and controlling/mitigating the risk.

20.17 Market risk: banks should have methodologies that enable them to assess and actively manage all material market risks, wherever they arise, at position, desk, business line and firm-wide level. For more sophisticated banks, their assessment of internal capital adequacy for market risk, at a minimum, should be based on both value-at-risk (VaR) modelling and stress testing, including an assessment of concentration risk and the assessment of illiquidity under stressful market scenarios, although all firms' assessments should include stress testing appropriate to their trading activity.

20.18 VaR is an important tool in monitoring aggregate market risk exposures and provides a common metric for comparing the risk being run by different desks and business lines. A bank's VaR model should be adequate to identify and measure risks arising from all its trading activities and should be integrated into the bank's overall internal capital assessment as well as subject to rigorous on-going validation. A VaR model estimates should be sensitive to changes in the trading book risk profile.

20.19 Banks must supplement their VaR model with stress tests (factor shocks or integrated scenarios whether historic or hypothetical) and other appropriate risk management techniques. In the bank's internal capital assessment it must demonstrate that it has enough capital to not only meet the minimum capital requirements but also to withstand a range of severe but plausible market shocks. In particular, it must factor in, where appropriate:

(1) illiquidity / gapping of prices;

(2) concentrated positions (in relation to market turnover);

(3) one-way markets;

(4) non-linear products / deep out-of-the-money positions;

(5) events and jumps-to-default;

(6) significant shifts in correlations; and

(7) other risks that may not be appropriately captured in VaR (eg recovery rate uncertainty, implied correlations or skew risk).

20.20 The stress tests applied by a bank and, in particular, the calibration of those tests (e.g. the parameters of the shocks or types of events considered) should be reconciled back to a clear statement setting out the premise upon which the bank' s internal capital assessment is based (eg ensuring there is adequate capital to manage the traded portfolios within stated limits through what may be a prolonged period of market stress and illiquidity, or that there is adequate capital to ensure that, over a given time horizon to a specified confidence level, all positions can be liquidated or the risk hedged in an orderly fashion). The market shocks applied in the tests must reflect the nature of portfolios and the time it could take to hedge out or manage risks under severe market conditions.

20.21 Concentration risk should be pro-actively managed and assessed by firms and concentrated positions should be routinely reported to senior management.

20.22 Banks should design their risk management systems, including the VaR methodology and stress tests, to properly measure the material risks in instruments they trade as well as the trading strategies they pursue. As their instruments and trading strategies change, the VaR methodologies and stress tests should also evolve to accommodate the changes.

20.23 Banks must demonstrate how they combine their risk measurement approaches to arrive at the overall internal capital for market risk.

20.24 Interest rate risk in the banking book: the measurement process should include all material interest rate positions of the bank and consider all relevant repricing and maturity data. Such information will generally include current balance and contractual rate of interest associated with the instruments and portfolios, principal payments, interest reset dates, maturities, the rate index used for repricing, and contractual interest rate ceilings or floors for adjustable-rate items. The system should also have well-documented assumptions and techniques.

20.25 Regardless of the type and level of complexity of the measurement system used, bank management should ensure the adequacy and completeness of the system. Because the quality and reliability of the measurement system is largely dependent on the quality of the data and various assumptions used in the model, management should give particular attention to these items.

20.26 Liquidity risk: liquidity is crucial to the ongoing viability of any banking organisation. Banks' capital positions can have an effect on their ability to obtain liquidity, especially in a crisis. Each bank must have adequate systems for measuring, monitoring and controlling liquidity risk. Banks should evaluate the adequacy of capital given their own liquidity profile and the liquidity of the markets in which they operate.

20.27 Other risks: although the Committee recognises that "other" risks, such as reputational and strategic risk, are not easily measurable, it expects industry to further develop techniques for managing all aspects of these risks.

Monitoring and reporting

20.28 The bank should establish an adequate system for monitoring and reporting risk exposures and assessing how the bank's changing risk profile affects the need for capital. The bank's senior management or board of directors should, on a regular basis, receive reports on the bank's risk profile and capital needs. These reports should allow senior management to:

(1) evaluate the level and trend of material risks and their effect on capital levels;

(2) evaluate the sensitivity and reasonableness of key assumptions used in the capital assessment measurement system;

(3) determine that the bank holds sufficient capital against the various risks and is in compliance with established capital adequacy goals; and

(4) assess its future capital requirements based on the bank's reported risk profile and make necessary adjustments to the bank's strategic plan accordingly.

Internal control review

20.29 The bank's internal control structure is essential to the capital assessment process. Effective control of the capital assessment process includes an independent review and, where appropriate, the involvement of internal or external audits. The bank's board of directors has a responsibility to ensure that management establishes a system for assessing the various risks, develops a system to relate risk to the bank's capital level, and establishes a method for monitoring compliance with internal policies. The board should regularly verify whether its system of internal controls is adequate to ensure well-ordered and prudent conduct of business.

20.30 The bank should conduct periodic reviews of its risk management process to ensure its integrity, accuracy, and reasonableness. Areas that should be reviewed include:

(1) appropriateness of the bank's capital assessment process given the nature, scope and complexity of its activities;

(2) identification of large exposures and risk concentrations;

(3) accuracy and completeness of data inputs into the bank's assessment process;

(4) reasonableness and validity of scenarios used in the assessment process; and

(5) stress testing and analysis of assumptions and inputs.

Principle 2 – supervisory review of banks' internal capital adequacy assessments

20.31 The supervisory authorities should regularly review the process by which a bank assesses its capital adequacy, risk position, resulting capital levels, and quality of capital held. Supervisors should also evaluate the degree to which a bank has in place a sound internal process to assess capital adequacy. The emphasis of the review should be on the quality of the bank's risk management and controls and should not result in supervisors functioning as bank management. The periodic review can involve some combination of:

(1) on-site examinations or inspections;

(2) off-site review;

(3) discussions with bank management;

(4) review of work done by external auditors (provided it is adequately focused on the necessary capital issues); and

(5) periodic reporting.

20.32 The substantial impact that errors in the methodology or assumptions of formal analyses can have on resulting capital requirements requires a detailed review by supervisors of each bank's internal analysis.

20.33 Supervisors should assess the degree to which internal targets and processes incorporate the full range of material risks faced by the bank. Supervisors should also review the adequacy of risk measures used in assessing internal capital adequacy and the extent to which these risk measures are also used operationally in setting limits, evaluating business line performance, and evaluating and controlling risks more generally. Supervisors should consider the results of sensitivity analyses and stress tests conducted by the institution and how these results relate to capital plans.

20.34 Supervisors should review the bank's processes to determine that:

(1) target levels of capital chosen are comprehensive and relevant to the current operating environment;

(2) these levels are properly monitored and reviewed by senior management; and

(3) the composition of capital is appropriate for the nature and scale of the bank' s business.

20.35 Supervisors should also consider the extent to which the bank has provided for unexpected events in setting its capital levels. This analysis should cover a wide range of external conditions and scenarios, and the sophistication of techniques and stress tests used should be commensurate with the bank's activities.

20.36 Supervisors should consider the quality of the bank's management information reporting and systems, the manner in which business risks and activities are aggregated, and management's record in responding to emerging or changing risks.

20.37 In all instances, the capital level at an individual bank should be determined according to the bank's risk profile and adequacy of its risk management process and internal controls. External factors such as business cycle effects and the macroeconomic environment should also be considered.

20.38 In order for certain internal methodologies, credit risk mitigation techniques and asset securitisations to be recognised for regulatory capital purposes, banks will need to meet a number of requirements, including risk management standards and disclosures. In particular, banks will be required to disclose features of their internal methodologies used in calculating minimum capital requirements. As part of the supervisory review process, supervisors must ensure that these conditions are being met on an ongoing basis.

20.39 The Committee regards this review of minimum standards and qualifying criteria as an integral part of the supervisory review process under Principle 2. In setting the minimum criteria the Committee has considered current industry practice and so anticipates that these minimum standards will provide supervisors with a useful set of benchmarks that are aligned with bank management expectations for effective risk management and capital allocation.

20.40 There is also an important role for supervisory review of compliance with certain conditions and requirements set for standardised approaches. In this context, there will be a particular need to ensure that use of various instruments that can reduce Pillar 1 capital requirements are utilised and understood as part of a sound, tested, and properly documented risk management process.

20.41 Having carried out the review process described above, supervisors should take appropriate action if they are not satisfied with the results of the bank's own risk assessment and capital allocation. Supervisors should consider a range of actions, such as those set out under Principles 3 and 4 below.

Principle 3 – banks should operate above minimum regulatory capital ratios

20.42 Pillar 1 capital requirements will include a buffer for uncertainties surrounding the Pillar 1 regime that affect the banking population as a whole. Bank-specific uncertainties will be treated under Pillar 2. It is anticipated that such buffers under Pillar 1 will be set to provide reasonable assurance that a bank with good internal systems and controls, a well-diversified risk profile and a business profile well covered by the Pillar 1 regime, and which operates with capital equal to Pillar 1 requirements, will meet the minimum goals for soundness embodied in Pillar 1. However, supervisors will need to consider whether the particular features of the markets for which they are responsible are adequately covered. Supervisors will typically require (or encourage) banks to operate with a buffer, over and above the Pillar 1 standard. Banks should maintain this buffer for a combination of the following:

(1) Pillar 1 minimums are anticipated to be set to achieve a level of bank creditworthiness in markets that is below the level of creditworthiness sought by many banks for their own reasons. For example, most international banks appear to prefer to be highly rated by internationally recognised rating agencies. Thus, banks are likely to choose to operate above Pillar 1 minimums for competitive reasons.

(2) In the normal course of business, the type and volume of activities will change, as will the different risk exposures, causing fluctuations in the overall capital ratio.

(3) It may be costly for banks to raise additional capital, especially if this needs to be done quickly or at a time when market conditions are unfavourable.

(4) For banks to fall below minimum regulatory capital requirements is a serious matter. It may place banks in breach of the relevant law and/or prompt non-discretionary corrective action on the part of supervisors.

(5) There may be risks, either specific to individual banks, or more generally to an economy at large, that are not taken into account in Pillar 1.

20.43 There are several means available to supervisors for ensuring that individual banks are operating with adequate levels of capital. Among other methods, the supervisor may set trigger and target capital ratios or define categories above minimum ratios (eg well capitalised and adequately capitalised) for identifying the capitalisation level of the bank.

Principle 4 – early supervisory intervention

20.44 Supervisors should consider a range of options if they become concerned that a bank is not meeting the requirements embodied in the supervisory principles outlined above. These actions may include intensifying the monitoring of the bank, restricting the payment of dividends, requiring the bank to prepare and implement a satisfactory capital adequacy restoration plan, and requiring the bank to raise additional capital immediately. Supervisors should have the discretion to use the tools best suited to the circumstances of the bank and its operating environment.

20.45 The permanent solution to banks' difficulties is not always increased capital. However, some of the required measures (such as improving systems and controls) may take a period of time to implement. Therefore, increased capital might be used as an interim measure while permanent measures to improve the bank's position are being put in place. Once these permanent measures have been put in place and have been seen by supervisors to be effective, the interim increase in capital requirements can be removed.

SRP30

Risk management

The risk management principles in this chapter reinforce how banks should manage and mitigate their risks that are identified through the Pillar 2 process.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Introduction

30.1 Sound risk management processes are necessary to support supervisory and market participants' confidence in banks' assessments of their risk profiles and internal capital adequacy assessments. These processes take on particular importance in light of the identification, measurement and aggregation challenges arising from increasingly complex on- and off-balance sheet exposures.

30.2 When assessing whether a bank is appropriately capitalised, bank management should ensure that it properly identifies and measures the risks to which the bank is exposed. A financial institution's internal capital adequacy assessment process (ICAAP) should be conducted on a consolidated basis and, when deemed necessary by the appropriate supervisors, at the legal entity level for each bank in the group.[1] In addition, the ICAAP should incorporate stress testing to complement and help validate other quantitative and qualitative approaches so that bank management may have a more complete understanding of the bank's risks and the interaction of those risks under stressed conditions. A bank should also perform a careful analysis of its capital instruments and their potential performance during times of stress, including their ability to absorb losses and support ongoing business operations. A bank's ICAAP should address both short- and long-term needs and consider the prudence of building excess capital over benign periods of the credit cycle and also to withstand a severe and prolonged market downturn. Differences between the capital assessment under a bank's ICAAP and the supervisory assessment of capital adequacy made under Pillar 2 should trigger a dialogue that is proportionate to the depth and nature of such differences.

Footnotes

[1] *The ICAAP is a bank-driven process that should leverage off an institution's internal risk management processes. A single ICAAP may be used for internal and regulatory purposes.*

30.3 Pillar 1 capital requirements represent minimum requirements. All of a bank's risks – both on- and off-balance sheet, and particularly those risks related to complex capital market activities – should be adequately covered by capital, including through Pillar 2 in excess of minimum Pillar 1 requirements. This will help ensure that a bank maintains sufficient capital for risks not adequately addressed through Pillar 1 and that it will be able to operate effectively throughout a severe and prolonged period of financial market stress or an adverse credit cycle. This should, in part, include drawing down on the capital buffer built-up during good times. While all banks must comply with the minimum capital requirements during and after such stress events, it is imperative that systemically important banks have the shock absorption capability to adequately protect against severe stress events.

30.4 The detail and sophistication of a bank's risk management programmes should be commensurate with the size and complexity of its business and the overall level of risk that the bank accepts. This guidance, therefore, should be applied to banks on a proportionate basis.

30.5 Supervisors should determine whether a bank has in place a sound firm-wide risk management framework that enables it to define its risk appetite and recognise all material risks, including the risks posed by concentrations, securitisation, off-balance sheet exposures, valuation practices and other risk exposures. The bank can achieve this by:

(1) adequately identifying, measuring, monitoring, controlling and mitigating these risks;

(2) clearly communicating the extent and depth of these risks in an easily understandable, but accurate, manner in reports to senior management and the board of directors, as well as in published financial reports;

(3) conducting ongoing stress testing to identify potential losses and liquidity needs under adverse circumstances; and

(4) setting adequate minimum internal standards for allowances or liabilities for losses, capital, and contingency funding.

30.6 These elements should be adequately incorporated into a bank's risk management system and ICAAP specifically since they are not fully captured by Pillar 1 of the Basel III framework.

Firm-wide risk oversight

30.7 A sound risk management system should have the following key features:

(1) active board and senior management oversight;

(2) appropriate policies, procedures and limits;

(3) comprehensive and timely identification, measurement, mitigation, controlling, monitoring and reporting of risks;

(4) appropriate management information systems (MIS) at the business and firm-wide level; and

(5) comprehensive internal controls.

30.8 It is the responsibility of the board of directors and senior management[2] to define the institution's risk appetite and to ensure that the bank's risk management framework includes detailed policies that set specific firm-wide prudential limits on the bank's activities, which are consistent with its risk taking appetite and capacity. In order to determine the overall risk appetite, the board and senior management must first have an understanding of risk exposures on a firm-wide basis. To achieve this understanding, the appropriate members of senior management must bring together the perspectives of the key business and control functions. In order to develop an integrated firm-wide perspective on risk, senior management must overcome organisational silos between business lines and share information on market developments, risks and risk mitigation techniques. As the banking industry has moved increasingly towards market-based intermediation, there is a greater probability that many areas of a bank may be exposed to a common set of products, risk factors or counterparties. Senior management should establish a risk management process that is not limited to credit, market, liquidity and operational risks, but incorporates all material risks. This includes reputational, legal and strategic risks, as well as risks that do not appear to be significant in isolation, but when combined with other risks could lead to material losses.

Footnotes

[2] *This refers to a management structure composed of a board of directors and senior management. The Committee is aware that there are significant differences in legislative and regulatory frameworks across countries as regards the functions of the board of directors and senior management. In some countries, the board has the main, if not exclusive, function of supervising the executive body (senior management, general management) so as to ensure that the latter fulfils its tasks. For this reason, in some cases, it is known as a supervisory board. This means that the board has no executive functions. In other countries, by contrast, the board has a broader competence in that it lays down the general framework for the management of the bank. Owing to these differences, the notions of the board of directors and senior management are used in this paper not to identify legal constructs but rather to label two decision-making functions within a bank.*

30.9 The board of directors and senior management should possess sufficient knowledge of all major business lines to ensure that appropriate policies, controls and risk monitoring systems are effective. They should have the necessary expertise to understand the capital markets activities in which the bank is involved – such as securitisation and off-balance sheet activities – and the associated risks. The board and senior management should remain informed on an on-going basis about these risks as financial markets, risk management practices and the bank's activities evolve. In addition, the board and senior management should ensure that accountability and lines of authority are clearly delineated. With respect to new or complex products and activities, senior management should understand the underlying assumptions regarding business models, valuation and risk management practices. In addition, senior management should evaluate the potential risk exposure if those assumptions fail.

30.10 Before embarking on new activities or introducing products new to the institution, the board and senior management should identify and review the changes in firm-wide risks arising from these potential new products or activities and ensure that the infrastructure and internal controls necessary to manage the related risks are in place. In this review, a bank should also consider the possible difficulty in valuing the new products and how they might perform in a stressed economic environment.

30.11 A bank's risk function and its chief risk officer or equivalent position should be independent of the individual business lines and report directly to the chief executive officer and the institution's board of directors. In addition, the risk function should highlight to senior management and the board risk management concerns, such as risk concentrations and violations of risk appetite limits.

30.12 Firm-wide risk management programmes should include detailed policies that set specific firm-wide prudential limits on the principal risks relevant to a bank's activities. A bank's policies and procedures should provide specific guidance for the implementation of broad business strategies and should establish, where appropriate, internal limits for the various types of risk to which the bank may be exposed. These limits should consider the bank's role in the financial system and be defined in relation to the bank's capital, total assets, earnings or, where adequate measures exist, its overall risk level.

30.13 A bank's policies, procedures and limits should:

(1) provide for adequate and timely identification, measurement, monitoring, control and mitigation of the risks posed by its lending, investing, trading, securitisation, off-balance sheet, fiduciary and other significant activities at the business line and firm-wide levels;

(2) ensure that the economic substance of a bank's risk exposures, including reputational risk and valuation uncertainty, are fully recognised and incorporated into the bank's risk management processes;

(3) be consistent with the bank's stated goals and objectives, as well as its overall financial strength;

(4) clearly delineate accountability and lines of authority across the bank's various business activities, and ensure there is a clear separation between business lines and the risk function;

(5) escalate and address breaches of internal position limits;

(6) provide for the review of new businesses and products by bringing together all relevant risk management, control and business lines to ensure that the bank is able to manage and control the activity prior to it being initiated; and

(7) include a schedule and process for reviewing the policies, procedures and limits and for updating them as appropriate.

30.14 A bank's MIS should provide the board and senior management in a clear and concise manner with timely and relevant information concerning their institutions' risk profile. This information should include all risk exposures, including those that are off-balance sheet. Management should understand the assumptions behind and limitations inherent in specific risk measures.

30.15 The key elements necessary for the aggregation of risks are an appropriate infrastructure and MIS that:

(1) allow for the aggregation of exposures and risk measures across business lines and

(2) support customised identification of concentrations (see SRP30.20 to SRP30.28 on risk concentrations) and emerging risks.

30.16 A bank's MIS should be capable of capturing limit breaches and there should be procedures in place to promptly report such breaches to senior management, as well as to ensure that appropriate follow-up actions are taken. For instance, similar exposures should be aggregated across business platforms (including the banking and trading books) to determine whether there is a concentration or a breach of an internal position limit.

30.17 MIS developed to achieve this objective should support the ability to evaluate the impact of various types of economic and financial shocks that affect the whole of the financial institution. Further, a bank's systems should be flexible enough to incorporate hedging and other risk mitigation actions to be carried out on a firm-wide basis while taking into account the various related basis risks.

30.18 To enable proactive management of risk, the board and senior management need to ensure that MIS is capable of providing regular, accurate and timely information on the bank's aggregate risk profile, as well as the main assumptions used for risk aggregation. MIS should be adaptable and responsive to changes in the bank's underlying risk assumptions and should incorporate multiple perspectives of risk exposure to account for uncertainties in risk measurement. In addition, it should be sufficiently flexible so that the institution can generate forward-looking bank-wide scenario analyses that capture management's interpretation of evolving market conditions and stressed conditions (see SRP30.45 to SRP30.47 on stress testing). Third-party inputs or other tools used within MIS (eg credit ratings, risk measures, models) should be subject to initial and ongoing validation.

30.19 Risk management processes should be frequently monitored and tested by independent control areas and internal, as well as external, auditors.[3] The aim is to ensure that the information on which decisions are based is accurate so that processes fully reflect management policies and that regular reporting, including the reporting of limit breaches and other exception-based reporting, is undertaken effectively. The risk management function of banks must be independent of the business lines in order to ensure an adequate separation of duties and to avoid conflicts of interest.

Footnotes

[3] *See the Basel Committee's paper Framework for Internal Control Systems in Banking Organisations (September 1998).*

Risk concentration

30.20 Unmanaged risk concentrations are an important cause of major problems in banks. A bank should aggregate all similar direct and indirect exposures regardless of where the exposures have been booked. A risk concentration is any single exposure or group of similar exposures (eg to the same borrower or counterparty, including protection providers, geographic area, industry or other risk factors) with the potential to produce (i) losses large enough (relative to a bank's earnings, capital, total assets or overall risk level) to threaten a bank's creditworthiness or ability to maintain its core operations or (ii) a material change in a bank's risk profile. Risk concentrations should be analysed on both a bank legal entity and consolidated basis, as an unmanaged concentration at a subsidiary bank may appear immaterial at the consolidated level, but can nonetheless threaten the viability of the subsidiary organisation.

30.21 Risk concentrations should be viewed in the context of a single or a set of closely related risk-drivers that may have different impacts on a bank. These concentrations should be integrated when assessing a bank's overall risk exposure. A bank should consider concentrations that are based on common or correlated risk factors that reflect more subtle or more situation-specific factors than traditional concentrations, such as correlations between market, credit risks and liquidity risk.

30.22 The growth of market-based intermediation has increased the possibility that different areas of a bank are exposed to a common set of products, risk factors or counterparties. This has created new challenges for risk aggregation and concentration management. Through its risk management processes and MIS, a bank should be able to identify and aggregate similar risk exposures across the firm, including across legal entities, asset types (eg loans, derivatives and structured products), risk areas (eg the trading book) and geographic regions. The typical situations in which risk concentrations can arise include:

(1) exposures to a single counterparty, borrower or group of connected counterparties or borrowers;

(2) industry or economic sectors, including exposures to both regulated and nonregulated financial institutions such as hedge funds and private equity firms;

(3) geographical regions;

(4) exposures arising from credit risk mitigation techniques, including exposure to similar collateral types or to a single or closely related credit protection provider;

(5) trading exposures/market risk;

(6) exposures to counterparties (eg hedge funds and hedge counterparties) through the execution or processing of transactions (either product or service);

(7) funding sources;

(8) assets that are held in the banking book or trading book, such as loans, derivatives and structured products; and

(9) off-balance sheet exposures, including guarantees, liquidity lines and other commitments.

30.23 Risk concentrations can also arise through a combination of exposures across these broad categories. A bank should have an understanding of its firm-wide risk concentrations resulting from similar exposures across its different business lines. Examples of such business lines include subprime exposure in lending books; counterparty exposures; conduit exposures and structured investment vehicles (SIVs); contractual and non-contractual exposures; trading activities; and underwriting pipelines.

30.24 While risk concentrations often arise due to direct exposures to borrowers and obligors, a bank may also incur a concentration to a particular asset type

indirectly through investments backed by such assets (eg collateralised debt obligations), as well as exposure to protection providers guaranteeing the performance of the specific asset type (eg monoline insurers). A bank should have in place adequate, systematic procedures for identifying high correlation between the creditworthiness of a protection provider and the obligors of the underlying exposures due to their performance being dependent on common factors beyond systematic risk (ie "wrong way risk").

30.25 Procedures should be in place to communicate risk concentrations to the board of directors and senior management in a manner that clearly indicates where in the organisation each segment of a risk concentration resides. A bank should have credible risk mitigation strategies in place that have senior management approval. This may include altering business strategies, reducing limits or increasing capital buffers in line with the desired risk profile. While it implements risk mitigation strategies, the bank should be aware of possible concentrations that might arise as a result of employing risk mitigation techniques.

30.26 Banks should employ a number of techniques, as appropriate, to measure risk concentrations. These techniques include shocks to various risk factors; use of business level and firm-wide scenarios; and the use of integrated stress testing and economic capital models. Identified concentrations should be measured in a number of ways, including for example consideration of gross versus net exposures, use of notional amounts, and analysis of exposures with and without counterparty hedges. As set out in SRP30.13, a bank should establish internal position limits for concentrations to which it may be exposed. When conducting periodic stress tests (see SRP30.45 to SRP30.47), a bank should incorporate all major risk concentrations and identify and respond to potential changes in market conditions that could adversely impact their performance and capital adequacy.

30.27 The assessment of such risks under a bank's ICAAP and the supervisory review process should not be a mechanical process, but one in which each bank determines, depending on its business model, its own specific vulnerabilities. An appropriate level of capital for risk concentrations should be incorporated in a bank's ICAAP, as well as in Pillar 2 assessments. Each bank should discuss such issues with its supervisor.

30.28 A bank should have in place effective internal policies, systems and controls to identify, measure, monitor, manage, control and mitigate its risk concentrations in a timely manner. Not only should normal market conditions be considered, but also the potential build-up of concentrations under stressed market conditions, economic downturns and periods of general market illiquidity. In addition, the

bank should assess scenarios that consider possible concentrations arising from contractual and non-contractual contingent claims. The scenarios should also combine the potential build-up of pipeline exposures together with the loss of market liquidity and a significant decline in asset values.

Reputational risk

30.29 Reputational risk can be defined as the risk arising from negative perception on the part of customers, counterparties, shareholders, investors, debt-holders, market analysts, other relevant parties or regulators that can adversely affect a bank's ability to maintain existing, or establish new, business relationships and continued access to sources of funding (eg through the interbank or securitisation markets). Reputational risk is multidimensional and reflects the perception of other market participants. Furthermore, it exists throughout the organisation and exposure to reputational risk is essentially a function of the adequacy of the bank's internal risk management processes, as well as the manner and efficiency with which management responds to external influences on bank-related transactions.

30.30 Reputational risk can lead to the provision of implicit support, which may give rise to credit, liquidity, market and legal risk – all of which can have a negative impact on a bank's earnings, liquidity and capital position. A bank should identify potential sources of reputational risk to which it is exposed. These include the bank's business lines, liabilities, affiliated operations, off-balance sheet vehicles and the markets in which it operates. The risks that arise should be incorporated into the bank's risk management processes and appropriately addressed in its ICAAP and liquidity contingency plans.

30.31 Prior to the 2007 upheaval, many banks failed to recognise the reputational risk associated with their off-balance sheet vehicles. In stressed conditions some firms went beyond their contractual obligations to support their sponsored securitisations and off-balance sheet vehicles. A bank should incorporate the exposures that could give rise to reputational risk into its assessments of whether the requirements under the securitisation framework have been met and the potential adverse impact of providing implicit support.

30.32 Reputational risk may arise, for example, from a bank's sponsorship of securitisation structures such as asset-backed commercial paper conduits and SIVs, as well as from the sale of credit exposures to securitisation trusts. It may also arise from a bank's involvement in asset or funds management, particularly when financial instruments are issued by owned or sponsored entities and are distributed to the customers of the sponsoring bank. In the event that the instruments were not correctly priced or the main risk drivers not adequately disclosed, a sponsor may feel some responsibility to its customers, or be economically compelled, to cover any losses. Reputational risk also arises when a bank sponsors activities such as money market mutual funds, in-house hedge funds and real estate investment trusts. In these cases, a bank may decide to support the value of shares/units held by investors even though is not contractually required to provide the support.

30.33 Reputational risk also may affect a bank's liabilities, since market confidence and a bank's ability to fund its business are closely related to its reputation. For instance, to avoid damaging its reputation, a bank may call its liabilities even though this might negatively affect its liquidity profile. This is particularly true for liabilities that are components of regulatory capital, such as hybrid/subordinated debt. In such cases, a bank's capital position is likely to suffer.

30.34 Bank management should have appropriate policies in place to identify sources of reputational risk when entering new markets, products or lines of activities. In addition, a bank's stress testing procedures should take account of reputational risk so management has a firm understanding of the consequences and second round effects of reputational risk.

30.35 Once a bank identifies potential exposures arising from reputational concerns, it should measure the amount of support it might have to provide (including implicit support of securitisations) or losses it might experience under adverse market conditions. In particular, in order to avoid reputational damages and to maintain market confidence, a bank should develop methodologies to measure as precisely as possible the effect of reputational risk in terms of other risk types (eg credit, liquidity, market or operational risk) to which it may be exposed. This could be accomplished by including reputational risk scenarios in regular stress tests. For instance, non-contractual off-balance sheet exposures could be included in the stress tests to determine the effect on a bank's credit, market and liquidity risk profiles. Methodologies also could include comparing the actual amount of exposure carried on the balance sheet versus the maximum exposure amount held off-balance sheet, that is, the potential amount to which the bank could be exposed.

30.36 A bank should pay particular attention to the effects of reputational risk on its overall liquidity position, taking into account both possible increases in the asset side of the balance sheet and possible restrictions on funding, should the loss of reputation result in various counterparties' loss of confidence (see SRP30.48 to SRP30.52 on the management of liquidity risk).

Valuation practices

30.37 In order to enhance the supervisory assessment of banks' valuation practices, the Basel Committee published Supervisory guidance for assessing banks' financial instrument fair value practices in April 2009.[4] This guidance applies to all positions that are measured at fair value and at all times, not only during times of stress.

Footnotes

[4] *See also the Basel Committee's paper Fair value measurement and modelling: an assessment of challenges and lessons learned from the market stress, May 2008.*

30.38 The characteristics of complex structured products, including securitisation transactions, make their valuation inherently difficult due, in part, to the absence of active and liquid markets, the complexity and uniqueness of the cash waterfalls, and the links between valuations and underlying risk factors. The absence of a transparent price from a liquid market means that the valuation must rely on models or proxy-pricing methodologies, as well as on expert judgment. The outputs of such models and processes are highly sensitive to the inputs and parameter assumptions adopted, which may themselves be subject to estimation error and uncertainty. Moreover, calibration of the valuation methodologies is often complicated by the lack of readily available benchmarks.

30.39 Therefore, a bank is expected to have adequate governance structures and control processes for fair valuing exposures for risk management and financial reporting purposes. The valuation governance structures and related processes should be embedded in the overall governance structure of the bank, and consistent for both risk management and reporting purposes. The governance structures and processes are expected to explicitly cover the role of the board and senior management. In addition, the board should receive reports from senior management on the valuation oversight and valuation model performance issues that are brought to senior management for resolution, as well as all significant changes to valuation policies.

30.40

A bank should also have clear and robust governance structures for the production, assignment and verification of financial instrument valuations. Policies should ensure that the approvals of all valuation methodologies are well documented. In addition, policies and procedures should set forth the range of acceptable practices for the initial pricing, marking-to-market/model, valuation adjustments and periodic independent revaluation. New product approval processes should include all internal stakeholders relevant to risk measurement, risk control, and the assignment and verification of valuations of financial instruments.

30.41 A bank's control processes for measuring and reporting valuations should be consistently applied across the firm and integrated with risk measurement and management processes. In particular, valuation controls should be applied consistently across similar instruments (risks) and consistent across business lines (books). These controls should be subject to internal audit. Regardless of the booking location of a new product, reviews and approval of valuation methodologies must be guided by a minimum set of considerations. Furthermore, the valuation/new product approval process should be supported by a transparent, well-documented inventory of acceptable valuation methodologies that are specific to products and businesses.

30.42 In order to establish and verify valuations for instruments and transactions in which it engages, a bank must have adequate capacity, including during periods of stress. This capacity should be commensurate with the importance, riskiness and size of these exposures in the context of the business profile of the institution. In addition, for those exposures that represent material risk, a bank is expected to have the capacity to produce valuations using alternative methods in the event that primary inputs and approaches become unreliable, unavailable or not relevant due to market discontinuities or illiquidity. A bank must test and review the performance of its models under stress conditions so that it understands the limitations of the models under stress conditions.

30.43 The relevance and reliability of valuations is directly related to the quality and reliability of the inputs. A bank is expected to apply the accounting guidance provided to determine the relevant market information and other factors likely to have a material effect on an instrument's fair value when selecting the appropriate inputs to use in the valuation process. Where values are determined to be in an active market, a bank should maximise the use of relevant observable inputs and minimise the use of unobservable inputs when estimating fair value using a valuation technique. However, where a market is deemed inactive, observable inputs or transactions may not be relevant, such as in a forced liquidation or distress sale, or transactions may not be observable, such as when markets are inactive. In such cases, accounting fair value guidance provides

assistance on what should be considered, but may not be determinative. In assessing whether a source is reliable and relevant, a bank should consider, among other things:

(1) the frequency and availability of the prices/quotes;

(2) whether those prices represent actual regularly occurring transactions on an arm's length basis;

(3) the breadth of the distribution of the data and whether it is generally available to the relevant participants in the market;

(4) the timeliness of the information relative to the frequency of valuations;

(5) the number of independent sources that produce the quotes/prices;

(6) whether the quotes/prices are supported by actual transactions;

(7) the maturity of the market; and

(8) the similarity between the financial instrument sold in a transaction and the instrument held by the institution.

30.44 A bank’s external reporting should provide timely, relevant, reliable and decision-useful information that promotes transparency. Senior management should consider whether disclosures around valuation uncertainty can be made more meaningful. For instance, the bank may describe the modelling techniques and the instruments to which they are applied; the sensitivity of fair values to modelling inputs and assumptions; and the impact of stress scenarios on valuations. A bank should regularly review its disclosure policies to ensure that the information disclosed continues to be relevant to its business model and products and to current market conditions.

Sound stress testing practices

30.45 Stress testing is a critical element of risk management for banks and a core tool for banking supervisors and macroprudential authorities. It is integral to banks' risk management and banking supervision, in that stress testing alerts bank management and supervisory authorities to unexpected adverse outcomes related to a broad variety of risks, and provides an indication to banks and supervisory authorities of the financial resources that might be needed to absorb losses should large shocks occur.

30.46 Stress testing practices have evolved significantly over time. The increasing importance of stress testing, combined with a significant range of approaches adopted by supervisory authorities and banks, highlight the need for high-level principles to guide all elements of a sound stress testing framework. To this end, the Committee has in place Stress testing principles[5] that cover sound stress testing practices for application to large, internationally active banks and to supervisory and other relevant financial authorities in Basel Committee member jurisdictions. These principles are set at a high level so that they may be applicable across many banks and jurisdictions and to help ensure their relevance as stress testing practices evolve over time. The Principles set out guidance that focuses on the core elements of stress testing frameworks, such as objectives, governance, policies, processes, methodology, resources, and documentation that may guide stress testing activities and facilitate their use, implementation and oversight. Nevertheless, the Basel Committee expects that for internationally active banks, stress testing is embedded as a critical component of sound risk management and supervisory oversight.

Footnotes

[5] *Stress testing principles, Basel Committee on Banking Supervision, October 2018, available at www.bis.org/bcbs/publ/d450.htm .*

30.47 The principles are intended to be applied on a proportionate basis, depending on size, complexity and risk profile of the bank or banking sector for which the authority is responsible. This recognises that smaller banks and authorities in all jurisdictions can benefit from considering in a structured way the potential impact of adverse scenarios on their business, even if they are not using a formal stress testing framework but are instead using simpler methods.

Liquidity risk management

30.48 A bank should both assiduously manage its liquidity risk and also maintain sufficient liquidity to withstand a range of stress events.[6]

Footnotes

[6] *See also the Basel Committee's Principles for Sound Liquidity Risk Management and Supervision, September 2008.*

30.49 A bank is expected to be able to thoroughly identify, measure and control liquidity risks, especially with regard to complex products and contingent commitments (both contractual and non-contractual). This process should involve the ability to project cash flows arising from assets, liabilities and off-balance sheet items over various time horizons, and should ensure diversification in both the tenor and source of funding. A bank should utilise early warning indicators to identify the emergence of increased risk or vulnerabilities in its liquidity position or funding needs. It should have the ability to control liquidity risk exposure and funding needs, regardless of its organisation structure, within and across legal entities, business lines, and currencies, taking into account any legal, regulatory and operational limitations to the transferability of liquidity.

30.50 A key element in the management of liquidity risk is the need for strong governance of liquidity risk, including the setting of a liquidity risk tolerance by the board. The risk tolerance should be communicated throughout the bank and reflected in the strategy and policies that senior management set to manage liquidity risk. Another facet of liquidity risk management is that a bank should appropriately price the costs, benefits and risks of liquidity into the internal pricing, performance measurement, and new product approval process of all significant business activities.

30.51 While banks typically manage liquidity under "normal" circumstances, they should also be prepared to manage liquidity under stressed conditions. A bank should perform stress tests or scenario analyses on a regular basis in order to identify and quantify their exposures to possible future liquidity stresses, analysing possible impacts on the institutions' cash flows, liquidity positions, profitability, and solvency. The results of these stress tests should be discussed thoroughly by management, and based on this discussion, should form the basis for taking remedial or mitigating actions to limit the bank's exposures, build up a liquidity cushion, and adjust its liquidity profile to fit its risk tolerance. The results of stress tests should also play a key role in shaping the bank's contingency funding planning, which should outline policies for managing a range of stress events and clearly sets out strategies for addressing liquidity shortfalls in emergency situations.

30.52 Senior management should consider the relationship between liquidity and capital since liquidity risk can impact capital adequacy which, in turn, can aggravate a bank's liquidity profile.

SRP31

Interest rate risk in the banking book

This chapter describes requirements on assessing interest rate risk in the banking book, ie the current or prospective risk to a bank's capital and to its earnings, arising from the impact of adverse movements in interest rates on its banking book. Due to the heterogeneous nature of this risk, it is captured in Pillar 2.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Definition of IRRBB

31.1 Interest rate risk in the banking book (IRRBB) refers to the current or prospective risk to the bank's capital and earnings arising from adverse movements in interest rates that affect the bank's banking book positions. When interest rates change, the present value and timing of future cash flows change. This in turn changes the underlying value of a bank's assets, liabilities and off-balance sheet items and hence its economic value. Changes in interest rates also affect a bank's earnings by altering interest rate-sensitive income and expenses, affecting its net interest income (NII). Excessive IRRBB can pose a significant threat to a bank's current capital base and/or future earnings if not managed appropriately. A more detailed description of IRRBB and its management techniques can be found in SRP98.

31.2 Three main sub-types of IRRBB are defined for the purposes of this chapter. All three sub-types of IRRBB potentially change the price/value or earnings/costs of interest rate-sensitive assets, liabilities and/or off-balance sheet items in a way, or at a time, that can adversely affect a bank's financial condition.

(1) Gap risk arises from the term structure of banking book instruments, and describes the risk arising from the timing of instruments' rate changes. The extent of gap risk depends on whether changes to the term structure of interest rates occur consistently across the yield curve (parallel risk) or differentially by period (non-parallel risk).

(2) Basis risk describes the impact of relative changes in interest rates for financial instruments that have similar tenors but are priced using different interest rate indices.

(3) Option risk arises from option derivative positions or from optional elements embedded in a bank's assets, liabilities and/or off-balance sheet items, where the bank or its customer can alter the level and timing of their cash flows. Option risk can be further characterised into automatic option risk and behavioural option risk.

31.3 While the three sub-types listed above are directly linked to IRRBB, credit spread risk in the banking book (CSRBB) is a related risk that banks need to monitor and assess in their interest rate risk management framework. CSRBB refers to any kind of asset/liability spread risk of credit-risky instruments that is not explained by IRRBB and by the expected credit/jump to default risk.

Principles for banks and supervisors on interest rate risk

31.4 The following principles define supervisory expectations on the management of IRRBB. Principles 1 to 7 are of general application for the management of IRRBB, covering expectations for a bank's IRRBB management process, in particular the need for effective IRRBB identification, measurement, monitoring and control activities. Principles 8 and 9 set out the expectations for market disclosures and banks' internal assessment of capital adequacy for IRRBB respectively. Principles 10 to 12 address the supervisory approach to banks' IRRBB management framework and capital adequacy.

(1) IRRBB is an important risk for all banks that must be specifically identified, measured, monitored and controlled. In addition, banks should monitor and assess CSRBB.

(2) The governing body of each bank is responsible for oversight of the IRRBB management framework, and the bank's risk appetite for IRRBB. Monitoring and management of IRRBB may be delegated by the governing body to senior management, expert individuals or an asset and liability management committee (henceforth, its delegates). Banks must have an adequate IRRBB management framework, involving regular independent reviews and evaluations of the effectiveness of the system.

(3) The banks' risk appetite for IRRBB should be articulated in terms of the risk to both economic value and earnings. Banks must implement policy limits that target maintaining IRRBB exposures consistent with their risk appetite.

(4) Measurement of IRRBB should be based on outcomes of both economic value and earnings-based measures, arising from a wide and appropriate range of interest rate shock and stress scenarios.

(5) In measuring IRRBB, key behavioural and modelling assumptions should be fully understood, conceptually sound and documented. Such assumptions should be rigorously tested and aligned with the bank's business strategies.

(6) Measurement systems and models used for IRRBB should be based on accurate data, and subject to appropriate documentation, testing and controls to give assurance on the accuracy of calculations. Models used to measure IRRBB should be comprehensive and covered by governance processes for model risk management, including a validation function that is independent of the development process.

(7) Measurement outcomes of IRRBB and hedging strategies should be reported to the governing body or its delegates on a regular basis, at relevant levels of aggregation (by consolidation level and currency).

(8) Information on the level of IRRBB exposure and practices for measuring and controlling IRRBB must be disclosed to the public on a regular basis.

(9) Capital adequacy for IRRBB must be specifically considered as part of the Internal Capital Adequacy Assessment Process (ICAAP) approved by the governing body, in line with the bank's risk appetite on IRRBB.

(10) Supervisors should, on a regular basis, collect sufficient information from banks to be able to monitor trends in banks' IRRBB exposures, assess the soundness of banks' IRRBB management and identify outlier banks that should be subject to review and/or should be expected to hold additional regulatory capital.

(11) Supervisors should regularly assess banks' IRRBB and the effectiveness of the approaches that banks use to identify, measure, monitor and control IRRBB. Supervisory authorities should employ specialist resources to assist with such assessments. Supervisors should cooperate and share information with relevant supervisors in other jurisdictions regarding the supervision of banks' IRRBB exposures.

(12) Supervisors must publish their criteria for identifying outlier banks. Banks identified as outliers must be considered as potentially having undue IRRBB. When a review of a bank's IRRBB exposure reveals inadequate management or excessive risk relative to capital, earnings or general risk profile, supervisors must require mitigation actions and/or additional capital.

31.5 The implementation of these principles should be commensurate with the bank's nature, size and complexity as well as its structure, economic significance and general risk profile. This requires that supervisors gauge their responses where appropriate for banks with low IRRBB profiles. In particular, supervisors will focus on systemic risks that are inherent in large, complex or internationally active banks.

Principle 1 – identification and monitoring of IRRBB

31.6 IRRBB is an important risk that arises from banking activities, and is encountered by all banks. It arises because interest rates can vary significantly over time, while the business of banking typically involves intermediation activity that produces exposures to both maturity mismatch (eg long-maturity assets funded by short-maturity liabilities) and rate mismatch (eg fixed rate loans funded by variable rate deposits). In addition, there are optionalities embedded in many of the common banking products (eg non-maturity deposits, term deposits, fixed rate loans) that are triggered in accordance with changes in interest rates.

31.7 All banks must be familiar with all elements of IRRBB, actively identify their IRRBB exposures and take appropriate steps to measure, monitor and control it.

31.8 Banks must identify the IRRBB inherent in products and activities, and ensure that these are subject to adequate procedures and controls. Significant hedging or risk management initiatives must be approved before being implemented. Products and activities that are new to a bank must undergo a careful preacquisition review to ensure that the IRRBB characteristics are well understood and subject to a predetermined test phase before being fully rolled out. Prior to introducing a new product, hedging or risk-taking strategy, adequate operational procedures and risk control systems must be in place. The management of a bank' s IRRBB should be integrated within its broader risk management framework and aligned with its business planning and budgeting activities.

31.9 In identifying, measuring, monitoring and controlling IRRBB, banks should also ensure that CSRBB is properly monitored and assessed.

Principle 2 – IRRBB management framework

31.10 The governing body[1] has responsibility for understanding the nature and the level of the bank's IRRBB exposure. The governing body should approve broad business strategies as well as overall policies with respect to IRRBB. It should ensure that there is clear guidance regarding the acceptable level of IRRBB, given the bank's business strategies.

Footnotes

[1] *This refers to the body that supervises management. The structure of bank boards differs among countries. See the Corporate Governance Principles for Banks published by the Committee in July 2015.*

31.11

Accordingly, the governing body is responsible for ensuring that steps are taken by the bank to identify, measure, monitor and control IRRBB consistent with the approved strategies and policies. More specifically, the governing body or its delegates are responsible for setting:

(1) appropriate limits on IRRBB, including the definition of specific procedures and approvals necessary for exceptions, and ensuring compliance with those limits;

(2) adequate systems and standards for measuring IRRBB;

(3) standards for measuring IRRBB, valuing positions and assessing performance, including procedures for updating interest rate shock and stress scenarios and key underlying assumptions driving the institution's IRRBB analysis;

(4) a comprehensive IRRBB reporting and review process; and

(5) effective internal controls and management information systems (MIS).

31.12 The governing body or its delegates should oversee the approval, implementation and review of IRRBB management policies, procedures and limits. The governing body should be informed regularly (at least semiannually) on the level and trend of the bank's IRRBB exposures. It should regularly review timely information that is sufficiently detailed to allow it to understand and assess the performance of its delegates in monitoring and controlling IRRBB in compliance with policies approved by the governing body. Such reviews should be carried out more frequently when the bank runs significant IRRBB exposures or has positions in complex IRRBB instruments.

31.13 While governing body members do not need individually to have detailed technical knowledge of complex financial instruments, or of quantitative risk management techniques, they should understand the implications of the bank's IRRBB strategies, including the potential linkages with and impact on market, liquidity, credit and operational risk. Some of the members should have sufficient technical knowledge to question and challenge the reports made to the governing body. Governing body members are responsible for ensuring that senior management has the capability and skills to understand IRRBB, and that adequate resources are devoted to IRRBB management.

31.14 Many governing bodies delegate the task for developing IRRBB policies and practices to senior management, expert individuals or an asset and liability management committee (ALCO). In the case of an ALCO, it should meet regularly and include representatives from each major department connected to IRRBB.

31.15 The governing body should clearly identify its delegates for managing IRRBB and, to avoid potential conflicts of interest, should ensure that there is adequate separation of responsibilities in key elements of the risk management process. Banks should have IRRBB identification, measurement, monitoring and control functions with clearly defined responsibilities that are sufficiently independent from risk-taking functions of the bank and that report IRRBB exposures directly to the governing body or its delegates.

31.16 The governing body's delegates for IRRBB should include members with clear lines of authority over the units responsible for establishing and managing positions. There should be a clear communication channel to convey the delegates' directives to these line units.

31.17 The governing body should ensure that the bank's organisational structure enables its delegates to carry out their responsibilities, and facilitates effective decision-making and good governance. The governing body should encourage discussions between its members and its delegates – as well as between its delegates and others in the bank – regarding the IRRBB management process. The risk management and strategic planning areas of the bank should also communicate regularly to facilitate evaluations of risk arising from future business.

31.18 Banks should have adequate internal controls to ensure the integrity of their IRRBB management process. The internal controls should promote effective and efficient operations, reliable financial and regulatory reporting, and compliance with relevant laws, regulations and bank policies.

31.19 With regard to IRRBB control policies and procedures, banks should have appropriate approval processes, exposure limits, reviews and other mechanisms designed to provide a reasonable assurance that risk management objectives are being achieved.

31.20 In addition, banks should have in place regular evaluations and reviews of their internal control system and risk management processes. This includes ensuring that personnel comply with established policies and procedures. Such reviews should also address any significant changes that may affect the effectiveness of controls (including changes in market conditions, personnel, technology and structures of compliance with exposure limits), and ensure that there are appropriate escalation procedures for any exceeded limits. Banks should ensure that all such evaluations and reviews are conducted regularly by individuals and /or units that are independent of the function they are assigned to review. When revisions or enhancements to internal controls are warranted, there should be an internal review mechanism in place to ensure that these are implemented in a timely manner.

31.21

Banks should have their IRRBB identification, measurement, monitoring and control processes reviewed by an independent auditing function (such as an internal or external auditor) on a regular basis. In such cases, reports written by internal/external auditors or other equivalent external parties (such as consultants) should be made available to relevant supervisory authorities.

Principle 3 – IRRBB risk appetite

31.22 Banks should have clearly defined risk appetite statements[2] that are approved by the governing body and implemented through comprehensive risk appetite frameworks, ie policies and procedures for limiting and controlling IRRBB. The risk appetite framework should delineate delegated powers, lines of responsibility and accountability over IRRBB management decisions and should clearly define authorised instruments, hedging strategies and risk-taking opportunities. All IRRBB policies should be reviewed periodically (at least annually) and revised as needed.

Footnotes

[2] *A risk appetite statement is a written articulation of the aggregated level and types of IRRBB exposures that a bank will accept, or avoid, in order to achieve its business objectives.*

31.23 Policy limits set by the governing bodies should be consistent with the bank's overall approach for measuring IRRBB. Aggregate risk limits, clearly articulating the amount of IRRBB acceptable to the governing body, should be applied on a consolidated basis and, as appropriate, at the level of individual affiliates. Limits may be associated with specific scenarios of changes in interest rates and/or term structures, such as an increase or decrease of a particular size or a change in shape. The interest rate movements used in developing these limits should represent meaningful shock and stress situations, taking into account historical interest rate volatility and the time required by management to mitigate those risk exposures.

31.24 Policy limits should be appropriate to the nature, size, complexity and capital adequacy of the bank, as well as its ability to measure and manage its risks. Depending on the nature of a bank's activities and business model, sub-limits may also be identified for individual business units, portfolios, instrument types or specific instruments. The level of detail of risk limits should reflect the characteristics of the bank's holdings, including the various sources of the bank's IRRBB exposures. Banks with significant exposures to gap risk, basis risk or

positions with explicit or embedded options should establish risk tolerances appropriate for these risks.

31.25 The governing body or its delegates should approve major hedging or risk-taking initiatives in advance of implementation.[3] A dedicated set of risk limits should be developed to monitor the evolution of hedging strategies that rely on instruments such as derivatives, and to control mark-to-market risks in instruments that are accounted for at market value. Proposals to use new instrument types or new strategies (including hedging) should be assessed to ensure that the resources required to establish sound and effective IRRBB management of the product or activity have been identified, that the proposed activities are in line with the bank's overall risk appetite, and procedures to identify, measure, monitor and control the risks of the proposed product or activity have been established.

Footnotes

[3] *Positions related to internal risk transfers between the banking book and the trading book should be properly documented.*

31.26 There should be systems in place to ensure that positions that exceed, or are likely to exceed, limits defined by the governing body or its delegates should receive prompt management attention and be escalated without delay. There should be a clear policy on who will be informed, how the communication will take place and the actions which will be taken in response to an exception.[4]

Footnotes

[4] *Limits could be absolute in the sense that they should never be exceeded or of whether, under specific circumstances, breaches of limits can be tolerated for a predetermined short period of time.*

Principle 4 – IRRBB measurement

31.27 Banks' internal measurement systems (IMS) should capture all material sources of IRRBB and assess the effect of market changes on the scope of their activities. In addition to the impact of an interest rate shock on its economic value, a bank's policy approach should take into account its ability to generate stable earnings sufficient to maintain its normal business operations.

31.28 Banks should pay attention to the complementary nature of economic value and earnings-based measures in their risk and internal capital assessments, in particular in terms of:

(1) outcomes: economic value measures compute a change in the net present value of the bank's assets, liabilities and off-balance sheet items subject to specific interest rate shock and stress scenarios, while earnings-based measures focus on changes to future profitability within a given time horizon eventually affecting future levels of a bank's own equity capital;

(2) assessment horizons: economic value measures reflect changes in value over the remaining life of the bank's assets, liabilities and off-balance sheet items, ie until all positions have run off, while earnings-based measures cover only the short to medium term, and therefore do not fully capture those risks that will continue to impact profit and loss accounts beyond the period of estimation; and

(3) future business/production: economic value measures consider the net present value of repricing cash flows of instruments on the bank's balance sheet or accounted for as an off-balance sheet item (ie a run-off view). Earnings measures may, in addition to a run-off view, assume rollover of maturing items (ie a constant balance sheet view) and/or assess the scenario-consistent impact on the bank's future earnings inclusive of future business (ie a dynamic view).[5]

Footnotes

[5] *A dynamic view can be useful for business planning and budgeting purposes. However, dynamic approaches are dependent on key variables and assumptions that are extremely difficult to project with accuracy over an extended period and can potentially hide certain key underlying risk exposures.*

31.29 While the economic value and earnings-based measures share certain commonalities, the Committee observes that most commercial banks primarily utilise the latter for IRRBB management, whereas regulators tend to endorse the former as a benchmark for comparability and capital adequacy. The Committee acknowledges the importance of managing IRRBB through both economic value and earnings-based measures. If a bank solely minimises its economic value risk by matching the repricing of its assets with liabilities beyond the short term, it could run the risk of earnings volatility.

31.30 Banks' IMS for IRRBB should be able to accommodate the calculation of the impact on economic value and earnings of multiple scenarios, based on:

(1) internally selected interest rate shock scenarios addressing the bank's risk profile, according to its ICAAP;

(2) historical and hypothetical interest rate stress scenarios, which tend to be more severe than shock scenarios;

(3) the six prescribed interest rate shock scenarios set out in SRP31.90 to SRP31.93; and

(4) any additional interest rate shock scenarios required by supervisors.

31.31 Banks should measure their vulnerability to loss under stressful market conditions – including the breakdown of key assumptions – and consider those results when establishing and reviewing their policies and limits for IRRBB.

31.32 A bank should develop and implement an effective stress testing framework for IRRBB as part of its broader risk management and governance processes. This should feed into the decision-making process at the appropriate management level, including strategic decisions (eg business and capital planning decisions) of the governing body or its delegates. In particular, IRRBB stress testing should be considered in the ICAAP, requiring banks to undertake rigorous, forward-looking stress testing that identifies events of severe changes in market conditions which could adversely impact the bank's capital or earnings, possibly also through changes in the behaviour of its customer base.

31.33 A bank's stress testing framework for IRRBB should be commensurate with its nature, size and complexity as well as business activities and overall risk profile. The framework should include clearly defined objectives, scenarios tailored to the bank's businesses and risks, well documented assumptions and sound methodologies. The framework will be used to assess the potential impact of the scenarios on the bank's financial condition, enable ongoing and effective review processes for stress tests and recommend actions based on the stress test results.

IRRBB stress tests should play an important role in the communication of risks, both within the bank and externally with supervisors and the market through appropriate disclosures.

31.34 The identification of relevant shock and stress scenarios for IRRBB, the application of sound modelling approaches and the appropriate use of the stress testing results require the collaboration of different experts within a bank (eg traders, the treasury department, the finance department, the ALCO, the risk management and risk control departments and/or the bank's economists). A stress-testing programme for IRRBB should ensure that the opinions of the experts are taken into account.

31.35 Banks should determine, by currency, a range of potential interest rate movements against which they will measure their IRRBB exposures. Management should ensure that risk is measured under a reasonable range of potential interest rate scenarios, including some containing severe stress elements. In developing the scenarios, banks should consider a variety of factors, such as the shape and level of the current term structure of interest rates and the historical and implied volatility of interest rates. In low interest rate environments, banks should also consider negative interest rate scenarios and the possibility of asymmetrical effects of negative interest rates on their assets and liabilities.

31.36 A bank should consider the nature and sources of its IRRBB exposures, the time it would need to take action to reduce or unwind unfavourable IRRBB exposures, and its capability/willingness to withstand accounting losses in order to reposition its risk profile. A bank should select scenarios that provide meaningful estimates of risk and include a range of shocks that is sufficiently wide to allow the governing body or its delegates to understand the risk inherent in the bank's products and activities. When developing interest rate shock and stress scenarios for IRRBB, banks should consider the following:

(1) The scenarios should be sufficiently wide-ranging to identify parallel and non-parallel gap risk, basis risk and option risk. In many cases, static interest rate shocks may be insufficient to assess IRRBB exposure adequately. Banks should ensure that the scenarios are both severe and plausible, in light of the existing level of interest rates and the interest rate cycle.

(2) Special consideration should be given to instruments or markets where concentrations exist, because those positions may be more difficult to liquidate or offset in a stressful market environment.

(3) Banks should assess the possible interaction of IRRBB with its related risks, as well as other risks (eg credit risk, liquidity risk).

(4) Banks should assess the effect of adverse changes in the spreads of new assets/liabilities replacing those assets/liabilities maturing over the horizon of the forecast on their NII.

(5) Banks with significant option risk should include scenarios that capture the exercise of such options. For example, banks that have products with sold caps or floors should include scenarios that assess how the risk positions would change should those caps or floors move into the money. Given that the market value of options also fluctuates with changes in the volatility of interest rates, banks should develop interest rate assumptions to measure their IRRBB exposures to changes in interest rate volatilities.

(6) Banks should specify, in building their interest rate shock and stress scenarios, the term structure of interest rates that will be incorporated and the basis relationship between yield curves, rate indices etc. Banks should also estimate how interest rates that are administered or managed by management (eg prime rates or retail deposit rates, as opposed to those that are purely market-driven) might change. Management should document how these assumptions are derived.

31.37 In addition, forward-looking scenarios should incorporate changes in portfolio composition due to factors under the control of the bank (eg the bank's acquisition and production plans) as well as external factors (eg changing competitive, legal or tax environments); new products where only limited historical data are available; new market information and new emerging risks that are not necessarily covered by historical stress episodes.

31.38 Further, banks should perform qualitative and quantitative reverse stress tests[6] in order to:

(1) identify interest rate scenarios that could severely threaten a bank's capital and earnings; and

(2) reveal vulnerabilities arising from its hedging strategies and the potential behavioural reactions of its customers.

Footnotes

[6] *See the Principles of sound stress testing practices and supervision published by the Committee in October 2018.*

Principle 5 – behavioural and modelling assumptions

31.39 Both economic value and earnings-based measures of IRRBB are significantly impacted by a number of assumptions made for the purposes of risk quantification, namely:

(1) expectations for the exercise of interest rate options (explicit and embedded) by both the bank and its customers under specific interest rate shock and stress scenarios;

(2) treatment of balances and interest flows arising from non-maturity deposits (NMDs);

(3) treatment of own equity in economic value measures; and

(4) the implications of accounting practices for IRRBB.

31.40 Hence, when assessing its IRRBB exposures, a bank should make judgments and assumptions about how an instrument's actual maturity or repricing behaviour may vary from the instrument's contractual terms because of behavioural optionalities.

31.41 Common products with behavioural optionalities include:

(1) Fixed rate loans subject to prepayment risk – Banks should understand the nature of prepayment risk for their portfolios and make reasonable and prudent estimates of the expected prepayments. The assumptions underlying the estimates and where prepayment penalties or other contractual features affect the embedded optionality effect should be documented. There are several factors that are important determinants of the bank's estimate of the effect of each interest rate shock and stress scenario on the average prepayment speed. Specifically, a bank must assess the expected average prepayment speed under each scenario.

(2) Fixed rate loan commitments – Banks may sell options to retail customers (eg prospective mortgage buyers or renewers) whereby, for a limited period, the customers can choose to draw down a loan at a committed rate. Unlike loan commitments to corporates, where drawdowns strongly reflect characteristics of automatic interest rate options, mortgage commitments (ie pipelines) to retail customers are impacted by other drivers.

(3) Term deposits subject to early redemption risk – Banks may attract deposits with a contractual maturity term or with step-up clauses that enable the depositor at different time periods to modify the speed of redemption. The classification scheme should be documented, whether a term deposit is deemed to be subject to redemption penalties or to other contractual features that preserve the cash flow profile of the instrument.

(4) NMDs – Behavioural assumptions for deposits that have no specific repricing date can be a major determinant of IRRBB exposures under the economic value and earnings-based measures. Banks should document, monitor and regularly update key assumptions for NMD balances and behaviour used in their IMS. To determine the appropriate assumptions for its NMDs, a bank should analyse its depositor base in order to identify the proportion of core deposits (ie NMDs which are unlikely to reprice even under significant changes in interest rate environment). Assumptions should vary according to depositor characteristics (eg retail/wholesale) and account characteristics (eg transactional/non-transactional).

31.42 Modelling assumptions should be conceptually sound and reasonable, and consistent with historical experience. Banks must carefully consider how the exercise of the behavioural optionality will vary not only under the interest rate shock and stress scenario but also across other dimensions. For instance, considerations may include those set out in Table 1.

Considerations affecting behavioural optionality Table 1

Product	Dimensions influencing the exercise of the embedded behavioural options
Fixed rate loans subject to prepayment risk	Loan size, loan-to-value ratio, borrower characteristics, contractual interest rates, seasoning, geographical location, original and remaining maturity, and other historical factors. Other macroeconomic variables such as stock indices, unemployment rates, gross domestic product (GDP), inflation and housing price indices should be considered in modelling prepayment behaviour.
Fixed rate loan commitments	Borrower characteristics, geographical location (including competitive environment and local premium conventions), customer relationship with bank as evidenced by cross-products, remaining maturity of the commitment, seasoning and remaining term of the mortgage.
Term deposits subject to early redemption risk	Deposit size, depositor characteristics, funding channel (eg direct or brokered deposit), contractual interest rates, seasonal factors, geographical location and competitive environment, remaining maturity and other historical factors. Other macroeconomic variables such as stock indices, unemployment rates, GDP, inflation and housing price indices should be considered in modelling deposit redemption behaviour.
NMDs	Responsiveness of product rates to changes in market interest rates, current level of interest rates, spread between a bank's offer rate and market rate, competition from other firms, the bank's geographical location and demographic and other relevant characteristics of its customer base.

31.43 In addition, banks with positions denominated in different currencies can expose themselves to IRRBB in each of those currencies. Since yield curves vary from currency to currency, banks generally need to assess exposures in each currency. Banks with the necessary skills and sophistication, and with material multicurrency exposures, may choose to include, in their IMS, methods to aggregate their IRRBB in different currencies using assumptions about the correlation between interest rates in different currencies.

31.44

Further, banks should consider the materiality of the impact of behavioural optionalities within floating rate loans. For instance, the behaviour of prepayments arising from embedded caps and floors could impact the banks' economic value of equity.

31.45 Banks should be able to test the appropriateness of key behavioural assumptions, and all changes to the assumptions of key parameters should be documented (eg by comparing the economic value of equity measured under their IMS with the standardised framework in SRP31.94 to SRP31.129). Banks should periodically perform sensitivity analyses for key assumptions to monitor their impact on measured IRRBB. Sensitivity analyses should be performed with reference to both economic value and earnings-based measures.

31.46 The most significant assumptions underlying the system should be documented and clearly understood by the governing body or its delegates. Documentation should also include descriptions on how those assumptions could potentially affect the bank's hedging strategies.

31.47 As market conditions, competitive environments and strategies change over time, the bank should review significant measurement assumptions at least annually and more frequently during rapidly changing market conditions. For example, if the competitive market has changed such that consumers now have lower transaction costs available to them for refinancing their residential mortgages, prepayments may become more sensitive to smaller reductions in interest rates.

Principle 6 – data integrity and model governance

31.48 Accurate and timely measurement of IRRBB is necessary for effective risk management and control. A bank's risk measurement system should be able to identify and quantify the major sources of IRRBB exposure. The mix of a bank's business lines and the risk characteristics of its activities should guide management's selection of the most appropriate form of measurement system.

31.49 Banks should not rely on a single measure of risk, given that risk management systems tend to vary in how they capture the components of IRRBB. Instead, banks should use a variety of methodologies to quantify their IRRBB exposures under both the economic value and earnings-based measures, ranging from simple calculations based on static simulations using current holdings to more sophisticated dynamic modelling techniques that reflect potential future business activities.

31.50

A bank's MIS should allow it to retrieve accurate IRRBB information in a timely manner. The MIS should capture interest rate risk data on all the bank's material IRRBB exposures. There should be sufficient documentation of the major data sources used in the bank's risk measurement process.

31.51 Data inputs should be automated as much as possible to reduce administrative errors. Data mapping should be periodically reviewed and tested against an approved model version. A bank should monitor the type of data extracts and set appropriate controls.

31.52 Where cash flows are slotted into different time buckets (eg for gap analyses) or assigned to different vertex points to reflect the different tenors of the interest rate curve, the slotting criteria should be stable over time to allow for a meaningful comparison of risk figures over different periods.

31.53 Banks' IMS should be able to compute economic value and earnings-based measures of IRRBB, as well as other measures of IRRBB prescribed by their supervisors, based on the interest rate shock and stress scenarios set out in SRP31.30. It should also be sufficiently flexible to incorporate supervisory-imposed constraints on banks' internal risk parameter estimates.

31.54 The validation of IRRBB measurement methods and assessment of corresponding model risk should be included in a formal policy process that should be reviewed and approved by the governing body or its delegates. The policy should specify the management roles and designate who is responsible for the development, implementation and use of models. In addition, the model oversight responsibilities as well as policies including the development of initial and ongoing validation procedures, evaluation of results, approval, version control, exception, escalation, modification and decommission processes need to be specified and integrated within the governance processes for model risk management.

31.55 An effective validation framework should include three core elements:

(1) evaluation of conceptual/methodological soundness, including developmental evidence;

(2) ongoing model monitoring, including process verification and benchmarking; and

(3) outcomes analysis, including backtesting of key internal parameters (eg stability of deposits, prepayments, early redemptions, pricing of instruments).

31.56 In addressing the expected initial and ongoing validation activities, the policy should establish a hierarchical process for determining model risk soundness

based on both quantitative and qualitative dimensions such as size, impact, past performance and familiarity with the modelling technique employed.

31.57 Model risk management for IRRBB measures should follow a holistic approach that begins with motivation, development and implementation by model owners and users. Prior to receiving authorisation for usage, the process for determining model inputs, assumptions, modelling methodologies and outputs should be reviewed and validated independently of the development of IRRBB models. The review and validation results and any recommendations on model usage should be presented to and approved by the governing body or its delegates. Upon approval, the model should be subject to ongoing review, process verification and validation at a frequency that is consistent with the level of model risk determined and approved by the bank.

31.58 The ongoing validation process should establish a set of exception trigger events that obligate the model reviewers to notify the governing body or its delegates in a timely fashion, in order to determine corrective actions and/or restrictions on model usage. Clear version control authorisations should be designated, where appropriate, to model owners. With the passage of time and due to observations and new information gained over time, an approved model may be modified or decommissioned. Banks should articulate policies for model transition, including change and version control authorisations and documentation.

31.59 IRRBB models might include those developed by third-party vendors. Model inputs or assumptions may also be sourced from related modelling processes or sub-models (both in-house and vendor-sourced) and should be included in the validation process. The bank should document and explain model specification choices as part of the validation process.

31.60 Banks that purchase IRRBB models should ensure there is adequate documentation of their use of those models, including any specific customisation. If vendors provide input for market data, behavioural assumptions or model settings, the bank should have a process in place to determine if those inputs are reasonable for its business and the risk characteristics of its activities.

31.61 Internal audit should review the model risk management process as part of its annual risk assessment and audit plans. The audit activity should not duplicate model risk management processes, but should review the integrity and effectiveness of the risk management system and the model risk management process.

Principle 7 – reporting to management

31.62 The reporting of risk measures to the governing body or its delegates should be regular and should compare current exposure with policy limits. In particular, reporting should include the results of the periodic model reviews and audits as well as comparisons of past forecasts or risk estimates with actual results to inform potential modelling shortcomings on a regular basis. Portfolios that may be subject to significant mark-to-market movements should be clearly identified within the bank's MIS and subject to oversight in line with any other portfolios exposed to market risk.

31.63 While the types of reports prepared for the governing body or its delegates will vary based on the bank's portfolio composition, they should include at least the following:

(1) summaries of the bank's aggregate IRRBB exposures, and explanatory text that highlights the assets, liabilities, cash flows, and strategies that are driving the level and direction of IRRBB;

(2) reports demonstrating the bank's compliance with policies and limits;

(3) key modelling assumptions such as NMD characteristics, prepayments on fixed rate loans and currency aggregation;

(4) results of stress tests, including assessment of sensitivity to key assumptions and parameters; and

(5) summaries of the reviews of IRRBB policies, procedures and adequacy of the measurement systems, including any findings of internal and external auditors and/or other equivalent external parties (such as consultants).

31.64 Reports detailing the bank's IRRBB exposures should be provided to the bank's governing body or its delegates on a timely basis and reviewed regularly. The IRRBB reports should provide aggregate information as well as sufficient supporting detail to enable the governing body or its delegates to assess the sensitivity of the bank to changes in market conditions, with particular reference to portfolios that may potentially be subject to significant mark-to-market movements. The governing body or its delegates should review the bank's IRRBB management policies and procedures in light of the reports, to ensure that they remain appropriate and sound. The governing body or its delegates should also ensure that analysis and risk management activities related to IRRBB are conducted by competent staff with technical knowledge and experience, consistent with the nature and scope of the bank's activities.

Principle 8 – public disclosure

31.65 The level of IRRBB exposure should be measured and disclosed. Disclosure requirements are set out in DIS70.

Principle 9 – IRRBB in the ICAAP

31.66 Banks are responsible for evaluating the level of capital that they should hold, and for ensuring that this is sufficient to cover IRRBB and its related risks. The contribution of IRRBB to the overall internal capital assessment should be based on the bank's IMS outputs, taking account of key assumptions and risk limits. The overall level of capital should be commensurate with both the bank's actual measured level of risk (including for IRRBB) and its risk appetite, and be duly documented in its ICAAP report.

31.67 Banks should not only rely on supervisory assessments of capital adequacy for IRRBB, but should also develop their own methodologies for capital allocation, based on their risk appetite. In determining the appropriate level of capital, banks should consider both the amount and the quality of capital needed.

31.68 Capital adequacy for IRBBB should be considered in relation to the risks to economic value, given that such risks are embedded in the bank's assets, liabilities and off-balance sheet items. For risks to future earnings, given the possibility that future earnings may be lower than expected, banks should consider capital buffers.

31.69 Capital adequacy assessments for IRRBB should factor in:

(1) the size and tenor of internal limits on IRRBB exposures, and whether these limits are reached at the point of capital calculation;

(2) the effectiveness and expected cost of hedging open positions that are intended to take advantage of internal expectations of the future level of interest rates;

(3) the sensitivity of the internal measures of IRRBB to key modelling assumptions;

(4) the impact of shock and stress scenarios on positions priced off different interest rate indices (basis risk);

(5) the impact on economic value and NII of mismatched positions in different currencies;

(6) the impact of embedded losses;

(7) the distribution of capital relative to risks across legal entities that form part of a capital consolidation group, in addition to the adequacy of overall capital on a consolidated basis;

(8) the drivers of the underlying risk; and

(9) the circumstances under which the risk might crystallise.

31.70 The outcomes of the capital adequacy for IRRBB should be considered in a bank's ICAAP and flow through to assessments of capital associated with business lines.

Principle 10 – supervisory assessment of banks' IRRBB exposures

31.71 Supervisors should, on a regular basis, collect sufficient information from banks to assess their IRRBB exposures. While the precise information obtained could differ among supervisors, the amount of information collected should at least allow the supervisor to assess the IRRBB exposures of the bank and to identify and monitor outlier banks under Principle 12.

31.72 Supervisors should ensure that the collection of information is comparable and consistent across the banks that they supervise. Supervisors should have discretionary powers to collect additional information to assess banks' IRRBB in line with Principle 11, including the sensitivity of their IMS calculations to changes in key assumptions. For example, supervisors may collect information on:

(1) the modelling of NMDs for IMS purposes and the sensitivity of a bank's economic value and earnings to changes in NMD assumptions;

(2) the impact of assumptions used regarding products with behavioural optionalities;

(3) the treatment of own equity in internal calculations and the extent to which this impacts the change in economic value of equity (ΔEVE) number disclosed under Principle 8;

(4) repricing gaps of cash flows associated with their interest rate-sensitive assets, liabilities and off-balance sheet items (by significant currencies);

(5) exposures to automatic interest rate options;

(6) the types of yield curve used for IMS purposes;

(7) the level of ΔEVE if calculated using the standardised framework set out in SRP31.94 to SRP31.129; and

(8) economic value and earnings-based measures for interest rate shock and stress scenarios in addition to those prescribed in paragraphs SRP31.90 to SRP31.93 (including results based on banks' internally developed or other interest rate shock or stress scenarios).

31.73 Jurisdictions that intend to perform an off-site review of their banks' IRRBB should put in place adequate reporting schemes to enable peer comparison of banks and identification of banks for additional on-site work.

Principle 11 – supervisory assessment of banks' IRRBB management

31.74 Supervisors should regularly evaluate the adequacy, integrity and effectiveness of a bank's IRRBB management framework and assess whether its practices comply with the stated objectives and risk tolerances set by its governing body, and with supervisory expectations as set out in Principles 1 to 7. Supervisors should take into account a bank's size and complexity at the time of assessment.

31.75 Supervisors should evaluate whether a bank's IMS provides a sufficient basis for identifying and measuring IRRBB, taking note particularly of the key assumptions that affect the measurement of IRRBB. Supervisors should request and evaluate information about significant model or policy changes that have occurred between their regular reviews and concentrate their efforts on reviewing the most material models and policies.

31.76 Supervisors should review regularly the outputs from the bank's IMS, including the bank's IRRBB exposures (both economic value and earnings-based measures) based on the internal calculations using at least the prescribed interest rate shock scenarios specified in SRP31.90 to SRP31.93, as well as any additional interest rate shock and stress scenarios they determine should be assessed. Supervisors may also form their evaluation of a bank's IMS by applying supervisory estimates which they have developed. Supervisors should also review the information disclosed by banks under Principle 8.

31.77 When reviewing the bank's IRRBB exposures and forming conclusions about the quality of the bank's IRRBB management, supervisors should at a minimum, consider:

(1) the complexity and level of risk posed by the bank's assets, liabilities and off-balance sheet activities;

(2) the adequacy and effectiveness of oversight by the bank's governing body or its delegates;

(3) a bank's knowledge and ability to identify and manage the sources of IRRBB;

(4) the adequacy of internal validation of IRRBB measures, including sensitivity analysis and backtesting, in particular where changes in key modelling parameters have occurred;

(5) the adequacy of internal monitoring and of the bank's MIS;

(6) the effectiveness of risk limits and controls that set tolerances on economic value and earnings;

(7) the effectiveness of the bank's IRRBB stress testing programme;

(8) the adequacy and frequency of the internal review and audit of the IRRBB management process, including independent model validation and oversight of model risk;

(9) the adequacy and effectiveness of IRRBB management practices as evidenced by past and projected financial performance;

(10) the effectiveness of hedging strategies used by the bank to control IRRBB; and

(11) the appropriateness of the level of IRRBB (including embedded losses) in relation to the bank's capital, earnings and risk management systems.

31.78 Supervisors should assess the adequacy of a bank's capital relative to its IRRBB exposures (against expectations set out in Principle 9) to determine whether the bank requires more detailed examination and should potentially be subject to additional capital requirements and/or other mitigation actions. This assessment need not be limited to the outlier/materiality test set out in Principle 12.

31.79 The supervisory evaluation should be undertaken both on a standalone basis and by making comparisons with peer banks – in particular, supervisors should compare the key behavioural and strategic assumptions being made by banks within their jurisdictions, to determine whether they can be justified with regard to the economic environment and business model. Supervisors should ensure that the information they review is comparable and consistent across the banks that they supervise.

31.80 Supervisors should employ specialist resources to assist with the assessment of IRRBB levels and controls in the banks that they supervise. Supervisory bodies should:

(1) ensure that line supervisors are appropriately trained and sufficiently knowledgeable to identify all relevant aspects of IRRBB in the banks that they regulate; and

(2) employ an adequate number of IRRBB specialists.

31.81 Supervisors should cooperate and share information with relevant supervisors in other jurisdictions regarding the supervision of banks' IRRBB, in particular for banks with operations across multiple jurisdictions. Sharing of such information could take place on a bilateral or multilateral basis (eg through supervisory colleges). The information shared could include supervisory experiences from assessing and monitoring a bank's IRRBB in different parts of its group, modelling assumptions made by banks, any impediments experienced during the supervision process, rules/criteria established to evaluate the capital that banks would need for IRRBB, and examples of good practices observed in the banks' management of IRRBB.

Principle 12 – supervisory action with respect to outlier banks

31.82 Supervisors must publish their criteria for identifying an outlier bank, defined in terms of the outlier/materiality test(s) used by the supervisor. The supervisor should implement at least one outlier/materiality test that compares the bank's maximum ΔEVE, under the six prescribed interest rate shock scenarios set out in paragraphs SRP31.90 to SRP31.93, with 15% of its Tier 1 capital, computed in line with the disclosure requirements in Principle 8.

31.83 Supervisors may also implement additional outlier/materiality tests, provided these tests are applied throughout their jurisdiction in the same form. The additional outlier/materiality tests could use a different capital measure (eg Common Equity Tier 1, or CET1, capital, amount by which regulatory capital exceeds the bank's minimum requirements) or capture the bank's IRRBB relative to earnings. For the additional outlier/materiality tests, the threshold for defining an outlier bank should be at least as stringent as 15% of Tier 1 capital.

31.84 Banks identified by supervisors under their criteria as outliers must be considered as potentially having undue IRRBB and subject to review.

31.85 All banks are expected to hold adequate capital for the risks they undertake. With regard to IRRBB, supervisors should evaluate whether the bank has adequate capital and earnings that are commensurate with its level of short-term and long-term IRRBB exposures, as well as the risk those exposures may pose to its future financial performance. Supervisors should consider the following factors:

(1) The ΔEVE under a variety of shocked and stressed interest rate scenarios. Where a bank's EVE is significantly sensitive to interest rate shocks and stresses, the supervisor should evaluate the impact on its capital levels arising from financial instruments held at market value, and potential impact should banking book positions held at historical cost become subject to

market valuation. Supervisors should, in their assessment, consider the impact of key assumptions on the ΔEVE calculated, including those related to the inclusion/exclusion of commercial margins, the bank's actual equity allocation profile, the stability of NMDs and prepayment optionality.

(2) The strength and stability of the earnings stream and the level of income needed to generate and maintain normal business operations. A high level of IRRBB exposure is one that could, under a plausible range of market scenarios, result in the bank reporting losses or curtailing normal dividend distribution and business operations. In such cases, management should ensure that the bank has sufficient capital to withstand the adverse impact of such events until it can implement mitigating actions such as reducing exposures or increasing capital.

31.86 When a supervisor determines that a bank's IMS is deficient in its measurement of IRRBB, the supervisor should require the bank to improve its IMS and/or use the standardised framework set out in SRP31.94 to SRP31.129 to compute its IRRBB in terms of ΔEVE.

31.87 A bank could also be considered to have excessive risk relative to earnings if its shocked ΔNII was such that the bank would not have sufficient income to maintain its normal business operations.

31.88 When a national supervisor concludes that a bank's management of IRRBB is inadequate or that it has excessive risk relative to its capital or earnings, or its general risk profile, the supervisor must require the bank to take one or more of the following actions:

(1) reduce its IRRBB exposures (eg by hedging);

(2) raise additional capital;

(3) set constraints on the internal risk parameters used by a bank; and/or

(4) improve its risk management framework.

31.89 The reduction in IRRBB and/or the expected higher level of capital should be achieved within a specified time frame, to be established taking into consideration prevailing financial and economic conditions, as well as the causes of IRRBB exposure exceeding the supervisory threshold.

The standardised interest rate shock scenarios

31.90 Banks should apply six prescribed interest rate shock scenarios to capture parallel and non-parallel gap risks for EVE and two prescribed interest rate shock scenarios for NII. The derivation of these shocks is explained in SRP98.56 to SRP98.63. These scenarios are applied to IRRBB exposures in each currency for which the bank has material positions. In order to accommodate heterogeneous economic environments across jurisdictions, the six shock scenarios reflect currency-specific absolute shocks as specified in Table 2 below. For the purposes of capturing the local rate environment, a historical time series ranging from 2000 to 2015 for various maturities[7] was used to derive each scenario for a given currency. Under this approach, IRRBB is measured by means of the following six scenarios:

(1) parallel shock up;

(2) parallel shock down;

(3) steepener shock (short rates down and long rates up);

(4) flattener shock (short rates up and long rates down);

(5) short rates shock up; and

(6) short rates shock down.

Specified size of interest rate shocks, $\overline{R}_{shocktype,c}$ Table 2

	ARS	AUD	BRL	CAD	CHF	CNY	EUR	GBP	HKD	IDR	INR
Parallel	400	300	400	200	100	250	200	250	200	400	400
Short	500	450	500	300	150	300	250	300	250	500	500
Long	300	200	300	150	100	150	100	150	100	300	300

	JPY	KRW	MXN	RUB	SAR	SEK	SGD	TRY	USD	ZAR
Parallel	100	300	400	400	200	200	150	400	200	400
Short	100	400	500	500	300	300	200	500	300	500
Long	100	200	300	300	150	150	100	300	150	300

Footnotes

[7] *Jurisdictions may under national discretion, deviate from the initial 16-year period if it better reflects their idiosyncratic circumstances.*

31.91 Given Table 2, the instantaneous shocks to the risk-free rate for parallel, short and long, for each currency, the following parameterisations of the six interest rate shock scenarios should be applied:

(1) Parallel shock for currency c: a constant parallel shock up or down across all time buckets.

$$\triangle R_{parallel,c}\left(t_k\right) = \pm \overline{R}_{parallel,c}$$

(2) Short rate shock for currency c: shock up or down that is greatest at the shortest tenor midpoint. That shock, through the shaping scalar

$S_{short}\left(t_k\right) = (e^{\frac{-t_k}{x}})$, where x=4, diminishes towards zero at the tenor of the longest point in the term structure.[8]

$$\triangle R_{short,c}\left(t_k\right) = \pm \overline{R}_{short,c} \cdot S_{short}\left(t_k\right) = \pm \overline{R}_{short,c} \cdot e^{\frac{-t_k}{x}}$$

(3) Long rate shock for currency c (note: this is used only in the rotational shocks): Here the shock is greatest at the longest tenor midpoint and is related to the short scaling factor as: $S_{long}\left(t_k\right) = 1 - S_{short}\left(t_k\right)$.

$$\triangle R_{long,c}\left(t_k\right) = \pm \overline{R}_{long,c} \cdot S_{long}\left(t_k\right) = \pm \overline{R}_{long,c} \cdot \left(1 - e^{\frac{-t_k}{x}}\right)$$

(4) Rotation shocks for currency c: involving rotations to the term structure (ie steepeners and flatteners) of the interest rates whereby both the long and short rates are shocked and the shift in interest rates at each tenor midpoint is obtained by applying the following formulas to those shocks:

$$\triangle R_{steepner,c}\left(t_k\right) = -0.65 \cdot \left|\triangle R_{short,c}\left(t_k\right)\right| + 0.9 \cdot \left|\triangle R_{long,c}\left(t_k\right)\right|$$

$$\triangle R_{flattener,c}\left(t_k\right) = +0.8 \cdot \left|\triangle R_{short,c}\left(t_k\right)\right| - 0.6 \cdot \left|\triangle R_{long,c}\left(t_k\right)\right|$$

Footnotes

[8] *The value of x in the denominator of the function $e^{\frac{-t_k}{x}}$ controls the rate of decay of the shock. This should be set to the value of 4 for most currencies and the related shocks unless otherwise determined by national supervisors. t_k is the midpoint (in time) of the k^{th} bucket and t_K is the midpoint (in time) of the last bucket K. There are 19 buckets in the standardised framework, but the analysis may be generalised to any number of buckets.*

31.92 The following examples illustrate the scenarios in SRP31.91(2) and SRP31.91(4).

(1) Short rate shock: Assume that the bank uses the standardised framework with K=19 time bands and with t_K=25 years (the midpoint (in time) of the longest tenor bucket K), and where t_k is the midpoint (in time) for bucket k. In the standardised framework, if k=10 with t_k=3.5 years, the scalar adjustment for the short shock would be

$S_{short}(t_k) = e^{\frac{-3.5}{4}}$ = 0.417. Banks would multiply this by the value of the short rate shock to obtain the amount to be added to or subtracted from the yield curve at that tenor point. If the short rate shock was +100 basis points (bp), the increase in the yield curve at t_k=3.5 years would be 41.7 bp.

(2) Steepener: Assume the same point on the yield curve as above, t_k=3.5 years. If the absolute value of the short rate shock was 100 bp and the absolute value of the long rate shock was 100 bp (as for the Japanese yen), the change in the yield curve at t_k=3.5 years would be the sum of the effect of the short rate shock plus the effect of the long rate shock in bp: −0.65 x 100bp x 0.417 + 0.9 x 100bp x (1−0.417) = +25.4bp.

(3) Flattener: The corresponding change in the yield curve for the shocks in the example above at t_k=3.5 years would be: +0.8 x 100bp x 0.417 – 0.6 x 100bp x (1−0.417) = −1.6bp.

31.93 The Committee acknowledges that shock sizes of different currencies should reflect local conditions in a timely manner. For this reason, the Committee will review the calibration of the interest rate shock sizes (eg every five years). National supervisors may, at their discretion, set floors for the post-shock interest rates under the six interest rate shock scenarios, provided the floors are not greater than zero.

The standardised framework

31.94 Supervisors could mandate their banks to follow the framework set out in this section, or a bank could choose to adopt it.

31.95 The steps involved in measuring a bank's IRRBB, based solely on EVE, are:

(1) Interest rate-sensitive banking book positions are allocated to one of three categories (ie amenable, less amenable and not amenable to standardisation).

(2) Determination of slotting of cash flows based on repricing maturities. This is a straightforward translation for positions amenable to standardisation. For positions less amenable to standardisation, they are excluded from this step. For positions with embedded automatic interest rate options, the optionality should be ignored for the purpose of slotting of notional repricing cash flows. [9] For positions that are not amenable to standardisation, there is a separate treatment for:

(a) NMDs – according to separation of core and non-core cash flows via the approach set out in SRP31.107 to SRP31.112.

(b) Behavioural options (fixed rate loans subject to prepayment risk and term deposits subject to early redemption risk) – behavioural parameters relevant to the position type must rely on a scenario-dependent look-up table set out in SRP31.119 and SRP31.125.

(3) Determination of ΔEVE for relevant interest rate shock scenarios for each currency. The ΔEVE is measured per currency for all six prescribed interest rate shock scenarios.

(4) Add-ons for changes in the value of automatic interest rate options (whether explicit or embedded) are added to the EVE changes. Automatic interest rate options sold are subject to full revaluation (possibly net of automatic interest rate options bought to hedge sold interest rate options) under each of the six prescribed interest rate shock scenarios for each currency. Changes in values of options are then added to the changes in the EVE measure under each interest rate shock scenario on a per currency basis.

(5) IRRBB EVE calculation. The ΔEVE under the standardised framework will be the maximum of the worst aggregated reductions to EVE across the six supervisory prescribed interest rate shocks.

Footnotes

[9] *That is, the embedded automatic interest rate option is stripped out from the process of slotting notional repricing cash flows in Step 2 and treated together with other automatic interest rate options under Step 4.*

31.96 Banks must project all future notional repricing cash flows arising from interest rate-sensitive assets, liabilities and off-balance sheet items on to:

(1) 19 predefined time buckets (indexed numerically by k) as set out in Table 3, into which they fall according to their repricing dates, or

(2) the time bucket midpoints as set out in Table 3, retaining the notional repricing cash flows' maturity. This alternative requires splitting up notional repricing cash flows between two adjacent maturity bucket midpoints.

Maturity schedule with 19 time buckets for notional repricing cash flows repriciting at t^{CF}

The number in brackets is the time bucket's midpoint — Table 3

	Time bucket intervals (M = months; Y = years)							
Short-term rates	Overnight (0.0028Y)	Overnight < t^{CF} ≤ 1M (0.0417Y)	1M < t^{CF} ≤ 3M (0.1667 Y)	3M < t^{CF} ≤ 6M (0.375 Y)	6M < t^{CF} ≤ 9M (0.625 Y)	9M < t^{CF} ≤ 1Y (0.875 Y)	1Y < t^{CF} ≤ 1.5Y (1.25 Y)	1.5Y < t^{CF} ≤ 2Y (1.75 Y)
Medium-term rates	2Y < t^{CF} ≤ 3Y (2.5Y)	3Y < t^{CF} ≤ 4Y (3.5Y)	4Y < t^{CF} ≤ 5Y (4.5Y)	5Y < t^{CF} ≤ 6Y (5.5Y)	6Y < t^{CF} ≤ 7Y (6.5Y)			
Long-term rates	7Y < t^{CF} ≤ 8Y (7.5Y)	8Y < t^{CF} ≤ 9Y (8.5Y)	9Y < t^{CF} ≤ 10Y (9.5Y)	10Y < t^{CF} ≤ 15Y (12.5 Y)	15Y < t^{CF} ≤ 20Y (17.5 Y)	t^{CF} > 20Y (25Y)		

31.97 For the purpose of this approach, assets are those not deducted from CET1 capital and exclude fixed assets (such as real estate or intangible assets) and

equity exposures in the banking book. Liabilities include all non-remunerated deposits but exclude CET1 capital under the Basel III framework.

31.98 A notional repricing cash flow CF(k) is defined as:

(1) any repayment of principal (eg at contractual maturity);

(2) any repricing of principal; repricing is said to occur at the earliest date at which either the bank or its counterparty is entitled to unilaterally change the interest rate, or at which the rate on a floating rate instrument changes automatically in response to a change in an external benchmark; or

(3) any interest payment on a tranche of principal that has not yet been repaid or repriced; spread components of interest payments on a tranche of principal that has not yet been repaid and which do not reprice must be slotted until their contractual maturity irrespective of whether the non-amortised principal has been repriced or not.

31.99 The date of each repayment, repricing or interest payment is referred to as its repricing date.

31.100 Banks have the choice of whether to deduct commercial margins and other spread components from the notional repricing cash flows, using a prudent and transparent methodology.

31.101 Floating rate instruments are assumed to reprice fully at the first reset date. Hence, the entire principal amount is slotted into the bucket in which that date falls, with no additional slotting of notional repricing cash flows to later time buckets or time bucket midpoints (other than the spread component which is not repriced).

31.102 All notional repricing cash flows associated with interest rate-sensitive assets, liabilities and off-balance sheet items, for each currency, are allocated to the prescribed time buckets or time bucket midpoints (henceforth, denoted by $CF_{i,c-}(k)$ or $CF_{i,c}(t_{k-})$ under interest rate shock scenario i and currency c) based on their amenability to standardisation.

31.103 Notional repricing cash flows can be slotted into appropriate time buckets or time bucket midpoints based on their contractual maturity, if subject to fixed coupons, or into the next repricing period if coupons are floating. Positions amenable to standardisation fall into two categories:

(1) Fixed rate positions: such positions generate cash flows that are certain till the point of contractual maturity. Examples are fixed rate loans without embedded prepayment options, term deposits without redemption risk and other amortising products such as mortgage loans. All coupon cash flows and periodic or final principal repayments should be allocated to the time bucket midpoints closest to the contractual maturity.

(2) Floating rate positions: such positions generate cash flows that are not predictable past the next repricing date other than that the present value would be reset to par. Accordingly, such instruments can be treated as a series of coupon payments until the next repricing and a par notional cash flow at the time bucket midpoint closest to the next reset date bucket.

31.104 Positions amenable to standardisation include positions with embedded automatic interest rate options where the optionality (whether sold or bought) should be ignored for the purpose of slotting of notional repricing cash flows.[10] That is, the stripped-out embedded automatic interest rate option must be treated together with explicit automatic interest rate options. Supervisors may allow banks to categorise other positions as amenable to standardisation and ignore the optionality if it can be shown to be of immaterial consequence.

Footnotes

[10] *For example, a floating rate loan or debt security with a floor would be treated as if there were no floor; hence it would be treated as if it fully repriced at the next reset date, and its full outstanding balance slotted in the corresponding time band. Similarly, a callable bond issued by a bank at a fixed yield would be treated as if it matured at its longest contractual term, ignoring the call option.*

31.105 Some positions are less amenable to standardisation.[11] For explicit automatic interest rate options, as well as embedded automatic interest rate options[12] that are separated or stripped out from the bank's assets or liabilities (ie the host contract), the methodology for automatic interest rate options is described in SRP31.127 and SRP31.128.

Footnotes

[11] *A common feature of these positions is optionality that makes the timing of notional repricing cash flows uncertain. This optionality introduces a non-linearity, which suggests that delta-equivalent approximations are imprecise for large interest rate shock scenarios.*

[12] *An example of a product with embedded automatic interest rate options is a floating rate mortgage loan with embedded caps and/or floors. Notional repricing cash flows for those loans are treated as a fixed rate loan until the next repricing date, thereby ignoring the option, which instead is treated like a separate automatic interest rate option.*

31.106 Positions not amenable to standardisation include

(1) NMDs,

(2) fixed rate loans subject to prepayment risk and

(3) term deposits subject to early redemption risk.

31.107 Under the standardised framework, banks should first separate their NMDs according to the nature of the deposit and depositor. Banks should then identify, for each category, the core and non-core deposits, up to the limits specified in Table 4. Finally, banks should determine an appropriate cash flow slotting for each category, in accordance with the average maturity limits specified in Table 4.

31.108 NMDs must be segmented into retail and wholesale categories. Retail deposits are defined as deposits placed with a bank by an individual person. Deposits made by small business customers and managed as retail exposures are considered as having similar interest rate risk characteristics to retail accounts and thus can be treated as retail deposits (provided the total aggregated liabilities raised from one small business customer are less than €1 million). Retail deposits should be considered as held in a transactional account when regular transactions are carried out in that account (eg when salaries are regularly credited) or when the deposit is non-interest bearing.[13] Other retail deposits should be considered as held in a non-transactional account. Deposits from legal entities, sole proprietorships or partnerships are captured in wholesale deposit categories.

Footnotes

[13] *A specific category may be introduced for non-remunerated deposits, subject to supervisory approval.*

31.109 Banks should distinguish between the stable and the non-stable parts of each NMD category using observed volume changes over the past 10 years. The stable NMD portion is the portion that is found to remain undrawn with a high degree of likelihood. Core deposits are the proportion of stable NMDs which are unlikely to reprice even under significant changes in the interest rate environment. The remainder constitutes non-core NMDs.

31.110 Banks are required to estimate their level of core deposits using this two-step procedure for each deposit category, and then to aggregate the results to determine the overall volume of core deposits subject to imposed caps as shown in Table 4.

31.111 NMDs should finally be slotted into the appropriate time bucket or time bucket midpoint. Non-core deposits should be considered as overnight deposits and accordingly should be placed into the shortest/overnight time bucket or time bucket midpoint.

31.112 Banks should determine an appropriate cash flow slotting procedure for each category of core deposits, up to the maximum average maturity per category as specified in Table 4.

Caps on core deposits and average maturity by category — Table 4

	Cap on proportion of core deposits (%)	Cap on average maturity of core deposits (years)
Retail / transactional	90	5
Retail / non-transactional	70	4.5
Wholesale	50	4

31.113 The treatment set out SRP31.114 to SRP31.126 applies only to behavioural options related to retail customers. Where a wholesale customer has a behavioural option that may change the pattern of notional repricing cash flows, such options must be included within the category of automatic interest rate options.[14]

Footnotes

[14] *An example of such an option would be a puttable fixed coupon bond issued by the bank in the wholesale market, for which the owner has the right to sell the bond back to the bank at a fixed price at any time.*

31.114 The standardised framework is applied to fixed rate loans subject to prepayments and term deposits subject to early redemption risk. In each case, the customer has an option, which, if exercised, will alter the timing of a bank's cash flows. The customer's exercise of the option is, among other factors, influenced by changes in interest rates. In the case of the fixed rate loan, the customer has an option to repay the loan early (ie prepay); and for a fixed-term deposit, the customer may have an option to withdraw their deposit before the scheduled date.

31.115 Under the standardised framework, the optionality in these products is estimated using a two-step approach. Firstly, baseline estimates of loan prepayments and early withdrawal of fixed-term deposits are calculated given the prevailing term structure of interest rates.[15]

Footnotes

[15] *These baseline parameter estimates may be determined by the bank subject to supervisory review and approval, or prescribed by the supervisor.*

31.116 In the second stage, the baseline estimates are multiplied by scenario-dependent scalars that reflect the likely behavioural changes in the exercise of the options.

31.117 Prepayments, or parts thereof, for which the economic cost is not charged to the borrower, are referred to as uncompensated prepayments. For loan products where the economic cost of prepayments is never charged, or charged only for prepayments above a certain threshold, the standardised framework for fixed rate loans subject to prepayments set out below must be used to assign notional repricing cash flows.

31.118 Banks must determine or supervisors prescribe the baseline conditional prepayment rate $CPR_{0,c}^{p}$ for each portfolio p of homogeneous prepayment-exposed loan products denominated in currency c, under the prevailing term structure of interest rates.

31.119 The conditional prepayment rate (CPR) for each portfolio p of homogeneous prepayment-exposed loan products denominated in currency c, under interest rate scenario i, is given using the formula that follows, where $CPR_{0,c}^{p}$ is the (constant) base CPR of a portfolio pof homogeneous prepayment-exposed loans given in currency c[16] and given the prevailing term structure of interest rates. γ_i is a multiplier applied for scenario i as given in Table 5.

$$CPR_{i,c}^{p} = \min(1, \gamma_i \times CPR_{0,c}^{p})$$

CPRs under the shock scenarios — Table 5

Scenario number (i)	Interest rate shock scenarios	γ_i (scenario multiplier)
1	Parallel up	0.8
2	Parallel down	1.2
3	Steepener	0.8
4	Flattener	1.2
5	Short rate up	0.8
6	Short rate down	1.2

Footnotes

[16] *Alternatively, the base CPR may also vary over the life of each loan in the portfolio. In that case, it is denoted as* $CPR(k)_{0,c}^{p}$ *for each time bucket k or time bucket midpoint* t_k.

31.120 Prepayment speeds vary according to the interest rate shock scenario. The multipliers (γ_i) reflect the expectation that prepayments will generally be higher during periods of falling interest rates and lower during periods of rising interest rates.

31.121 The prepayments on the fixed rate loans must ultimately be reflected in the relevant cash flows (scheduled payments on the loans, prepayments and interest payments). These payments can be broken up into scheduled payments adjusted for prepayment and uncompensated prepayments[17] according to the following formula, where $CF^{S}_{i,c}(k)$ refers to the scheduled interest and principal repayment, and $N^{p}_{i,c}(k-1)$ denotes the notional outstanding at time bucket k–1. The base cash flows (ie given the current interest rate yield curve and the base CPR) are given by i=0, while the interest rate shock scenarios are given for i=1 to 6.

$$CF^{p}_{i,c}(k) = CF^{s}_{i,c}(k) + CPR^{p}_{i,c} \cdot N^{p}_{i,c}(k-1)$$

Footnotes

[17] *For simplicity, we have assumed there is no annual limit on prepayments. If a bank has an annual limit on uncompensated prepayments, this limit will apply.*

31.122 Term deposits lock in a fixed rate for a fixed term and would usually be hedged on that basis. However, term deposits may be subject to the risk of early withdrawal, also called early redemption risk. Consequently, term deposits may only be treated as fixed rate liabilities and their notional repricing cash flows slotted into the time buckets or time bucket midpoints up to their corresponding contractual maturity dates if it can be shown to the satisfaction of the supervisor that:

(1) the depositor has no legal right to withdraw the deposit; or

(2) an early withdrawal results in a significant penalty that at least compensates for the loss of interest between the date of withdrawal and the contractual maturity date and the economic cost of breaking the contract.[18]

Footnotes

[18] *However, often penalties do not reflect such an economic calculation but instead are based on a simpler formula such as a percentage of accrued interest. In such cases, there is potential for changes to profit or loss arising from differences between the penalty charged and the actual economic cost of early withdrawal.*

31.123

If neither of these conditions is met, the depositor holds an option to withdraw and the term deposits are deemed to be subject to early redemption risk. Further, if a bank issues term deposits that do not meet the above criteria to wholesale customers, it must assume that the customer will always exercise the right to withdraw in the way that is most disadvantageous to the bank (ie the deposit is classified as an automatic interest rate option).

31.124 Banks must determine or supervisors prescribe the baseline term deposit redemption ratio $TDRR^{p}_{o,c}$ applicable to each homogeneous portfolio p of term deposits in currency c and use it to slot the notional repricing cash flows. Term deposits which are expected to be redeemed early are slotted into the overnight time bucket (k=1) or time bucket midpoint (t_1).

31.125 The term deposit redemption ratio for time bucket k or time bucket midpoint t_k applicable to each homogeneous portfolio p of term deposits in currency c and under scenario i is obtained by multiplying $TDRR^{p}_{o,c}$ by a scalar u_i (set out in Table 6) that depends on the scenario i, as follows:

$$TDRR^{p}_{i,c} = \min(1, u_i \cdot TDRR^{p}_{o,c})$$

Term deposit redemption rate (TDRR) under the shock scenarios — Table 6

Scenario number (i)	Interest rate shock scenarios	Scalar multipliers u_i
1	Parallel up	1.2
2	Parallel down	0.8
3	Steepener	0.8
4	Flattener	1.2
5	Short rate up	1.2
6	Short rate down	0.8

31.126 The notional repricing cash flows which are expected to be withdrawn early under any interest rate shock scenario i are described as follows, where $TD^{p}_{0,c}$ is the outstanding amount of term deposits of type p.

$$CF_{i,c}^{p}(1) = TD_{0,c}^{p} \cdot TDRR_{i,c}^{p}$$

31.127 This paragraph and SRP31.128 describe the method for calculating an add-on for automatic interest rate options, whether explicit or embedded.[19] This applies to sold automatic interest rate options. Banks have a choice to either include all bought automatic options or include only automatic options used for hedging sold automatic interest rate options:

(1) For each sold automatic option o in currency c, the value change, denoted $\triangle FVAO_{i,c}^{o}$, is calculated for each interest rate shock scenario i. The value change is given by:

(a) an estimate of the value of the option to the option holder,[20] given:

(i) a yield curve in currency c under the interest rate shock scenario i; and

(ii) a relative increase in the implicit volatility of 25%; minus

(b) the value of the sold option to the option holder, given the yield curve in currency c at the valuation date.

(2) Likewise, for each bought automatic interest rate option q, the bank must determine the change in value of the option between interest rate shock scenario i and the current interest rate term structure combined with a relative increase in the implicit volatility of 25%. This is denoted as $\triangle FVAO_{i,c}^{q}$.

(3) The bank's total measure for automatic interest rate option risk under interest rate shock scenario i in currency c is calculated as follows, where n_c (m_c)is the number of sold (bought) options in currency c.

$$KAO_{i,c} = \sum_{o=1}^{n_c} \triangle FVAO_{i,c}^{o} - \sum_{q=1}^{m_c} \triangle FVAO_{i,c}^{q}$$

Footnotes

[19] *The most important automatic interest rate options likely to occur in the banking book are caps and floors, which are often embedded in banking products. Swaptions, such as prepayment options on non-retail products, may also be treated as automatic interest rate options, as, in cases where such options are held by sophisticated financial market counterparties, the option holder will almost certainly exercise the option if it is in their financial interest to do so. Any behavioural option positions with wholesale customers that may change the pattern of notional repricing cash flows are considered as embedded automatic interest rate options for the purposes of this subsection.*

[20] *This estimate requires a methodology approved by the supervisor.*

31.128 If the bank chooses to only include bought automatic interest rate options that are used for hedging sold automatic interest rate options, the bank must, for the remaining bought options, add any changes in market values reflected in the regulatory capital measure of the respective capital ratio (ie CET1, Additional Tier 1 or total capital) to the total automatic interest rate option risk measure $KAO_{i,c}$.

31.129 First, the loss in economic value of equity $\Delta EVE_{i,c}$ under scenario i and currency c is calculated for each currency with material exposures, ie those accounting for more than 5% of either banking book assets or liabilities, as follows:

(1) Under each scenario i, all notional repricing cash flows are slotted into the respective time bucket $k \in \{1, 2, ..., K\}$ or time bucket midpoint t_k, $k \in \{1, 2, ..., K\}$. Within a given time bucket k or time bucket midpoint t_k, all positive and negative notional repricing cash flows are netted[21] to form a single long or short position, with the cancelled parts removed from the calculation. Following this process across all time buckets or time bucket midpoints leads to a set of notional repricing cash flows $CF_{i,c}(k)$ or $CF_{i,c}(t_k)$, $k \in \{1, 2, ..., K\}$.[22]

(2) Net notional repricing cash flows in each time bucket k or time bucket midpoint t_k are weighted by a continuously compounded discount factor, described below, that reflects the interest rate shock scenario i in currency c as set out in SRP31.90 to SRP31.93, and where t_k is the midpoint of time bucket k. This results in a weighted net position, which may be positive or negative for each time bucket. The cash flows should be discounted using either a risk-free rate[23] or a risk-free rate including commercial margin and other spread components (only if the bank has included commercial margins and other spread components in its cash flows).

$$DF_{i,c}(t_k) = \exp(-R_{i,c}(t_k) \cdot t_k)$$

(3) These risk-weighted net positions are summed to determine the EVE in currency c under scenario i (excluding automatic interest rate option positions):

$$EVE_{i,c}^{nao} = \sum_{k=1}^{K} CF_{i,c}(k) \cdot DF_{i,c}(t_k) \quad \text{(maturity buckets) or}$$

$$EVE_{i,c}^{nao} = \sum_{k=1}^{K} CF_{i,c}(t_k) \cdot DF_{i,c}(t_k) \quad \text{(maturity bucket midpoints)}$$

(4) Then, the full change in EVE in currency c associated with scenario i is obtained by subtracting $EVE_{i,c}^{nao}$ from the EVE under the current interest rate term structure $EVE_{0,c}^{nao}$ and by adding the total measure for automatic interest rate option risk $KAO_{i,c}$, as follows:

$$\triangle EVE_{i,c} = \sum_{k=1}^{K} CF_{0,c}(k) \cdot DF_{0,c}(t_k) - \sum_{k=1}^{K} CF_{i,c}(k) \cdot DF_{i,c}(t_k) + KAO_{i,c} \quad \text{(maturity buckets) or}$$

$$\triangle EVE_{i,c} = \sum_{k=1}^{K} CF_{0,c}(t_k) \cdot DF_{0,c}(t_k) - \sum_{k=1}^{K} CF_{i,c}(t_k) \cdot DF_{i,c}(t_k) + KAO_{i,c} \quad \text{(maturity bucket midpoints)}$$

(5) Finally, the EVE losses $\Delta EVE_{i,c} > 0$ are aggregated under a given interest rate shock scenario i and the maximum loss across all interest rate shock scenarios is the EVE risk measure.[24]

$$Standardised\ EVE\ risk\ measure = \max_{i \in \{1,2,\ldots,6\}} \left\{ \max\left(0; \sum_{c:\Delta EVE_{i,c>0}} \underbrace{\Delta EVE_{i,c}}_{loss\ in\ currency\ c} \right) \right\}$$

Footnotes

[21] *Intra-bucket mismatch risk arises as notional repricing cash flows with different maturity dates, but falling within the same time bucket or time bucket midpoint, are assumed to match perfectly. This is mitigated by introducing a high number of time buckets (ie K=19).*

[22] *Note that, depending on the approach taken for NMDs, prepayments and products with other embedded behavioural options, the notional repricing cash flows may vary by scenario i (scenario-dependent cash flow products).*

[23] *The discounting factors must be representative of a risk-free zero coupon rate. An example of an acceptable yield curve is a secured interest rate swap curve.*

[24] *National supervisors would, however, be allowed to prescribe a different method of currency aggregation for their banks, if the national supervisor is able to support, with evidence, that such a method would remain in line with the jurisdiction's appetite for IRRBB.*

SRP32

Credit risk

This chapter describes aspects of credit risk not fully captured under Pillar 1 that should be considered under Pillar 2, including counterparty credit risk and securitisation.

Version effective as of 01 Jan 2023

Cross references updated to take account of the revised credit risk standards that come into effect due to the December 2017 Basel III publication, including the revised implementation date announced on 27 March 2020.

Stress tests under the internal ratings-based approaches

32.1 A bank should ensure that it has sufficient capital to meet the Pillar 1 requirements and the results (where a deficiency has been indicated) of the credit risk stress test performed as part of the Pillar 1 internal ratings-based (IRB) minimum requirements CRE36.50 to CRE36.53. Supervisors may wish to review how the stress test has been carried out. The results of the stress test will thus contribute directly to the expectation that a bank will operate above the Pillar 1 minimum regulatory capital ratios. Supervisors will consider whether a bank has sufficient capital for these purposes. To the extent that there is a shortfall, the supervisor will react appropriately. This will usually involve requiring the bank to reduce its risks and/or to hold additional capital/provisions, so that existing capital resources could cover the Pillar 1 requirements plus the result of a recalculated stress test.

Definition of default

32.2 A bank must use the reference definition of default for its internal estimations of probability of default and/or loss given default and exposure at default (EAD). However, as detailed in CRE36.70, national supervisors will issue guidance on how the reference definition of default is to be interpreted in their jurisdictions. Supervisors will assess individual banks' application of the reference definition of default and its impact on capital requirements. In particular, supervisors will focus on the impact of deviations from the reference definition according to CRE36.72 (use of external data or historic internal data not fully consistent with the reference definition of default).

Residual risk

32.3 The Framework allows banks to offset credit or counterparty risk with collateral, guarantees or credit derivatives, leading to reduced capital charges. While banks use credit risk mitigation (CRM) techniques to reduce their credit risk, these techniques give rise to risks that may render the overall risk reduction less effective. Accordingly these risks (eg legal risk, documentation risk, or liquidity risk) to which banks are exposed are of supervisory concern. Where such risks arise, and irrespective of fulfilling the minimum requirements set out in Pillar 1, a bank could find itself with greater credit risk exposure to the underlying counterparty than it had expected. Examples of these risks include:

(1) inability to seize, or realise in a timely manner, collateral pledged (on default of the counterparty);

(2) refusal or delay by a guarantor to pay; and

(3) ineffectiveness if untested documentation.

32.4 Therefore, supervisors will require banks to have in place appropriate written CRM policies and procedures in order to control these residual risks. A bank may be required to submit these policies and procedures to supervisors and must regularly review their appropriateness, effectiveness and operation.

32.5 In its CRM policies and procedures, a bank must consider whether, when calculating capital requirements, it is appropriate to give the full recognition of the value of the credit risk mitigant as permitted in Pillar 1 and must demonstrate that its CRM management policies and procedures are appropriate to the level of capital benefit that it is recognising. Where supervisors are not satisfied as to the robustness, suitability or application of these policies and procedures they may direct the bank to take immediate remedial action or hold additional capital against residual risk until such time as the deficiencies in the CRM procedures are rectified to the satisfaction of the supervisor. For example, supervisors may direct a bank to:

(1) make adjustments to the assumptions on holding periods, supervisory haircuts, or volatility (in the own haircuts approach);

(2) give less than full recognition of credit risk mitigants (on the whole credit portfolio or by specific product line); and/or

(3) hold a specific additional amount of capital.

Credit concentration risk

32.6 A risk concentration is any single exposure or group of exposures with the potential to produce losses large enough (relative to a bank's capital, total assets, or overall risk level) to threaten a bank's health or ability to maintain its core operations. Risk concentrations are arguably the single most important cause of major problems in banks.

32.7 Risk concentrations can arise in a bank's assets, liabilities, or off-balance sheet items, through the execution or processing of transactions (either product or service), or through a combination of exposures across these broad categories. Because lending is the primary activity of most banks, credit risk concentrations are often the most material risk concentrations within a bank.

32.8 Credit risk concentrations, by their nature, are based on common or correlated risk factors, which, in times of stress, have an adverse effect on the creditworthiness of each of the individual counterparties making up the concentration. Concentration risk arises in both direct exposures to obligors and may also occur through exposures to protection providers. Such concentrations are not addressed in the Pillar 1 capital charge for credit risk.

32.9 Banks should have in place effective internal policies, systems and controls to identify, measure, monitor, and control their credit risk concentrations. Banks should explicitly consider the extent of their credit risk concentrations in their assessment of capital adequacy under Pillar 2. These policies should cover the different forms of credit risk concentrations to which a bank may be exposed. Such concentrations include:

(1) significant exposures to an individual counterparty or group of related counterparties. In many jurisdictions, supervisors define a limit for exposures of this nature, commonly referred to as a large exposure limit. Banks might also establish an aggregate limit for the management and control of all of its large exposures as a group;

(2) credit exposures to counterparties in the same economic sector or geographic region;

(3) credit exposures to counterparties whose financial performance is dependent on the same activity or commodity; and

(4) indirect credit exposures arising from a bank's CRM activities (eg exposure to a single collateral type or to credit protection provided by a single counterparty).

32.10 A bank's framework for managing credit risk concentrations should be clearly documented and should include a definition of the credit risk concentrations relevant to the bank and how these concentrations and their corresponding limits are calculated. Limits should be defined in relation to a bank's capital, total assets or, where adequate measures exist, its overall risk level.

32.11 A bank's management should conduct periodic stress tests of its major credit risk concentrations and review the results of those tests to identify and respond to potential changes in market conditions that could adversely impact the bank's performance.

32.12 A bank should ensure that, in respect of credit risk concentrations, it complies with the Committee document Principles for the Management of Credit Risk (September 2000) and the more detailed guidance in the Appendix to that paper.

32.13

In the course of their activities, supervisors should assess the extent of a bank's credit risk concentrations, how they are managed, and the extent to which the bank considers them in its internal assessment of capital adequacy under Pillar 2. Such assessments should include reviews of the results of a bank's stress tests. Supervisors should take appropriate actions where the risks arising from a bank's credit risk concentrations are not adequately addressed by the bank.

Counterparty credit risk

32.14 As counterparty credit risk (CCR) represents a form of credit risk, this would include meeting this Framework's standards regarding their approaches to stress testing, "residual risks" associated with credit risk mitigation techniques, and credit concentrations, as specified in the paragraphs above.

32.15 The bank must have counterparty credit risk management policies, processes and systems that are conceptually sound and implemented with integrity relative to the sophistication and complexity of a firm's holdings of exposures that give rise to CCR. A sound counterparty credit risk management framework shall include the identification, measurement, management, approval and internal reporting of CCR.

32.16 The bank's risk management policies must take account of the market, liquidity, legal and operational risks that can be associated with CCR and, to the extent practicable, interrelationships among those risks. The bank must not undertake business with a counterparty without assessing its creditworthiness and must take due account of both settlement and pre-settlement credit risk. These risks must be managed as comprehensively as practicable at the counterparty level (aggregating counterparty exposures with other credit exposures) and at the firm-wide level.

32.17 The board of directors and senior management must be actively involved in the CCR control process and must regard this as an essential aspect of the business to which significant resources need to be devoted. Where the bank is using an internal model for CCR, senior management must be aware of the limitations and assumptions of the model used and the impact these can have on the reliability of the output. They should also consider the uncertainties of the market environment (eg timing of realisation of collateral) and operational issues (eg pricing feed irregularities) and be aware of how these are reflected in the model.

32.18 In this regard, the daily reports prepared on a firm's exposures to CCR must be reviewed by a level of management with sufficient seniority and authority to enforce both reductions of positions taken by individual credit managers or traders and reductions in the firm's overall CCR exposure.

32.19 The bank's CCR management system must be used in conjunction with internal credit and trading limits. In this regard, credit and trading limits must be related to the firm's risk measurement model in a manner that is consistent over time and that is well understood by credit managers, traders and senior management.

32.20 The measurement of CCR must include monitoring daily and intra-day usage of credit lines. The bank must measure current exposure gross and net of collateral held where such measures are appropriate and meaningful (eg over-the-counter, or OTC, derivatives, margin lending). Measuring and monitoring peak exposure or potential future exposure at a confidence level chosen by the bank at both the portfolio and counterparty levels is one element of a robust limit monitoring system. Banks must take account of large or concentrated positions, including concentrations by groups of related counterparties, by industry, by market, customer investment strategies, etc.

32.21 The bank must have a routine and rigorous program of stress testing in place as a supplement to the CCR analysis based on the day-to-day output of the firm's risk measurement model. The results of this stress testing must be reviewed periodically by senior management and must be reflected in the CCR policies and limits set by management and the board of directors. Where stress tests reveal particular vulnerability to a given set of circumstances, management should explicitly consider appropriate risk management strategies (eg by hedging against that outcome, or reducing the size of the firm's exposures).

32.22 The bank must have a routine in place for ensuring compliance with a documented set of internal policies, controls and procedures concerning the operation of the CCR management system. The firm's CCR management system must be well documented, for example, through a risk management manual that describes the basic principles of the risk management system and that provides an explanation of the empirical techniques used to measure CCR.

32.23 The bank must conduct an independent review of the CCR management system regularly through its own internal auditing process. This review must include both the activities of the business credit and trading units and of the independent CCR control unit. A review of the overall CCR management process must take place at regular intervals (ideally not less than once a year) and must specifically address, at a minimum:

(1) the adequacy of the documentation of the CCR management system and process;

(2) the organisation of the collateral management unit;

(3) the organisation of the CCR control unit;

(4) the integration of CCR measures into daily risk management;

(5) the approval process for risk pricing models and valuation systems used by front and back-office personnel;

(6) the validation of any significant change in the CCR measurement process;

(7) the scope of counterparty credit risks captured by the risk measurement model;

(8) the integrity of the management information system;

(9) the accuracy and completeness of CCR data;

(10) the accurate reflection of legal terms in collateral and netting agreements into exposure measurements;

(11) the verification of the consistency, timeliness and reliability of data sources used to run internal models, including the independence of such data sources;

(12) the accuracy and appropriateness of volatility and correlation assumptions;

(13) the accuracy of valuation and risk transformation calculations; and

(14) the verification of the model's accuracy through frequent backtesting.

32.24 A bank that receives approval to use an internal model to estimate its exposure amount or EAD for CCR exposures must monitor the appropriate risks and have processes to adjust its estimation of expected positive exposure (EPE) when those risks become significant. This includes the following:

(1) Banks must identify and manage their exposures to specific wrong-way risk.

(2) For exposures with a rising risk profile after one year, banks must compare on a regular basis the estimate of EPE over one year with the EPE over the life of the exposure.

(3) For exposures with a short-term maturity (below one year), banks must compare on a regular basis the replacement cost (current exposure) and the realised exposure profile, and/or store data that allow such a comparisons.

32.25 When assessing an internal model used to estimate EPE, and especially for banks that receive approval to estimate the value of the alpha factor, supervisors must review the characteristics of the firm's portfolio of exposures that give rise to CCR. In particular, supervisors must consider the following characteristics, namely:

(1) the diversification of the portfolio (number of risk factors the portfolio is exposed to);

(2) the correlation of default across counterparties; and

(3) the number and granularity of counterparty exposures.

32.26 Supervisors will take appropriate action where the firm's estimates of exposure or EAD under the internal models method (IMM) or alpha do not adequately reflect its exposure to CCR. Such action might include directing the bank to revise its estimates; directing the bank to apply a higher estimate of exposure or EAD under the IMM or alpha; or disallowing a bank from recognising internal estimates of EAD for regulatory capital purposes.

32.27 For banks that make use of the standardised approach to counterparty credit risk (SA-CCR), supervisors should review the bank's evaluation of the risks contained in the transactions that give rise to CCR and the bank's assessment of whether the SA-CCR captures those risks appropriately and satisfactorily. If the SA-CCR does not capture the risk inherent in the bank's relevant transactions (as could be the case with structured, more complex OTC derivatives), supervisors may require the bank to apply the SA-CCR on a transaction-by-transaction basis (ie no netting will be recognised).

Securitisation

32.28 A bank's on- and off-balance-sheet securitisation activities should be included in its risk management disciplines, such as product approval, risk concentration limits and estimates of market, credit and operational risk (as discussed in SRP30).

32.29 In light of the wide range of risks arising from securitisation activities, which can be compounded by rapid innovation in securitisation techniques and instruments, minimum capital requirements calculated under Pillar 1 are often insufficient. All risks arising from securitisation, particularly those that are not fully captured under Pillar 1, should be addressed in a bank's internal capital adequacy assessment process (ICAAP). These risks include:

(1) credit, market, liquidity and reputational risk of each exposure;

(2) potential delinquencies and losses on the underlying securitised exposures;

(3) exposures from credit lines or liquidity facilities to special purpose entities; and

(4) exposures from guarantees provided by monolines and other third parties.

32.30 Securitisation exposures should be included in the bank's management information systems (MIS) to help ensure that senior management understands the implications of such exposures for liquidity, earnings, risk concentration and capital. More specifically, a bank should have the necessary processes in place to capture in a timely manner updated information on securitisation transactions including market data, if available, and updated performance data from the securitisation trustee or servicer.

32.31 A bank should conduct analyses of the underlying risks when investing in the structured products and must not solely rely on the external credit ratings assigned to securitisation exposures by the credit rating agencies. A bank should be aware that external ratings are a useful starting point for credit analysis, but are no substitute for full and proper understanding of the underlying risk, especially where ratings for certain asset classes have a short history or have been shown to be volatile. Moreover, a bank also should conduct credit analysis of the securitisation exposure at acquisition and on an ongoing basis. It should also have in place the necessary quantitative tools, valuation models and stress tests of sufficient sophistication to reliably assess all relevant risks.

32.32 When assessing securitisation exposures, a bank should ensure that it fully understands the credit quality and risk characteristics of the underlying exposures in structured credit transactions, including any risk concentrations. In addition, a bank should review the maturity of the exposures underlying structured credit transactions relative to the issued liabilities in order to assess potential maturity mismatches.

32.33 A bank should track credit risk in securitisation exposures at the transaction level and across securitisations exposures within each business line and across business lines. It should produce reliable measures of aggregate risk. A bank also should track all meaningful concentrations in securitisation exposures, such as name, product or sector concentrations, and feed this information to firm-wide risk aggregation systems that track, for example, credit exposure to a particular obligor.

32.34 A bank's own assessment of risk needs to be based on a comprehensive understanding of the structure of the securitisation transaction. It should identify the various types of triggers, credit events and other legal provisions that may affect the performance of its on- and off-balance sheet exposures and integrate these triggers and provisions into its funding/liquidity, credit and balance sheet management. The impact of the events or triggers on a bank's liquidity and capital position should also be considered.

32.35 A bank should consider and, where appropriate, mark-to-market warehoused positions, as well as those in the pipeline, regardless of the probability of securitising the exposures. It should consider scenarios which may prevent it from securitising its assets as part of its stress testing (as discussed in SRP30) and identify the potential effect of such exposures on its liquidity, earnings and capital adequacy.

32.36 A bank should develop prudent contingency plans specifying how it would respond to funding, capital and other pressures that arise when access to securitisation markets is reduced. The contingency plans should also address how the bank would address valuation challenges for potentially illiquid positions held for sale or for trading. The risk measures, stress testing results and contingency plans should be incorporated into the bank's risk management processes and its ICAAP, and should result in an appropriate level of capital under Pillar 2 in excess of the minimum requirements.

32.37 A bank that employs risk mitigation techniques should fully understand the risks to be mitigated, the potential effects of that mitigation and whether or not the mitigation is fully effective. This is to help ensure that the bank does not understate the true risk in its assessment of capital. In particular, it should consider whether it would provide support to the securitisation structures in stressed scenarios due to the reliance on securitisation as a funding tool.

32.38 Further to the Pillar 1 principle that banks should take account of the economic substance of transactions in their determination of capital adequacy, supervisory authorities will monitor, as appropriate, whether banks have done so adequately. As a result, regulatory capital treatments for specific securitisation exposures might differ from those specified in Pillar 1 of the Framework, particularly in instances where the general capital requirement would not adequately and sufficiently reflect the risks to which an individual banking organisation is exposed.

32.39 Amongst other things, supervisory authorities may review where relevant a bank's own assessment of its capital needs and how that has been reflected in the capital calculation as well as the documentation of certain transactions to

determine whether the capital requirements accord with the risk profile (eg substitution clauses). Supervisors will also review the manner in which banks have addressed the issue of maturity mismatch in relation to retained positions in their economic capital calculations. In particular, they will be vigilant in monitoring for the structuring of maturity mismatches in transactions to artificially reduce capital requirements. Additionally, supervisors may review the bank's economic capital assessment of actual correlation between assets in the pool and how they have reflected that in the calculation. Where supervisors consider that a bank's approach is not adequate, they will take appropriate action. Such action might include denying or reducing capital relief in the case of originated assets, or increasing the capital required against securitisation exposures acquired.

32.40 Securitisation transactions may be carried out for purposes other than credit risk transfer (eg funding). Where this is the case, there might still be a limited transfer of credit risk. However, for an originating bank to achieve reductions in capital requirements, the risk transfer arising from a securitisation has to be deemed significant by the national supervisory authority. If the risk transfer is considered to be insufficient or non-existent, the supervisory authority can require the application of a higher capital requirement than prescribed under Pillar 1 or, alternatively, may deny a bank from obtaining any capital relief from the securitisations. Therefore, the capital relief that can be achieved will correspond to the amount of credit risk that is effectively transferred. The following includes a set of examples where supervisors may have concerns about the degree of risk transfer, such as retaining or repurchasing significant amounts of risk or "cherry picking" the exposures to be transferred via a securitisation.

32.41 Retaining or repurchasing significant securitisation exposures, depending on the proportion of risk held by the originator, might undermine the intent of a securitisation to transfer credit risk. Specifically, supervisory authorities might expect that a significant portion of the credit risk and of the nominal value of the pool be transferred to at least one independent third party at inception and on an ongoing basis. Where banks repurchase risk for market-making purposes, supervisors could find it appropriate for an originator to buy part of a transaction but not, for example, to repurchase a whole tranche. Supervisors would expect that where positions have been bought for market making purposes, these positions should be resold within an appropriate period, thereby remaining true to the initial intention to transfer risk.

32.42 Another implication of realising only a non-significant risk transfer, especially if related to good quality unrated exposures, is that both the poorer quality unrated assets and most of the credit risk embedded in the exposures underlying the

securitised transaction are likely to remain with the originator. Accordingly, and depending on the outcome of the supervisory review process, the supervisory authority may increase the capital requirement for particular exposures or even increase the overall level of capital the bank is required to hold.

32.43 As the minimum capital requirements for securitisation may not be able to address all potential issues, supervisory authorities are expected to consider new features of securitisation transactions as they arise. Such assessments would include reviewing the impact new features may have on credit risk transfer and, where appropriate, supervisors will be expected to take appropriate action under Pillar 2. A Pillar 1 response may be formulated to take account of market innovations. Such a response may take the form of a set of operational requirements and/or a specific capital treatment.

32.44 Support to a transaction, whether contractual (ie credit enhancements provided at the inception of a securitised transaction) or non-contractual (implicit support) can take numerous forms. For instance, contractual support can include over collateralisation, credit derivatives, spread accounts, contractual recourse obligations, subordinated notes, credit risk mitigants provided to a specific tranche, the subordination of fee or interest income or the deferral of margin income, and clean-up calls that exceed 10 percent of the initial issuance. In contrast to contractual credit exposures, such as guarantees, implicit support is a more subtle form of exposure. Implicit support arises when a bank provides post-sale support to a securitisation transaction in excess of any contractual obligation. Such non-contractual support exposes a bank to the risk of loss, such as loss arising from deterioration in the credit quality of the securitisation's underlying assets. Examples of implicit support include the purchase of deteriorating credit risk exposures from the underlying pool, the sale of discounted credit risk exposures into the pool of securitised credit risk exposures, the purchase of underlying exposures at above market price or an increase in the first loss position according to the deterioration of the underlying exposures.

32.45 The provision of implicit (or non-contractual) support, as opposed to contractual credit support (ie credit enhancements), raises significant supervisory concerns. By providing implicit support, a bank signals to the market that all of the risks inherent in the securitised assets are still held by the organisation and, in effect, had not been transferred. For traditional securitisation structures the provision of implicit support undermines the clean break criteria, which when satisfied would allow banks to exclude the securitised assets from regulatory capital calculations. For synthetic securitisation structures, it negates the significance of risk transference. By providing implicit support, banks signal to the market that the

risk is still with the bank and has not in effect been transferred. The institution's capital calculation therefore understates the true risk. Accordingly, national supervisors are expected to take appropriate action when a banking organisation provides implicit support.

32.46 Since the risk arising from the potential provision of implicit support is not captured ex ante under Pillar 1, it must be considered as part of the Pillar 2 process. In addition, the processes for approving new products or strategic initiatives should consider the potential provision of implicit support and should be incorporated in a bank's ICAAP. When a bank has been found to provide implicit support to a securitisation, it will be required to hold capital against all of the underlying exposures associated with the structure as if they had not been securitised. It will also be required to disclose publicly that it was found to have provided non-contractual support, as well as the resulting increase in the capital charge (as noted above). The aim is to require banks to hold capital against exposures for which they assume the credit risk, and to discourage them from providing non-contractual support.

32.47 If a bank is found to have provided implicit support on more than one occasion, the bank is required to disclose its transgression publicly and national supervisors will take appropriate action that may include, but is not limited to, one or more of the following:

(1) the bank may be prevented from gaining favourable capital treatment on securitised assets for a period of time to be determined by the national supervisor;

(2) the bank may be required to hold capital against all securitised assets as though the bank had created a commitment to them, by applying a conversion factor to the risk weight of the underlying assets;

(3) for purposes of capital calculations, the bank may be required to treat all securitised assets as if they remained on the balance sheet;

(4) the bank may be required by its national supervisory authority to hold regulatory capital in excess of the minimum risk-based capital ratios.

32.48 Supervisors will be vigilant in determining implicit support and will take appropriate supervisory action to mitigate the effects. Pending any investigation, the bank may be prohibited from any capital relief for planned securitisation transactions (moratorium). National supervisory response will be aimed at changing the bank's behaviour with regard to the provision of implicit support, and to correct market perception as to the willingness of the bank to provide future recourse beyond contractual obligations.

32.49 As with credit risk mitigation techniques more generally, supervisors will review the appropriateness of banks' approaches to the recognition of credit protection. In particular, with regard to securitisations, supervisors will review the appropriateness of protection recognised against first loss credit enhancements. On these positions, expected loss is less likely to be a significant element of the risk and is likely to be retained by the protection buyer through the pricing. Therefore, supervisors will expect banks' policies to take account of this in determining their economic capital. Where supervisors do not consider the approach to protection recognised is adequate, they will take appropriate action. Such action may include increasing the capital requirement against a particular transaction or class of transactions.

32.50 Supervisors expect a bank not to make use of clauses that entitles it to call the securitisation transaction or the coverage of credit protection prematurely if this would increase the bank's exposure to losses or deterioration in the credit quality of the underlying exposures.

32.51 Besides the general principle stated above, supervisors expect banks to only execute clean-up calls for economic business purposes, such as when the cost of servicing the outstanding credit exposures exceeds the benefits of servicing the underlying credit exposures.

32.52 Subject to national discretion, supervisory authorities may require a review prior to the bank exercising a call which can be expected to include consideration of:

(1) the rationale for the bank's decision to exercise the call; and

(2) the impact of the exercise of the call on the bank's regulatory capital ratio.

32.53 The supervisory authority may also require the bank to enter into a follow-up transaction, if necessary, depending on the bank's overall risk profile, and existing market conditions.

32.54 Date-related calls should be set at a date no earlier than the duration or the weighted average life of the underlying securitisation exposures. Accordingly,

supervisory authorities may require a minimum period to elapse before the first possible call date can be set, given, for instance, the existence of up-front sunk costs of a capital market securitisation transaction.

32.55 Supervisors should review how banks internally measure, monitor and manage risks associated with securitisations of revolving credit facilities, including an assessment of the risk and likelihood of early amortisation of such transactions. At a minimum, supervisors should ensure that banks have implemented reasonable methods for allocating economic capital against the economic substance of the credit risk arising from revolving securitisations and should expect banks to have adequate capital and liquidity contingency plans that evaluate the probability of an early amortisation occurring and address the implications of both scheduled and early amortisation.

32.56 Because most early amortisation triggers are tied to excess spread levels, the factors affecting these levels should be well understood, monitored and managed to the extent possible (see SRP32.44 to SRP32.48 on implicit support) by the originating bank. For example, the following factors affecting excess spread should generally be considered:

(1) interest payments made by borrowers on the underlying receivable balances;

(2) other fees and charges to be paid by the underlying obligors (eg late-payment fees, cash advance fees, over-limit fees);

(3) gross charge-offs;

(4) principal payments;

(5) recoveries on charged-off loans;

(6) interchange income;

(7) interest paid on investors' certificates; and

(8) macroeconomic factors such as bankruptcy rates, interest rate movements and unemployment rates.

32.57 Banks should consider the effects that changes in portfolio management or business strategies may have on the levels of excess spread and on the likelihood of an early amortisation event. For example, marketing strategies or underwriting changes that result in lower finance charges or higher charge-offs might also lower excess spread levels and increase the likelihood of an early amortisation event.

32.58 Banks should use techniques such as static pool cash collection analyses and stress tests to better understand pool performance. These techniques can highlight adverse trends or potential adverse impacts. Banks should have policies in place to respond promptly to adverse or unanticipated changes. Supervisors will take appropriate action where they do not consider these policies adequate. Such action may include, but is not limited to, directing a bank to obtain a dedicated liquidity line or increasing the bank's capital requirements.

32.59 Supervisors expect that the sophistication of a bank's system in monitoring the likelihood and risks of an early amortisation event will be commensurate with the size and complexity of the bank's securitisation activities that involve early amortisation provisions.

SRP33

Market risk

This chapter describes risks that supervisors should consider when evaluating banks' market risk practices under Pillar 2.

Version effective as of 01 Jan 2023

Updated to reflect changes in market risk standards published in January 2019, including the revised implementation date announced on 27 March 2020.

Policies and procedures for trading book eligibility

33.1 Clear policies and procedures used to determine the exposures that may be included in, and those that should be excluded from, the trading book for purposes of calculating regulatory capital are critical to ensure the consistency and integrity of a firm's trading book. Such policies must conform to this framework. Supervisors should be satisfied that the policies and procedures clearly delineate the boundaries of the firm's trading book, in compliance with the general principles set forth in this framework, and consistent with the bank's risk management capabilities and practices. Supervisors should also be satisfied that transfers of positions between banking and trading books can only occur in a very limited set of circumstances. A supervisor will require a firm to modify its policies and procedures when they prove insufficient for preventing the booking in the trading book of positions that are not compliant with the general principles set forth in this framework, or not consistent with the bank's risk management capabilities and practices.

33.2 Instruments held in the trading book must be subject to clearly defined policies and procedures, approved by senior management, that are aimed at ensuring active risk management. The application of the policies and procedures must be thoroughly documented. These policies and procedures should, at a minimum, address the following:

(1) The activities the bank considers to be trading or hedging of covered instruments;

(2) Trading strategies (including expected holding horizon and possible reactions if this limit is breached) for every covered instrument or portfolio;

(3) Standards regarding the extent to which a bank's portfolio of covered instruments must be marked-to-market daily by reference to an active, liquid two-way market;

(4) For covered instruments that are marked-to-model, the standards for:

(a) Identifying the material risks of the covered instruments;

(b) Hedging the material risks of the covered instruments and the extent to which hedging instruments would have an active, liquid two-way market; and

(c) Reliably deriving estimates for the key assumptions and parameters used in the model.

(5) The extent to which the bank is required to generate valuations for the covered instruments that can be validated externally in a consistent manner;

(6) The extent to which instruments may have operational requirements that could impede the bank's ability to effect an immediate liquidation of the covered instrument;

(7) The processes constituting active management of covered instruments, which must include:

(a) The setting of limits and ongoing monitoring for appropriateness;

(b) The requirement that each trading desk have a documented trading strategy and the process for monitoring covered instruments against the bank's trading strategy, including that:

(i) for any given trading desk, bank senior management assume the responsibility that a given covered instrument or portfolio be managed with trading intent and in accordance with the trading strategy document.

(ii) The monitoring process includes evaluation of turnover and "stale positions" in order to determine compliance with specified holding periods.

(c) The degree of autonomy a trader has to enter into or manage covered instruments within agreed limits and according to the agreed strategy;

(d) The process for reporting to senior management as an integral part of the institution's risk management process; and

(e) The active monitoring of instruments and risk positions with reference to market information sources, including:

(i) assessment of market liquidity and the ability to hedge instruments, risk positions or the portfolio risk profile;

(ii) analysis of changes in the market values of instruments and sensitivities due to changes in market risk factors; and

(iii) evaluation of the quality and availability of market inputs with respect to the valuation process, the level of market turnover, and the relative size of instruments traded in the market.

Policies and procedures for internal risk transfers from banking book to trading book

33.3 The bank must:

(1) document all internal risk transfer with its trading book, with respect to the banking book risk being hedged and the amount of such risk;

(2) document the details of any external third party matching hedge;

(3) submit a list to its supervisor of the procedures and strategies to manage the risks that the internal risk transfer desks undertake. This list must be approved by the bank's senior management;

(4) ensure regular and consistent reporting of its internal risk transfer activities for risk management and control purposes. The bank must report this information to its supervisor on a regular basis.

33.4 The trading desks engaged in internal risk transfers must document all actions that have been implemented, along with contributory analysis and independent review in order to manage the risks they undertake.

33.5 The bank must have a consistent methodology for identifying and quantifying the banking book risk to be hedged through internal risk transfers. This methodology must be properly integrated in the bank's risk management framework. The methodology must include all qualitative and quantitative regulatory requirements pertaining to trading book desks. Any material changes in the methodology must be approved by a specialised committee of the bank (eg the asset and liability management committee). The supervisor must be notified of such changes and approve of any material changes beforehand.

33.6 A bank must have a set of consistent risk management methods and internal controls in order to ensure and control the effectiveness of risk mitigation for its internal risk transfer transactions. These methods and controls must reflect the amount, types, and risks of the bank's internal risk transfer activities and must be regularly reviewed by the bank's risk management and control units.

Valuation

33.7 Prudent valuation policies and procedures form the foundation on which any robust assessment of market risk capital adequacy should be built. For a well diversified portfolio consisting of highly liquid cash instruments, and without market concentration, the valuation of the portfolio, combined with the minimum quantitative standards set out in this framework, may deliver sufficient capital to enable a bank, in adverse market conditions, to close out or hedge its exposures within the liquidity horizon period set out for that exposure in this framework. However, for less well diversified portfolios, for portfolios containing less liquid instruments, for portfolios with concentrations in relation to market turnover, and /or for portfolios which contain large numbers of positions that are marked to model this is less likely to be the case. In such circumstances, supervisors will consider whether a bank has sufficient capital. To the extent there is a shortfall the supervisor will react appropriately. This will usually require the bank to reduce its risks and/or hold an additional amount of capital.

Stress testing under the internal models approach

33.8 A bank must ensure that it has sufficient capital to meet the minimum capital requirements and to cover the results of its stress testing requirements specified in this framework. Supervisors will consider whether a bank has sufficient capital for these purposes, taking into account the nature and scale of the bank's trading activities and any other relevant factors such as valuation adjustments made by the bank. To the extent that there is a shortfall, or if supervisors are not satisfied with the premise upon which the bank's assessment of internal market risk capital adequacy is based, supervisors will take the appropriate measures. This will usually involve requiring the bank to reduce its risk exposures and/or to hold an additional amount of capital, so that its overall capital resources at least cover the Pillar 1 requirements plus the result of a stress test acceptable to the supervisor.

33.9 Where supervisors consider that limited liquidity or price transparency undermine the effectiveness of a bank's model to capture risk, they will take appropriate measures, including requiring the exclusion of positions from the bank's model. Supervisors should review the adequacy of the bank's measure of the default risk charge; where the bank's approach is inadequate, the use of the standardised charges will be required.

SRP35

Compensation practices

Compensation practices are an important element of banks' risk management. They should be subject to rigorous and sustained review.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Supervisory review of compensation practices

35.1 Risk management must be embedded in the culture of a bank. It should be a critical focus of the chief executive officer, chief risk officer, chief operating officer, senior management, trading desk and other business line heads and employees in making strategic and day-to-day decisions. For a broad and deep risk management culture to develop and be maintained over time, compensation policies must not be unduly linked to short-term accounting profit generation. Compensation policies should be linked to longer-term capital preservation and the financial strength of the firm, and should consider risk-adjusted performance measures. In addition, a bank should provide adequate disclosure regarding its compensation policies to stakeholders. Each bank's board of directors and senior management have the responsibility to mitigate the risks arising from remuneration policies in order to ensure effective firm-wide risk management.[1]

Footnotes

[1] *Compensation practices at large financial institutions are one factor among many that contributed to the financial crisis that began in 2007. High short-term profits led to generous bonus payments to employees without adequate regard to the longer-term risks they imposed on their firms. These incentives amplified the excessive risk-taking that has threatened the global financial system and left firms with fewer resources to absorb losses as risks materialised. The lack of attention to risk also contributed to the large, in some cases extreme absolute level of compensation in the industry. As a result, to improve compensation practices and strengthen supervision in this area, particularly for systemically important firms, the Financial Stability Board published its Principles for Sound Compensation Practices in April 2009. In addition, the Basel Committee published The Compensation Principles and Standards Assessment Methodology in January 2010 and Corporate Governance Principles for Banks in 2015. These guidelines accompany this standard.*

35.2 A bank's board of directors must actively oversee the compensation system's design and operation, which should not be controlled primarily by the chief executive officer and management team. Relevant board members and employees must have independence and expertise in risk management and compensation.

35.3 In addition, the board of directors must monitor and review the compensation system to ensure the system includes adequate controls and operates as intended. The practical operation of the system should be regularly reviewed to ensure compliance with policies and procedures. Compensation outcomes, risk measurements, and risk outcomes should be regularly reviewed for consistency with intentions.

35.4 Staff that are engaged in the financial and risk control areas must be independent, have appropriate authority, and be compensated in a manner that is independent of the business areas they oversee and commensurate with their key role in the firm. Effective independence and appropriate authority of such staff is necessary to preserve the integrity of financial and risk management's influence on incentive compensation.

35.5 Compensation must be adjusted for all types of risk so that remuneration is balanced between the profit earned and the degree of risk assumed in generating the profit. In general, both quantitative measures and human judgment should play a role in determining the appropriate risk adjustments, including those that are difficult to measure such as liquidity risk and reputation risk.

35.6 Compensation outcomes must be symmetric with risk outcomes and compensation systems should link the size of the bonus pool to the overall performance of the firm. Employees' incentive payments should be linked to the contribution of the individual and business to the firm's overall performance.

35.7 Compensation payout schedules must be sensitive to the time horizon of risks. Profits and losses of different activities of a financial firm are realised over different periods of time. Variable compensation payments should be deferred accordingly. Payments should not be finalised over short periods where risks are realised over long periods. Management should question payouts for income that cannot be realised or whose likelihood of realisation remains uncertain at the time of payout.

35.8 The mix of cash, equity and other forms of compensation must be consistent with risk alignment. The mix will vary depending on the employee's position and role. The firm should be able to explain the rationale for its mix.

35.9 Supervisory review of compensation practices must be rigorous and sustained, and deficiencies must be addressed promptly with the appropriate supervisory action. Supervisors should include compensation practices in their risk assessment of firms, and firms should work constructively with supervisors to ensure their practices are adequate. Regulations and supervisory practices will naturally differ across jurisdictions and potentially among authorities within a country. Nevertheless, all supervisors should strive for effective review and intervention.

SRP36

Risk data aggregation and risk reporting

These principles for effective risk data aggregation and internal risk reporting practices apply to systemically important banks and support internal risk management and decision-making processes.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Objectives

36.1 This chapter presents a set of principles to strengthen banks' risk data aggregation capabilities and internal risk reporting practices (the Principles). The Principles are expected to support a bank's efforts to:

(1) enhance the infrastructure for reporting key information, particularly that used by the board and senior management to identify, monitor and manage risks;

(2) improve the decision-making process throughout the banking organisation;

(3) enhance the management of information across legal entities, while facilitating a comprehensive assessment of risk exposures at the global consolidated level;

(4) reduce the probability and severity of losses resulting from risk management weaknesses;

(5) improve the speed at which information is available and hence decisions can be made; and

(6) improve the organisation's quality of strategic planning and the ability to manage the risk of new products and services.

36.2 Strong risk management capabilities are an integral part of the franchise value of a bank. Effective implementation of the Principles should increase the value of the bank. The Committee believes that the long-term benefits of improved risk data aggregation capabilities and risk reporting practices will outweigh the investment costs incurred by banks.

36.3 For bank supervisors, these Principles will complement other efforts to improve the intensity and effectiveness of bank supervision. For resolution authorities, improved risk data aggregation should enable smoother bank resolution, thereby reducing the potential recourse to taxpayers.

Scope and general provisions

36.4 These Principles apply to systemically important banks (SIBs) and apply at both the banking group and on a solo basis.

36.5 The Principles and supervisory expectations contained in SRP36 apply to a bank's risk management data. This includes data that is critical to enabling the bank to manage the risks it faces. Risk data and reports should provide management with the ability to monitor and track risks relative to the bank's risk tolerance/appetite.

36.6 These Principles also apply to all key internal risk management models, including but not limited to, Pillar 1 regulatory capital models (eg internal ratings-based approaches for credit risk and advanced measurement approaches for operational risk), Pillar 2 capital models and other key risk management models (eg value-at-risk).

36.7 The Principles apply to a bank's group risk management processes. However, banks may also benefit from applying the Principles to other processes, such as financial and operational processes, as well as supervisory reporting.

36.8 All the Principles are also applicable to processes that have been outsourced to third parties.

36.9 The Principles cover four closely related topics:

(1) Overarching governance and infrastructure (Principles 1 and 2)

(2) Risk data aggregation capabilities (Principles 3, 4, 5 and 6)

(3) Risk reporting practices (Principles 7, 8, 9, 10 and 11)

(4) Supervisory review, tools and cooperation (Principles 12, 13 and 14)

36.10 Risk data aggregation capabilities and risk reporting practices are considered separately in this paper, but they are clearly inter-linked and cannot exist in isolation. High quality risk management reports rely on the existence of strong risk data aggregation capabilities, and sound infrastructure and governance ensures the information flow from one to the other.

36.11 Banks should meet all risk data aggregation and risk reporting principles simultaneously. However, trade-offs among Principles could be accepted in exceptional circumstances such as urgent/ad hoc requests of information on new or unknown areas of risk. There should be no trade-offs that materially impact risk management decisions. Decision-makers at banks, in particular the board and senior management, should be aware of these trade-offs and the limitations or shortcomings associated with them. Supervisors expect banks to have policies and processes in place regarding the application of trade-offs. Banks should be able to explain the impact of these trade-offs on their decision-making process through qualitative reports and, to the extent possible, quantitative measures.

36.12 A bank should have in place a strong governance framework, risk data architecture and information technology (IT) infrastructure. These are preconditions to ensure compliance with the other Principles included in this chapter. In particular, a bank's board should oversee senior management's ownership of implementing all the risk data aggregation and risk reporting principles and the strategy to meet them within a timeframe agreed with their supervisors.

36.13 The concept of materiality used in SRP36 means that data and reports can exceptionally exclude information only if it does not affect the decision-making process in a bank (ie decision-makers, in particular the board and senior management, would have been influenced by the omitted information or made a different judgment if the correct information had been known). In applying the materiality concept, banks will take into account considerations that go beyond the number or size of the exposures not included, such as the type of risks involved, or the evolving and dynamic nature of the banking business. Banks should also take into account the potential future impact of the information excluded on the decision-making process at their institutions. Supervisors expect banks to be able to explain the omissions of information as a result of applying the materiality concept.

36.14 Banks should develop forward looking reporting capabilities to provide early warnings of any potential breaches of risk limits that may exceed the bank's risk tolerance/appetite. These risk reporting capabilities should also allow banks to conduct a flexible and effective stress testing which is capable of providing forward-looking risk assessments. Supervisors expect risk management reports to enable banks to anticipate problems and provide a forward looking assessment of risk.

36.15 Expert judgment may occasionally be applied to incomplete data to facilitate the aggregation process, as well as the interpretation of results within the risk reporting process. Reliance on expert judgment in place of complete and accurate data should occur only on an exception basis, and should not materially impact the bank's compliance with the Principles. When expert judgment is applied, supervisors expect that the process be clearly documented and transparent so as to allow for an independent review of the process followed and the criteria used in the decision-making process.

Definitions

36.16 For the purpose of SRP36, the term "risk data aggregation" means defining, gathering and processing risk data according to the bank's risk reporting requirements to enable the bank to measure its performance against its risk tolerance/appetite. This includes sorting, merging or breaking down sets of data.

36.17 In this chapter, the following terms should be interpreted as follows:

(1) "Accuracy" means closeness of agreement between a measurement or record or representation and the value to be measured, recorded or represented. This definition applies to both risk data aggregation and risk reports.

(2) "Adaptability" means the ability of risk data aggregation capabilities to change (or be changed) in response to changed circumstances (internal or external).

(3) "Approximation" means a result that is not necessarily exact, but acceptable for its given purpose.

(4) "Clarity" means the ability of risk reporting to be easily understood and free from indistinctness or ambiguity.

(5) "Completeness" means availability of relevant risk data aggregated across all firm's constituent units (eg legal entities, business lines, jurisdictions).

(6) "Comprehensiveness" means the extent to which risk reports include or deal with all risks relevant to the firm.

(7) "Distribution" means ensuring that the adequate people or groups receive the appropriate risk reports.

(8) "Frequency" means the rate at which risk reports are produced over time.

(9) "Integrity" means freedom of risk data from unauthorised alteration and unauthorised manipulation that compromise its accuracy, completeness and reliability.

(10) "Manual workarounds" means employing human-based processes and tools to transfer, manipulate or alter data used to be aggregated or reported.

(11) "Precision" means closeness of agreement between indications or measured quantity values obtained by replicating measurements on the same or similar objects under specified conditions.

(12) "Reconciliation" means the process of comparing items or outcomes and explaining the differences.

(13) "Risk tolerance/appetite" means the level and type of risk a firm is able and willing to assume in its exposures and business activities, given its business and obligations to stakeholders. It is generally expressed through both quantitative and qualitative means.

(14) "Timeliness" means the availability of aggregated risk data within such a timeframe as to enable a bank to produce risk reports at an established frequency.

(15) "Validation" means the process by which the correctness (or not) of inputs, processing, and outputs is identified and quantified.

Summary of the Principles

36.18 The Principles for effective risk data aggregation and risk reporting are summarised as follows.

(1) Governance - A bank's risk data aggregation capabilities and risk reporting practices should be subject to strong governance arrangements consistent with other principles and guidance established by the Basel Committee.[1]

(2) Data architecture and IT infrastructure – A bank should design, build and maintain data architecture and IT infrastructure which fully supports its risk data aggregation capabilities and risk reporting practices not only in normal times but also during times of stress or crisis, while still meeting the other Principles.

(3) Accuracy and Integrity – A bank should be able to generate accurate and reliable risk data to meet normal and stress/crisis reporting accuracy requirements. Data should be aggregated on a largely automated basis so as to minimise the probability of errors.

(4) Completeness – A bank should be able to capture and aggregate all material risk data across the banking group. Data should be available by business line, legal entity, asset type, industry, region and other groupings, as relevant for the risk in question, that permit identifying and reporting risk exposures, concentrations and emerging risks.

(5) Timeliness – A bank should be able to generate aggregate and up-to-date risk data in a timely manner while also meeting the principles relating to accuracy and integrity, completeness and adaptability. The precise timing will depend upon the nature and potential volatility of the risk being measured as well as its criticality to the overall risk profile of the bank. The precise timing will also depend on the bank-specific frequency requirements for risk management reporting, under both normal and stress/crisis situations, set based on the characteristics and overall risk profile of the bank.

(6) Adaptability – A bank should be able to generate aggregate risk data to meet a broad range of on-demand, ad hoc risk management reporting requests, including requests during stress/crisis situations, requests due to changing internal needs and requests to meet supervisory queries.

(7) Accuracy – Risk management reports should accurately and precisely convey aggregated risk data and reflect risk in an exact manner. Reports should be reconciled and validated.

(8) Comprehensiveness – Risk management reports should cover all material risk areas within the organisation. The depth and scope of these reports should be consistent with the size and complexity of the bank's operations and risk profile, as well as the requirements of the recipients.

(9) Clarity and usefulness – Risk management reports should communicate information in a clear and concise manner. Reports should be easy to understand yet comprehensive enough to facilitate informed decision-making. Reports should include an appropriate balance between risk data, analysis and interpretation, and qualitative explanations. Reports should include meaningful information tailored to the needs of the recipients.

(10) Frequency – The board and senior management (or other recipients as appropriate) should set the frequency of risk management report production and distribution. Frequency requirements should reflect the needs of the recipients, the nature of the risk reported, and the speed at which the risk can change, as well as the importance of reports in contributing to sound risk management and effective and efficient decision-making across the bank. The frequency of reports should be increased during times of stress/crisis.

(11) Distribution – Risk management reports should be distributed to the relevant parties and while ensuring confidentiality is maintained.

(12) Supervisory review – Supervisors should periodically review and evaluate a bank's compliance with the eleven Principles above.

(13) Remedial actions and supervisory measures – Supervisors should have and use the appropriate tools and resources to require effective and timely remedial action by a bank to address deficiencies in its risk data aggregation capabilities and risk reporting practices. Supervisors should have the ability to use a range of tools, including Pillar 2.

(14) Home/host cooperation – Supervisors should cooperate with relevant supervisors in other jurisdictions regarding the supervision and review of the Principles, and the implementation of any remedial action if necessary.

Footnotes

[1] *For instance, the Basel Committee's Corporate governance principles for banks (July 2015).*

Principle 1 – Governance

36.19 A bank's board and senior management should promote the identification, assessment and management of data-quality risks as part of its overall risk-management framework. The framework should include agreed service-level standards for both outsourced and in-house risk data-related processes, and a firm's policies on data confidentiality, integrity and availability, as well as risk-management policies.

36.20 A bank's board and senior management should review and approve the bank's group risk data aggregation and risk reporting framework and ensure that adequate resources are deployed.

36.21 A bank's risk data aggregation capabilities and risk reporting practices should be:

(1) Fully documented and subject to high standards of validation. This validation should be independent and review the bank's compliance with the Principles in this document. The primary purpose of the independent validation is to ensure that a bank's risk data aggregation and reporting processes are functioning as intended and are appropriate for the bank's risk profile. Independent validation activities should be aligned and integrated with the other independent review activities within the bank's risk management program,[2] and encompass all components of the bank's risk data aggregation and reporting processes. Common practices suggest that the independent validation of risk data aggregation and risk reporting practices should be conducted using staff with specific IT, data and reporting expertise.[3]

(2) Considered as part of any new initiatives, including acquisitions and/or divestitures, new product development, as well as broader process and IT change initiatives. When considering a material acquisition, a bank's due diligence process should assess the risk data aggregation capabilities and risk reporting practices of the acquired entity, as well as the impact on its own risk data aggregation capabilities and risk reporting practices. The impact on risk data aggregation should be considered explicitly by the board and inform the decision to proceed. The bank should establish a timeframe to integrate and align the acquired risk data aggregation capabilities and risk reporting practices within its own framework.

(3) Unaffected by the bank's group structure. The group structure should not hinder risk data aggregation capabilities at a consolidated level or at any relevant level within the organisation (eg sub-consolidated level, jurisdiction of operation level). In particular, risk data aggregation capabilities should be independent from the choices a bank makes regarding its legal organisation and geographical presence.[4]

Footnotes

[2] *In particular the so-called "second line of defence" within the bank's internal control system.*

[3] *Furthermore, validation should be conducted separately from audit work to ensure full adherence to the distinction between the second and third lines of defence, within a bank's internal control system. See, inter alia, Principles 2 and 13 in the Basel Committee's Internal Audit Function in Banks (June 2012).*

[4] *While taking into account any legal impediments to sharing data across jurisdictions.*

36.22 A bank's senior management should be fully aware of and understand the limitations that prevent full risk data aggregation, in terms of coverage (eg risks not captured or subsidiaries not included), in technical terms (eg model performance indicators or degree of reliance on manual processes) or in legal terms (legal impediments to data sharing across jurisdictions). Senior management should ensure that the bank's IT strategy includes ways to improve risk data aggregation capabilities and risk reporting practices and to remedy any shortcomings against the Principles taking into account the evolving needs of the business. Senior management should also identify data critical to risk data aggregation and IT infrastructure initiatives through its strategic IT planning process, and support these initiatives through the allocation of appropriate levels of financial and human resources.

36.23 A bank's board is responsible for determining its own risk reporting requirements and should be aware of limitations that prevent full risk data aggregation in the reports it receives. The board should also be aware of the bank's implementation of, and ongoing compliance with the Principles.

Principle 2 – data architecture and IT infrastructure

36.24 Risk data aggregation capabilities and risk reporting practices should be given direct consideration as part of a bank's business continuity planning processes and be subject to a business impact analysis.

36.25 A bank should establish integrated[5] data taxonomies and architecture across the banking group, which includes information on the characteristics of the data (metadata), as well as use of single identifiers and/or unified naming conventions for data including legal entities, counterparties, customers and accounts.

Footnotes

[5] *Banks do not necessarily need to have one data model; rather, there should be robust automated reconciliation procedures where multiple models are in use.*

36.26 Roles and responsibilities should be established as they relate to the ownership and quality of risk data and information for both the business and IT functions. The owners (business and IT functions), in partnership with risk managers, should ensure there are adequate controls throughout the lifecycle of the data and for all aspects of the technology infrastructure. The role of the business owner includes ensuring data is correctly entered by the relevant front office unit, kept current and aligned with the data definitions, and also ensuring that risk data aggregation capabilities and risk reporting practices are consistent with firms' policies.

Principle 3 – accuracy and integrity

36.27 A bank should aggregate risk data in a way that is accurate and reliable.

(1) Controls surrounding risk data should be as robust as those applicable to accounting data.

(2) Where a bank relies on manual processes and desktop applications (eg spreadsheets, databases) and has specific risk units that use these applications for software development, it should have effective mitigants in place (eg end-user computing policies and procedures) and other effective controls that are consistently applied across the bank's processes.

(3) Risk data should be reconciled with bank's sources, including accounting data where appropriate, to ensure that the risk data is accurate.

(4) A bank should strive towards a single authoritative source for risk data per each type of risk.

(5) A bank's risk personnel should have sufficient access to risk data to ensure they can appropriately aggregate, validate and reconcile the data to risk reports.

36.28 As a precondition, a bank should have a "dictionary" of the concepts used, such that data is defined consistently across an organisation.

36.29 There should be an appropriate balance between automated and manual systems. Where professional judgements are required, human intervention may be appropriate. For many other processes, a higher degree of automation is desirable to reduce the risk of errors.

36.30 Supervisors expect banks to document and explain all of their risk data aggregation processes whether automated or manual (judgment-based or otherwise). Documentation should include an explanation of the appropriateness of any manual workarounds, a description of their criticality to the accuracy of risk data aggregation and proposed actions to reduce the impact.

36.31 Supervisors expect banks to measure and monitor the accuracy of data and to develop appropriate escalation channels and action plans to be in place to rectify poor data quality.

Principle 4 – completeness

36.32 A bank's risk data aggregation capabilities should include all material risk exposures, including those that are off-balance sheet.

36.33 A banking organisation is not required to express all forms of risk in a common metric or basis, but risk data aggregation capabilities should be the same regardless of the choice of risk aggregation systems implemented. However, each system should make clear the specific approach used to aggregate exposures for any given risk measure, in order to allow the board and senior management to assess the results properly.

36.34 Supervisors expect banks to produce aggregated risk data that is complete and to measure and monitor the completeness of their risk data. Where risk data is not entirely complete, the impact should not be critical to the bank's ability to manage its risks effectively. Supervisors expect banks' data to be materially complete, with any exceptions identified and explained.

Principle 5 – timeliness

36.35 A bank's risk data aggregation capabilities should ensure that it is able to produce aggregate risk information on a timely basis to meet all risk management reporting requirements.

36.36 The Basel Committee acknowledges that different types of data will be required at different speeds, depending on the type of risk, and that certain risk data may be needed faster in a stress/crisis situation. Banks need to build their risk systems to be capable of producing aggregated risk data rapidly during times of stress /crisis for all critical risks.

36.37 Critical risks include but are not limited to:

(1) The aggregated credit exposure to a large corporate borrower. By comparison, groups of retail exposures may not change as critically in a short period of time but may still include significant concentrations;

(2) Counterparty credit risk exposures, including, for example, derivatives;

(3) Trading exposures, positions, operating limits, and market concentrations by sector and region data;

(4) Liquidity risk indicators such as cash flows/settlements and funding; and

(5) Operational risk indicators that are time-critical (eg systems availability, unauthorised access).

36.38 Supervisors will review that the bank specific frequency requirements, for both normal and stress/crisis situations, generate aggregate and up-to-date risk data in a timely manner.

Principle 6 – adaptability

36.39 A bank's risk data aggregation capabilities should be flexible and adaptable to meet ad hoc data requests, as needed, and to assess emerging risks. Adaptability will enable banks to conduct better risk management, including forecasting information, as well as to support stress testing and scenario analyses.

36.40 Adaptability includes:

(1) Data aggregation processes that are flexible and enable risk data to be aggregated for assessment and quick decision-making;

(2) Capabilities for data customisation to users' needs (eg dashboards, key takeaways, anomalies), to drill down as needed, and to produce quick summary reports;

(3) Capabilities to incorporate new developments on the organisation of the business and/or external factors that influence the bank's risk profile; and

(4) Capabilities to incorporate changes in the regulatory framework.

36.41 Supervisors expect banks to be able to generate subsets of data based on requested scenarios or resulting from economic events. For example, a bank should be able to aggregate risk data quickly on country credit exposures[6] as of a specified date based on a list of countries, as well as industry credit exposures as of a specified date based on a list of industry types across all business lines and geographic areas.

Footnotes

[6] *Including, for instance, sovereign, bank, corporate and retail exposures.*

Principle 7 – accuracy

36.42 Risk management reports should be accurate and precise to ensure a bank's board and senior management can rely with confidence on the aggregated information to make critical decisions about risk.

36.43 To ensure the accuracy of the reports, a bank should maintain, at a minimum, the following:

(1) Defined requirements and processes to reconcile reports to risk data;

(2) Automated and manual edit and reasonableness checks, including an inventory of the validation rules that are applied to quantitative information. The inventory should include explanations of the conventions used to describe any mathematical or logical relationships that should be verified through these validations or checks; and

(3) Integrated procedures for identifying, reporting and explaining data errors or weaknesses in data integrity via exceptions reports.

36.44 Approximations are an integral part of risk reporting and risk management. Results from models, scenario analyses, and stress testing are examples of approximations that provide critical information for managing risk. While the expectations for approximations may be different than for other types of risk reporting, banks should follow the reporting principles in SRP36 and establish expectations for the reliability of approximations (accuracy, timeliness etc) to ensure that management can rely with confidence on the information to make critical decisions about risk. This includes principles regarding data used to drive these approximations.

36.45

Supervisors expect that a bank's senior management should establish accuracy and precision requirements for both regular and stress/crisis reporting, including critical position and exposure information. These requirements should reflect the criticality of decisions that will be based on this information.

36.46 Supervisors expect banks to consider accuracy requirements analogous to accounting materiality. For example, if omission or misstatement could influence the risk decisions of users, this may be considered material. A bank should be able to support the rationale for accuracy requirements. Supervisors expect a bank to consider precision requirements based on validation, testing or reconciliation processes and results.

Principle 8 – comprehensiveness

36.47 Risk management reports should include exposure and position information for all significant risk areas (eg credit risk, market risk, liquidity risk, operational risk) and all significant components of those risk areas (eg single name, country and industry sector for credit risk). Risk management reports should also cover risk-related measures (eg regulatory and economic capital).

36.48 Reports should identify emerging risk concentrations, provide information in the context of limits and risk appetite/tolerance and propose recommendations for action where appropriate. Risk reports should include the current status of measures agreed by the board or senior management to reduce risk or deal with specific risk situations. This includes providing the ability to monitor emerging trends through forward-looking forecasts and stress tests.

36.49 Supervisors expect banks to determine risk reporting requirements that best suit their own business models and risk profiles. Supervisors will need to be satisfied with the choices a bank makes in terms of risk coverage, analysis and interpretation, scalability and comparability across group institutions. For example, an aggregated risk report should include, but not be limited to, the following information: capital adequacy, regulatory capital, capital and liquidity ratio projections, credit risk, market risk, operational risk, liquidity risk, stress testing results, inter- and intra-risk concentrations, and funding positions and plans.

36.50 Supervisors expect that risk management reports to the board and senior management provide a forward-looking assessment of risk and should not just rely on current and past data. The reports should contain forecasts or scenarios for key market variables and the effects on the bank so as to inform the board and senior management of the likely trajectory of the bank's capital and risk profile in the future.

Principle 9 – clarity and usefulness

36.51 A bank's risk reports should contribute to sound risk management and decision-making by their relevant recipients, including, in particular, the board and senior management. Risk reports should ensure that information is meaningful and tailored to the needs of the recipients.

36.52 Reports should include an appropriate balance between risk data, analysis and interpretation, and qualitative explanations. The balance of qualitative versus quantitative information will vary at different levels within the organisation and will also depend on the level of aggregation that is applied to the reports. Higher up in the organisation, more aggregation is expected and therefore a greater degree of qualitative interpretation will be necessary.

36.53 Reporting policies and procedures should recognise the differing information needs of the board, senior management, and the other levels of the organisation (for example risk committees).

36.54 As one of the key recipients of risk management reports, the bank's board is responsible for determining its own risk reporting requirements and complying with its obligations to shareholders and other relevant stakeholders. The board should ensure that it is asking for and receiving relevant information that will allow it to fulfil its governance mandate relating to the bank and the risks to which it is exposed. This will allow the board to ensure it is operating within its risk tolerance/appetite.

36.55 The board should alert senior management when risk reports do not meet its requirements and do not provide the right level and type of information to set and monitor adherence to the bank's risk tolerance/appetite. The board should indicate whether it is receiving the right balance of detail and quantitative versus qualitative information.

36.56 Senior management is also a key recipient of risk reports and it is responsible for determining its own risk reporting requirements. Senior management should ensure that it is receiving relevant information that will allow it to fulfil its management mandate relative to the bank and the risks to which it is exposed.

36.57 A bank should develop an inventory and classification of risk data items which includes a reference to the concepts used to elaborate the reports.

36.58 Supervisors expect that reports will be clear and useful. Reports should reflect an appropriate balance between detailed data, qualitative discussion, explanation and recommended conclusions. Interpretation and explanations of the data, including observed trends, should be clear.

36.59 Supervisors expect a bank to confirm periodically with recipients that the information aggregated and reported is relevant and appropriate, in terms of both amount and quality, to the governance and decision-making process.

Principle 10 – frequency

36.60 The frequency of risk reports will vary according to the type of risk, purpose and recipients. A bank should assess periodically the purpose of each report and set requirements for how quickly the reports need to be produced in both normal and stress/crisis situations. A bank should routinely test its ability to produce accurate reports within established timeframes, particularly in stress/crisis situations.

36.61 Supervisors expect that in times of stress/crisis all relevant and critical credit, market and liquidity position/exposure reports are available within a very short period of time to react effectively to evolving risks. Some position/exposure information may be needed immediately (intraday) to allow for timely and effective reactions.

Principle 11 – distribution

36.62 Procedures should be in place to allow for rapid collection and analysis of risk data and timely dissemination of reports to all appropriate recipients. This should be balanced with the need to ensure confidentiality as appropriate.

36.63 Supervisors expect a bank to confirm periodically that the relevant recipients receive timely reports.

Principle 12 – supervisory review

36.64 Supervisors should review a bank's compliance with the Principles in the preceding sections. Reviews should be incorporated into the regular programme of supervisory reviews and may be supplemented by thematic reviews covering multiple banks with respect to a single or selected issue. Supervisors may test a bank's compliance with the Principles through occasional requests for information to be provided on selected risk issues (for example, exposures to certain risk factors) within short deadlines, thereby testing the capacity of a bank to aggregate risk data rapidly and produce risk reports. Supervisors should have access to the appropriate reports to be able to perform this review.

36.65 Supervisors should draw on reviews conducted by the internal or external auditors to inform their assessments of compliance with the Principles. Supervisors may require work to be carried out by a bank's internal audit functions or by experts independent from the bank. Supervisors must have access to all appropriate documents such as internal validation and audit reports, and should be able to meet with and discuss risk data aggregation capabilities with the external auditors or independent experts from the bank, when appropriate.

36.66 Supervisors should test a bank's capabilities to aggregate data and produce reports in both stress/crisis and steady-state environments, including sudden sharp increases in business volumes.

Principle 13 – remedial actions and supervisory measures

36.67 Supervisors should require effective and timely remedial action by a bank to address deficiencies in its risk data aggregation capabilities and risk reporting practices and internal controls.

36.68 Supervisors should have a range of tools at their disposal to address material deficiencies in a bank's risk data aggregation and reporting capabilities. Such tools may include, but are not limited to, requiring a bank to take remedial action; increasing the intensity of supervision; requiring an independent review by a third party, such as external auditors; and the possible use of capital add-ons as both a risk mitigant and incentive under Pillar 2.

36.69 Supervisors should be able to set limits on a bank's risks or the growth in their activities where deficiencies in risk data aggregation and reporting are assessed as causing significant weaknesses in risk management capabilities.

36.70 For new business initiatives, supervisors may require that banks' implementation plans ensure that robust risk data aggregation is possible before allowing a new business venture or acquisition to proceed.

36.71 When a supervisor requires a bank to take remedial action, the supervisor should set a timetable for completion of the action. Supervisors should have escalation procedures in place to require more stringent or accelerated remedial action in the event that a bank does not adequately address the deficiencies identified, or in the case that supervisors deem further action is warranted.

Principle 14 – home/host cooperation

36.72 Effective cooperation and appropriate information sharing between the home and host supervisory authorities should contribute to the robustness of a bank's risk management practices across a bank's operations in multiple jurisdictions. Wherever possible, supervisors should avoid performing redundant and uncoordinated reviews related to risk data aggregation and risk reporting.

36.73 Cooperation can take the form of sharing of information within the constraints of applicable laws, as well as discussion between supervisors on a bilateral or multilateral basis (eg through colleges of supervisors), including, but not limited to, regular meetings. Communication by conference call and email may be particularly useful in tracking required remedial actions. Cooperation through colleges should be in line with the Basel Committee's Principles for effective supervisory colleges.[7]

Footnotes

[7] *See www.bis.org/publ/bcbs287.htm .*

36.74 Supervisors should discuss their experiences regarding the quality of risk data aggregation capabilities and risk reporting practices in different parts of the group. This should include any impediments to risk data aggregation and risk reporting arising from cross-border issues and also whether risk data is distributed appropriately across the group. Such exchanges will enable supervisors to identify significant concerns at an early stage and to respond promptly and effectively.

SRP50

Liquidity monitoring metrics

This chapter liquidity monitoring metrics to aid supervisors in assessing liquidity risk. The tools cover contractual maturity mismatch, funding concentration, available unencumbered assets, LCR by currency, market-related monitoring tools and intraday metrics.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Introduction

50.1 In addition to the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) standards, the minimum quantitative standards that banks must comply with, the Committee has developed a set of liquidity risk monitoring tools to measure other dimensions of a bank's liquidity and funding risk profile. These tools promote global consistency in supervising ongoing liquidity and funding risk exposures of banks, and in communicating these exposures to home and host supervisors. These metrics capture specific information related to a bank's cash flows, balance sheet structure, available unencumbered collateral and certain market indicators.

50.2 These metrics, together with the LCR and NSFR standard, provide the cornerstone of information that aid supervisors in assessing the liquidity risk of a bank. In addition, supervisors may need to supplement this framework by using additional tools and metrics tailored to help capture elements of liquidity risk specific to their jurisdictions. In utilising these metrics, supervisors should take action when potential liquidity difficulties are signalled through a negative trend in the metrics, or when a deteriorating liquidity position is identified, or when the absolute result of the metric identifies a current or potential liquidity problem. Examples of actions that supervisors can take are outlined in the Committee's Sound Principles (paragraphs 141-143).[1]

Footnotes

[1] *The Basel Committee's "Principles for Sound Liquidity Risk Management and Supervision" also contain more general guidance for banks and supervisors on liquidity risk management (www.bis.org/publ/bcbs144.htm).*

50.3 Consistent with their broader liquidity risk management responsibilities, bank management will be responsible for collating and submitting the monitoring data for the tools to their banking supervisor.[2] It is recognised that banks may need to liaise closely with counterparts, including payment system operators and correspondent banks, to collate the data. However, banks and supervisors are not required to disclose these reporting requirements publicly. Public disclosure is not intended to be part of these monitoring tools.

Footnotes

[2] *As agreed by national authorities in a particular jurisdiction, the monitoring data may be collected by a relevant domestic oversight authority (eg payments system overseer) instead of the banking supervisor.*

50.4 The tools in this chapter are for monitoring purposes only. Internationally active banks must apply these tools. These tools may also be useful in promoting sound liquidity management practices for other banks, whether they are direct participants[3] of a large-value payment system (LVPS)[4] or use a correspondent bank to settle payments. National supervisors will determine the extent to which the tools apply to non-internationally active banks within their jurisdictions.[5]

Footnotes

[3] *"Direct participant" means a participant in a large-value payment system that can settle transactions without using an intermediary. If not a direct participant, a participant will need to use the services of a direct participant (a correspondent bank) to perform particular settlements on its behalf. Banks can be a direct participant in a large-value payment system while using a correspondent bank to settle particular payments, for example, payments for an ancillary system. Not all tools will be relevant to all reporting banks as liquidity profiles will differ between banks (eg whether they access payment and settlement systems directly or indirectly or whether they provide correspondent banking services and intraday credit facilities to other banks).*

[4] *An LVPS is a funds transfer system that typically handles large-value and high-priority payments. In contrast to retail payment systems, many LVPSs are operated by central banks, using a real-time gross settlement (RTGS) system or equivalent mechanism. See Section 1.10 of CPSS/IOSCO Principles for financial market infrastructures, April 2012.*

[5] *Throughout this document, all references to banks subject to the monitoring tools (in some instances the term reporting bank is used for the sake of clarity) should be interpreted in accordance with the scope of application set forth in this paragraph.*

50.5

The intraday monitoring tools should be reported monthly, alongside the LCR reporting requirements (see LCR20.7). Banks should agree with their supervisors the scope of application and reporting arrangements between home and host authorities.[6]

Footnotes

[6] *In some cases, it will also require co-operation between home and host authorities.*

Contractual maturity mismatch

50.6 The contractual maturity mismatch profile identifies the gaps between the contractual inflows and outflows of liquidity for defined time bands. These maturity gaps indicate how much liquidity a bank would potentially need to raise in each of these time bands if all outflows occurred at the earliest possible date. This metric provides insight into the extent to which the bank relies on maturity transformation under its current contracts. The metric is defined as contractual cash and security inflows and outflows from all on- and off-balance sheet items, mapped to defined time banks based on their respective maturities.

50.7 A bank should report contractual cash and security flows in the relevant time bands based on their residual contractual maturity. Supervisors in each jurisdiction will determine the specific template, including required time bands, by which data must be reported. Supervisors should define the time buckets so as to be able to understand the bank's cash flow position. Possibilities include requesting the cash flow mismatch to be constructed for the overnight, 7 day, 14 day, 1, 2, 3, 6 and 9 months, 1, 2, 3, 5 and beyond 5 years buckets. Instruments that have no specific maturity (non-defined or open maturity) should be reported separately, with details on the instruments, and with no assumptions applied as to when maturity occurs. Information on possible cash flows arising from derivatives such as interest rate swaps and options should also be included to the extent that their contractual maturities are relevant to the understanding of the cash flows.

50.8 At a minimum, the data collected from the contractual maturity mismatch should provide data on the categories outlined in the LCR. Some additional accounting (non-dated) information such as capital or non-performing loans may need to be reported separately.

50.9 The following assumptions should be made with regard to contractual cash flows.

(1) No rollover of existing liabilities is assumed to take place. For assets, the bank is assumed not to enter into any new contracts.

(2) Contingent liability exposures that would require a change in the state of the world (such as contracts with triggers based on a change in prices of financial instruments or a downgrade in the bank's credit rating) need to be detailed, grouped by what would trigger the liability, with the respective exposures clearly identified.

(3) A bank should record all securities flows. This will allow supervisors to monitor securities movements that mirror corresponding cash flows as well as the contractual maturity of collateral swaps and any uncollateralised stock lending/borrowing where stock movements occur without any corresponding cash flows.

(4) A bank should report separately the customer collateral received that the bank is permitted to rehypothecate as well as the amount of such collateral that is rehypothecated at each reporting date. This also will highlight instances when the bank is generating mismatches in the borrowing and lending of customer collateral.

50.10 Banks will provide the raw data to the supervisors, with no assumptions included in the data. Standardised contractual data submission by banks enables supervisors to build a market-wide view and identify market outliers vis-à-vis liquidity.

50.11 Given that the metric is based solely on contractual maturities with no behavioural assumptions, the data will not reflect actual future forecasted flows under the current, or future, strategy or plans, ie, under a going-concern view. Also, contractual maturity mismatches do not capture outflows that a bank may make in order to protect its franchise, even where contractually there is no obligation to do so. For analysis, supervisors can apply their own assumptions to reflect alternative behavioural responses in reviewing maturity gaps.

50.12 As outlined in the Sound Principles, banks should also conduct their own maturity mismatch analyses, based on going-concern behavioural assumptions of the inflows and outflows of funds in both normal situations and under stress. These analyses should be based on strategic and business plans and should be shared and discussed with supervisors, and the data provided in the contractual maturity mismatch should be utilised as a basis of comparison. When firms are contemplating material changes to their business models, it is crucial for supervisors to request projected mismatch reports as part of an assessment of impact of such changes to prudential supervision. Examples of such changes include potential major acquisitions or mergers or the launch of new products that have not yet been contractually entered into. In assessing such data supervisors need to be mindful of assumptions underpinning the projected mismatches and whether they are prudent.

50.13 A bank should be able to indicate how it plans to bridge any identified gaps in its internally generated maturity mismatches and explain why the assumptions applied differ from the contractual terms. The supervisor should challenge these explanations and assess the feasibility of the bank's funding plans.

Concentration of funding

50.14 This metric is meant to identify those sources of wholesale funding that are of such significance that withdrawal of this funding could trigger liquidity problems. The metric thus encourages the diversification of funding sources recommended in the Committee's Sound Principles. It is defined as follows:

(1) Funding liabilities sourced from each significant counterparty as a % of total liabilities

(2) Funding liabilities sourced from each significant production / instrument as a % of total liabilities

(3) List of asset and liability amounts by significant currency

50.15 The numerator for SRP50.14(1) and SRP50.14(2) is determined by examining funding concentrations by counterparty or type of instrument/product. Banks and supervisors should monitor both the absolute percentage of the funding exposure, as well as significant increases in concentrations.

50.16 The numerator for counterparties is calculated by aggregating the total of all types of liabilities to a single counterparty or group of connected or affiliated counterparties, as well as all other direct borrowings, both secured and unsecured, which the bank can determine arise from the same counterparty[3] (such as for overnight commercial paper / certificate of deposit (CP/CD) funding).

Footnotes

[3] *For some funding sources, such as debt issues that are transferable across counterparties (such as CP/CD funding dated longer than overnight, etc), it is not always possible to identify the counterparty holding the debt.*

50.17 A “significant counterparty” is defined as a single counterparty or group of connected or affiliated counterparties accounting in aggregate for more than 1% of the bank's total balance sheet, although in some cases there may be other defining characteristics based on the funding profile of the bank. A group of connected counterparties is, in this context, defined in the same way as in the “Large Exposure” regulation of the host country in the case of consolidated reporting for solvency purposes. Intra-group deposits and deposits from related parties should be identified specifically under this metric, regardless of whether the metric is being calculated at a legal entity or group level, due to the potential limitations to intra-group transactions in stressed conditions.

50.18 The numerator for type of instrument/product should be calculated for each individually significant funding instrument/product, as well as by calculating groups of similar types of instruments/products.

50.19 A “significant instrument/product” is defined as a single instrument/product or group of similar instruments/products that in aggregate amount to more than 1% of the bank's total balance sheet.

50.20 In order to capture the amount of structural currency mismatch in a bank’s assets and liabilities, banks are required to provide a list of the amount of assets and liabilities in each significant currency.

50.21 A currency is considered “significant” if the aggregate liabilities denominated in that currency amount to 5% or more of the bank's total liabilities.

50.22 The above metrics should be reported separately for the time horizons of less than one month, 1-3 months, 3-6 months, 6-12 months, and for longer than 12 months.

50.23 In utilising this metric to determine the extent of funding concentration to a certain counterparty, both the bank and supervisors must recognise that currently it is not possible to identify the actual funding counterparty for many types of debt.[8] The actual concentration of funding sources, therefore, could likely be higher than this metric indicates. The list of significant counterparties could change frequently, particularly during a crisis. Supervisors should consider the potential for herding behaviour on the part of funding counterparties in the case of an institution-specific problem. In addition, under market-wide stress, multiple funding counterparties and the bank itself may experience concurrent liquidity pressures, making it difficult to sustain funding, even if sources appear well diversified.

Footnotes

[8] *For some funding sources, such as debt issues that are transferable across counterparties (such as CP/CD funding dated longer than overnight, etc), it is not always possible to identify the counterparty holding the debt*

50.24 In interpreting this metric, one must recognise that the existence of bilateral funding transactions may affect the strength of commercial ties and the amount of the net outflow.[9]

Footnotes

[9] *Eg where the monitored institution also extends funding or has large unused credit lines outstanding to the "significant counterparty".*

50.25 These metrics do not indicate how difficult it would be to replace funding from any given source.

50.26 To capture potential foreign exchange risks, the comparison of the amount of assets and liabilities by currency will provide supervisors with a baseline for discussions with the banks about how they manage any currency mismatches through swaps, forwards, etc. It is meant to provide a base for further discussions with the bank rather than to provide a snapshot view of the potential risk.

Available unencumbered assets

50.27 These metrics provide supervisors with data on the quantity and key characteristics, including currency denomination and location, of banks' available unencumbered assets. These assets have the potential to be used as collateral to raise additional high-quality liquid assets (HQLA) or secured funding in secondary markets or are eligible at central banks and as such may potentially be additional sources of liquidity for the bank. The metrics are defined as:

(1) available unencumbered assets that are marketable as collateral in secondary markets; and

(2) available unencumbered assets that are eligible for central banks' standing facilities.

50.28 A bank is to report the amount, type and location of available unencumbered assets that could serve as collateral for secured borrowing in secondary markets at prearranged or current haircuts at reasonable costs.

50.29 Likewise, a bank should report the amount, type and location of available unencumbered assets that are eligible for secured financing with relevant central banks at prearranged (if available) or current haircuts at reasonable costs, for standing facilities only (ie excluding emergency assistance arrangements). This would include collateral that has already been accepted at the central bank but remains unused. For assets to be counted in this metric, the bank must have already put in place the operational procedures that would be needed to monetise the collateral.

50.30 A bank should report separately the customer collateral received that the bank is permitted to deliver or re-pledge, as well as the part of such collateral that it is delivering or re-pledging at each reporting date.

50.31 In addition to providing the total amounts available, a bank should report these items categorised by significant currency. A currency is considered "significant" if the aggregate stock of available unencumbered collateral denominated in that currency amounts 5% or more of the associated total amount of available unencumbered collateral (for secondary markets or central banks).

50.32 In addition, a bank must report the estimated haircut that the secondary market or relevant central bank would require for each asset. In the case of the latter, a bank would be expected to reference, under business as usual, the haircut required by the central bank that it would normally access (which likely involves matching funding currency – eg European Central Bank for euro-denominated funding, Bank of Japan for yen funding, etc).

50.33 As a second step after reporting the relevant haircuts, a bank should report the expected monetised value of the collateral (rather than the notional amount) and where the assets are actually held, in terms of the location of the assets and what business lines have access to those assets.

50.34 These metrics are useful for examining the potential for a bank to generate an additional source of HQLA or secured funding. They will provide a standardised measure of the extent to which the LCR can be quickly replenished after a liquidity shock either via raising funds in private markets or utilising central bank standing facilities. The metrics do not, however, capture potential changes in counterparties' haircuts and lending policies that could occur under either a systemic or idiosyncratic event and could provide false comfort that the estimated monetised value of available unencumbered collateral is greater than it would be when it is most needed. Supervisors should keep in mind that these metrics do not compare available unencumbered assets to the amount of outstanding secured funding or any other balance sheet scaling factor. To gain a more complete picture, the information generated by these metrics should be complemented with the maturity mismatch metric and other balance sheet data.

LCR by significant currency

50.35 While the LCR is required to be met in one single currency, in order to better capture potential currency mismatches, banks and supervisors should also monitor the LCR in significant currencies. This will allow the bank and the supervisor to track potential currency mismatch issues that could arise. This metric is defined as follows.[10]

$$\textit{Foreign currency LCR} = \frac{\textit{Stock of HQLA in each significant currency}}{\textit{Total net cash outflows over a 30 day time period in each significant currency}}$$

Footnotes

[10] *Amount of total net foreign exchange cash outflows should be net of foreign exchange hedges.*

50.36 The definition of the stock of high-quality foreign exchange assets and total net foreign exchange cash outflows should mirror those of the LCR for common currencies.[11]

Footnotes

[11] *Cash flows from assets, liabilities and off-balance sheet items will be computed in the currency that the counterparties are obliged to deliver to settle the contract, independent of the currency to which the contract is indexed (or "linked"), or the currency whose fluctuation it is intended to hedge.*

50.37 A currency is considered “significant” if the aggregate liabilities denominated in that currency amount to 5% or more of the bank's total liabilities.

50.38 As the foreign currency LCR is not a minimum requirement but a monitoring tool, it does not have an internationally defined minimum required threshold. Nonetheless, supervisors in each jurisdiction could set minimum monitoring ratios for the foreign exchange LCR, below which a supervisor should be alerted. In this case, the ratio at which supervisors should be alerted would depend on the stress assumption. Supervisors should evaluate banks’ ability to raise funds in foreign currency markets and the ability to transfer a liquidity surplus from one currency to another and across jurisdictions and legal entities. Therefore, the ratio should be higher for currencies in which the supervisors evaluate a bank’s ability to raise funds in foreign currency markets or the ability to transfer a liquidity surplus from one currency to another and across jurisdictions and legal entities to be limited.

50.39 This metric is meant to allow the bank and supervisor to track potential currency mismatch issues that could arise in a time of stress.

Market-related monitoring tools

50.40 High-frequency market data with little or no time lag can be used as early warning indicators in monitoring potential liquidity difficulties at banks.

50.41 While there are many types of data available in the market, supervisors can monitor data at the following levels to focus on potential liquidity difficulties:

(1) market-wide information;

(2) information on the financial sector; and

(3) bank-specific information.

50.42 Supervisors can monitor information both on the absolute level and direction of major markets and consider their potential impact on the financial sector and the specific bank. Market-wide information is also crucial when evaluating assumptions behind a bank’s funding plan.

50.43 Valuable market information to monitor includes, but is not limited to, equity prices (ie overall stock markets and sub-indices in various jurisdictions relevant to the activities of the supervised banks), debt markets (money markets, medium-term notes, long term debt, derivatives, government bond markets, credit default spread indices, etc); foreign exchange markets, commodities markets, and indices related to specific products, such as for certain securitised products (eg the ABX asset-backed securities index).

50.44 To track whether the financial sector as a whole is mirroring broader market movements or is experiencing difficulties, information to be monitored includes equity and debt market information for the financial sector broadly and for specific subsets of the financial sector, including indices.

50.45 To monitor whether the market is losing confidence in a particular institution or has identified risks at an institution, it is useful to collect information on equity prices, credit default swap (CDS) spreads, money-market trading prices, the situation of roll-overs and prices for various lengths of funding, the price/yield of bank debenture or subordinated debt in the secondary market.

50.46 Information such as equity prices and credit spreads are readily available. However, the accurate interpretation of such information is important. For instance, the same CDS spread in numerical terms may not necessarily imply the same risk across markets due to market-specific conditions such as low market liquidity. Also, when considering the liquidity impact of changes in certain data points, the reaction of other market participants to such information can be different, as various liquidity providers may emphasise different types of data.

Monitoring tools for intraday liquidity management

50.47 A bank's failure to effectively manage intraday liquidity could leave it unable to meet its payment and settlement obligations on a timely basis, which could lead to liquidity dislocations that cascade quickly across many systems and institutions. As such, the bank's management of intraday liquidity risk should be considered as a crucial part of liquidity risk management. It should also actively manage its collateral positions and have the ability to calculate all of its collateral positions.

50.48 For the purpose of this chapter, the following definitions will apply to the terms stated below.

(1) intraday liquidity: funds which can be accessed during the business day, usually to enable banks to make payments in real time;[12]

(2) business day: the opening hours of the LVPS or of correspondent banking services during which a bank can receive and make payments in a local jurisdiction;

(3) intraday liquidity risk: the risk that a bank fails to manage its intraday liquidity effectively, which could leave it unable to meet a payment obligation at the time expected, thereby affecting its own liquidity position and that of other parties; and

(4) time-specific obligations: obligations which must be settled at a specific time within the day or have an expected intraday settlement deadline.

Footnotes

[12] *See the Committee on Payments and Market Infrastructures' glossary of payments and market infrastructure terminology as a reference to the standard terms and definitions used in connection with payment, clearing, settlement and related arrangements (www.bis.org/cpmi/publ/d00b.htm).*

Intraday liquidity sources and usage

50.49 The following sets out the main constituent elements of a bank's intraday liquidity sources and usage.[13] The list should not be taken as exhaustive.

(1) Sources

(a) Own sources

(i) Reserve balances at the central bank;

(ii) Collateral pledged with the central bank or with ancillary systems[14] that can be freely converted into intraday liquidity;

(iii) Unencumbered assets on a bank's balance sheet that can be freely converted into intraday liquidity;

(iv) Secured and unsecured, committed and uncommitted credit lines[15] available intraday;

(v) Balances with other banks that can be used for intraday settlement.

(b) Other sources

(i) Payments received from other LVPS participants;

(ii) Payments received from ancillary systems;

(iii) Payments received through correspondent banking services.

(2) Usage

(a) Payments made to other LVPS participants;

(b) Payments made to ancillary systems;[16]

(c) Payments made through correspondent banking services;

(d) Secured and unsecured, committed and uncommitted credit lines offered intraday;

(e) Contingent payments relating to a payment and settlement system's failure (eg as an emergency liquidity provider).

Footnotes

[13] *Not all elements will be relevant to all reporting banks as intraday liquidity profiles will differ between banks (eg whether they access payment and settlement systems directly or indirectly or whether they provide correspondent banking services and intraday credit facilities to other banks etc.)*

[14] *Ancillary systems include other payment systems such as retail payment systems, CLS, securities settlement systems and central counterparties.*

[15] *Although uncommitted credit lines can be withdrawn in times of stress (see stress scenario (i) in SRP50.82), such lines are an available source of intraday liquidity in normal times.*

[16] *Some securities settlement systems offer self-collateralisation facilities in co-operation with the central bank. Through these, participants can automatically post incoming securities from the settlement process as collateral at the central bank to obtain liquidity to fund their securities settlement systems' obligations. In these cases, intraday liquidity usage are only those related to the haircut applied by the central bank.*

50.50 In correspondent banking, some customer payments are made across accounts held by the same correspondent bank. These payments do not give rise to an intraday liquidity source or usage for the correspondent bank as they do not link to the payment and settlement systems. However, these "internalised payments" do have intraday liquidity implications for both the sending and receiving customer banks and should be incorporated in their reporting of the monitoring tools.

Summary of the intraday liquidity monitoring tools

50.51 A number of factors influence a bank's usage of intraday liquidity in payment and settlement systems and its vulnerability to intraday liquidity shocks. As such, no single monitoring tool can provide supervisors with sufficient information to identify and monitor the intraday liquidity risk run by a bank. To achieve this, seven separate monitoring tools have been developed (see Table 1). As not all of the tools will be relevant to all reporting banks, the tools have been classified in three groups to determine their applicability as follows:

(1) Category A: applicable to all reporting banks;

(2) Category B: applicable to reporting banks that provide correspondent banking services; and

(3) Category C: applicable to reporting banks which are direct participants.

The set of monitoring tools		Table 1
Tools applicable to all reporting banks		
A(i)	Daily maximum intraday liquidity usage	
A(ii)	Available intraday liquidity at the start of the business day	
A(iii)	Total payments	
A(iv)	Time-specific obligations	
Tools applicable to reporting banks that provide correspondent banking services		
B(i)	Value of payments made on behalf of correspondent banking customers	
B(ii)	Intraday credit lines extended to customers	
Tool applicable to reporting banks which are direct participants		
C(i)	Intraday throughput	

Scope of application of the intraday liquidity monitoring tools

50.52 Banks generally manage their intraday liquidity risk on a system-by-system basis in a single currency, but it is recognised that practices differ across banks and jurisdictions, depending on the institutional set up of a bank and the specifics of the systems in which it operates. The following considerations aim to help banks and supervisors determine the most appropriate way to apply the tools. Should banks need further clarification, they should discuss the scope of application with their supervisors.

50.53 Banks which are direct participants to an LVPS can manage their intraday liquidity in very different ways. Some banks manage their payment and settlement activity on a system-by-system basis. Others make use of direct intraday liquidity "bridges"[17] between LVPS, which allow excess liquidity to be transferred from one system to another without restriction. Other formal arrangements exist, which allow funds to be transferred from one system to another (such as agreements for foreign currency liquidity to be used as collateral for domestic systems).

Footnotes

[17] *A direct intraday liquidity bridge is a technical functionality built into two or more LVPS that allows banks to make transfers directly from one system to the other intraday.*

50.54 To allow for these different approaches, direct participants should apply a 'bottom-up' approach to determine the appropriate basis for reporting the monitoring tools. The following sets out the principles which such banks should follow:

(1) As a baseline, individual banks should report on each LVPS in which they participate on a system-by-system-basis;

(2) If there is a direct real-time technical liquidity bridge between two or more LVPS, the intraday liquidity in those systems may be considered fungible. At least one of the linked LVPS may therefore be considered an ancillary system for the purpose of the tools;

(3) If a bank can demonstrate to the satisfaction of its supervisor that it regularly monitors positions and uses other formal arrangements to transfer liquidity intraday between LVPS which do not have a direct technical liquidity bridge, those LVPS may also be considered as ancillary systems for reporting purposes.

50.55 Ancillary systems (eg retail payment systems, CLS, some securities settlement systems and central counterparties), place demands on a bank's intraday liquidity when these systems settle the bank's obligations in an LVPS. Consequently, separate reporting requirements will not be necessary for such ancillary systems.

50.56 Banks that use correspondent banking services should base their reports on the payment and settlement activity over their account(s) with their correspondent bank(s). Where more than one correspondent bank is used, the bank should report per correspondent bank. For banks which access an LVPS indirectly

through more than one correspondent bank, the reporting may be aggregated, provided that the reporting bank can demonstrate to the satisfaction of its supervisor that it is able to move liquidity between its correspondent banks.

50.57 Banks which operate as direct participants of an LVPS but which also make use of correspondent banks should discuss whether they can aggregate these for reporting purposes with their supervisor. Aggregation may be appropriate if the payments made directly through the LVPS and those made through the correspondent bank(s) are in the same jurisdiction and same currency.

50.58 Banks that manage their intraday liquidity on a currency-by-currency basis should report on an individual currency basis.

50.59 If a bank can prove to the satisfaction of its supervisor that it manages liquidity on a cross-currency basis and has the ability to transfer funds intraday with minimal delay – including in periods of acute stress – then the intraday liquidity positions across currencies may be aggregated for reporting purposes. However, banks should also report at an individual currency level so that supervisors can monitor the extent to which firms are reliant on foreign exchange swap markets.

50.60 When the level of activity of a bank's payment and settlement activity in any one particular currency is considered de minimis, with the agreement of the supervisor,[18] a reporting exemption could apply and separate returns need not be submitted.

Footnotes

[18] *As an indicative threshold, supervisors may consider that a currency is considered "significant" if the aggregate liabilities denominated in that currency amount to 5% or more of the bank's total liabilities. See SRP50.37.*

50.61 The appropriate organisational level for each bank's reporting of its intraday liquidity data should be determined by the supervisor, but it is expected that the monitoring tools will typically be applied at a significant individual legal entity level. The decision on the appropriate entity should consider any potential impediments to moving intraday liquidity between entities within a group, including the ability of supervisory jurisdictions to ring-fence liquid assets, timing differences and any logistical constraints on the movement of collateral.

50.62 Where there are no impediments or constraints to transferring intraday liquidity between two (or more) legal entities intraday, and banks can demonstrate this to the satisfaction of their supervisor, the intraday liquidity requirements of the entities may be aggregated for reporting purposes.

50.63 For cross-border banking groups, where a bank operates in LVPS and/or with a correspondent bank(s) outside the jurisdiction where it is domiciled, both home and host supervisors will have an interest in ensuring that the bank has sufficient intraday liquidity to meet its obligations in the local LVPS and/or with its correspondent bank(s).[19] The allocation of responsibility between home and host supervisor will ultimately depend upon whether the bank operating in the non-domestic jurisdiction does so via a branch or a subsidiary.

(1) For a branch operation:

(a) The home (consolidated) supervisor should have responsibility for monitoring through the collection and examination of data that its banking groups can meet their payment and settlement responsibilities in all countries and all currencies in which they operate. The home supervisor should therefore have the option to receive a full set of intraday liquidity information for its banking groups, covering both domestic and non-domestic payment and settlement obligations.

(b) The host supervisor should have the option to require foreign branches in their jurisdiction to report intraday liquidity tools to them, subject to materiality.

(2) For a subsidiary active in a non-domestic LVPS and/or correspondent bank(s):

(a) The host supervisor should have primary responsible for receiving the relevant set of intraday liquidity data for that subsidiary.

(b) The supervisor of the parent bank (the home consolidated supervisor) will have an interest in ensuring that a non-domestic subsidiary has sufficient intraday liquidity to participate in all payment and settlement obligations. The home supervisor should therefore have the option to require non-domestic subsidiaries to report intraday liquidity data to them as appropriate.

Footnotes

[19] *Paragraph 145 of the Sound Principles states that "the host supervisor needs to understand how the liquidity profile of the group contributes to risks to the entity in its jurisdiction, while the home supervisor requires information on material risks a foreign branch or subsidiary poses to the banking group as a whole.*

Intraday monitoring tools applicable to all reporting banks

Daily maximum intraday liquidity usage

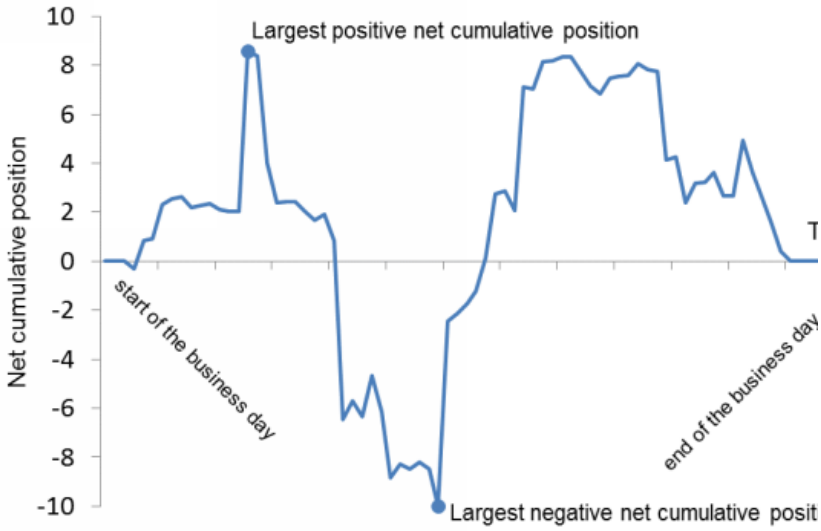
50.64 The daily maximum intraday liquidity usage tool will enable supervisors to monitor a bank's intraday liquidity usage in normal conditions. It will require banks to monitor the net balance of all payments made and received during the day over their settlement account, either with the central bank (if a direct participant) or over their account held with a correspondent bank (or accounts, if more than one correspondent bank is used to settle payments). The largest net negative position during the business day on the account(s), (ie the largest net cumulative balance between payments made and received), will determine a bank' s maximum daily intraday liquidity usage. The net position should be determined by settlement time stamps (or the equivalent) using transaction-by-transaction data over the account(s). The largest net negative balance on the account(s) can be calculated after close of the business day and does not require real-time monitoring throughout the day.

50.65 For illustrative purposes only, the calculation of the tool is shown in Figure 1. A positive net position signifies that the bank has received more payments than it has made during the day. Conversely, a negative net position signifies that the bank has made more payments than it has received.[20] For direct participants, the net position represents the change in its opening balance with the central bank. For banks that use one or more correspondent banks, the net position represents the change in the opening balance on the account(s) with its correspondent bank (s).

Footnotes

[20] *For the calculation of the net cumulative position, "payments received" do not include funds obtained through central bank intraday liquidity facilities.*

Daily maximum intraday liquidity usage



50.66 Assuming that a bank runs a negative net position at some point intraday, it will need access to intraday liquidity to fund this balance. The minimum amount of intraday liquidity that a bank would need to have available on any given day would be equivalent to its largest negative net position. (In the illustration above, the intraday liquidity usage would be 10 units.)

50.67 Conversely, when a bank runs a positive net cumulative position at some point intraday, it has surplus liquidity available to meet its intraday liquidity obligations. This position may arise because the bank is relying on payments received from other LVPS participants to fund its outgoing payments. (In the illustration above, the largest positive net cumulative position would be 8.6 units.)

50.68 Banks should report their three largest daily negative net cumulative positions on their settlement or correspondent account(s) in the reporting period and the daily average of the negative net cumulative position over the period. The largest positive net cumulative positions, and the daily average of the positive net cumulative positions, should also be reported. As the reporting data accumulates, supervisors will gain an indication of the daily intraday liquidity usage of a bank in normal conditions.

Available intraday liquidity at the start of the business day

50.69 The available intraday liquidity at the start of the business day tool will enable supervisors to monitor the amount of intraday liquidity a bank has available at the start of each day to meet its intraday liquidity requirements in normal conditions. Banks should report both the three smallest sums by value of intraday liquidity available at the start of each business day in the reporting period, and the average amount of available intraday liquidity at the start of each business day in the reporting period. The report should also break down the constituent elements of the liquidity sources available to the bank.

50.70 Drawing on the liquidity sources set out in SRP50.49 and SRP50.50, banks should discuss and agree with their supervisor the sources of liquidity which they should include in the calculation of this tool. Where banks manage collateral on a cross-currency and/or cross-system basis, liquidity sources not denominated in the currency of the intraday liquidity usage and/or which are located in a different jurisdiction, may be included in the calculation if the bank can demonstrate to the satisfaction of its supervisor that the collateral can be transferred intraday freely to the system where it is needed.

50.71 As the reporting data accumulates, supervisors will gain an indication of the amount of intraday liquidity available to a bank to meet its payment and settlement obligations in normal conditions.

Total payments

50.72 The total payments tool will enable supervisors to monitor the overall scale of a bank's payment activity. For each business day in a reporting period, banks should calculate the total of their gross payments sent and received in the LVPS and/or, where appropriate, across any account(s) held with a correspondent bank (s). Banks should report the three largest daily values for gross payments sent and received in the reporting period and the average daily figure of gross payments made and received in the reporting period.

Time-specific obligations

50.73 The time-specific obligations tool will enable supervisors to gain a better understanding of a bank's time specific obligations.[21] Failure to settle such obligations on time could result in financial penalty, reputational damage to the bank or loss of future business.

Footnotes

[21] *These obligations include, for example, those for which there is a time-specific intraday deadline, those required to settle positions in other payment and settlement systems, those related to market activities (such as the delivery or return of money market transactions or margin payments), and other payments critical to a bank's business or reputation (see footnote 10 of the Sound Principles). Examples include the settlement of obligations in ancillary systems, CLS pay-ins or the return of overnight loans. Payments made to meet the throughput guidelines are not considered time-specific obligations for the purpose of this tool.*

50.74 Banks should calculate the total value of time-specific obligations that they settle each day and report the three largest daily total values and the average daily total value in the reporting period to give supervisors an indication of the scale of these obligations.

50.75 A sample reporting template for banks that use correspondent banks (but do not provide correspondent banking services nor are direct participants), and so report only these monitoring tools, is provided in Table 2.

Sample reporting form for banks that use correspondent banks — Table 2

Reporting month				
Name of the correspondent bank				
A(i) Daily maximum intraday liquidity usage	Max	2d max	3d max	Average
Largest positive net cumulative position				
Largest negative net cumulative position				
A(ii) Available intraday liquidity at the start of the business day	Min	2d min	3d min	Average
Total of which: Balance with the correspondent bank				
Total credit lines available from the correspondent bank[22] of which: Secured Committed				
Collateral pledged at the correspondent bank				
Collateral pledged at the central bank				
Unencumbered liquid assets on a bank's balance sheet				
Central bank reserves				
Balances with other banks				
Other				
A(iii) Total payments	Max	2d max	3d max	Average
Gross payments sent				
Gross payments received				

A(iv) Time-specific obligations	Max	2d max	3d max	Average
Total value of time-specific obligations				

Footnotes

[22] *Paragraph 145 of the Sound Principles states that "the host supervisor needs to understand how the liquidity profile of the group contributes to risks to the entity in its jurisdiction, while the home supervisor requires information on material risks a foreign branch or subsidiary poses to the banking group as a whole.*

Additional intraday monitoring tools applicable to reporting banks that provide correspondent banking services

Value of payments made on behalf of correspondent banking customers

50.76 The value of payments made on behalf of correspondent banking customers[23] tool will enable supervisors to gain a better understanding of the proportion of a correspondent bank's payment flows that arise from its provision of correspondent banking services. These flows may have a significant impact on the correspondent bank's own intraday liquidity management.[24]

Footnotes

[23] *The term "customers" includes all entities for which the correspondent bank provides correspondent banking services.*

[24] *Paragraph 79 of the Sound Principles states that: "[T]he level of a bank' s gross cash inflows and outflows may be uncertain, in part because those flows may reflect the activities of its customers, especially where the bank provides correspondent or custodian services."*

50.77 Correspondent banks should calculate the total value of payments they make on behalf of all customers of their correspondent banking services each day and report the three largest daily total values and the daily average total value of these payments in the reporting period.

Intraday credit lines extended to customers

50.78 The intraday credit lines extended to customers[25] tool will enable supervisors to monitor the scale of a correspondent bank's provision of intraday credit to its customers. Correspondent banks should report the three largest intraday credit lines extended to their customers in the reporting period, including whether these lines are secured or committed and the use of those lines at peak usage.[26]

Footnotes

[25] *Not all elements will be relevant to all reporting banks as intraday liquidity profiles will differ between banks (eg whether they access payment and settlement systems directly or indirectly or whether they provide correspondent banking services and intraday credit facilities to other banks)*

[26] *The figure to be reported for the three largest intraday credit lines extended to customers should include uncommitted and unsecured lines. This disclosure does not change the legal nature of these credit lines.*

50.79 A sample reporting template for banks that relates to their provision of correspondent banking services is provided in Table 3.

Sample reporting form for banks that provide correspondent banking services — Table 3

Reporting month				
B(i) Value of payments made on behalf of correspondent banking customers	Max	2d max	3d max	Average
Total gross value of payments made on behalf of correspondent banking customers				
B(ii) Intraday credit lines extended to customers	Max	2d max	3d max	
Total value of credit lines extended to customers[27] of which: Secured Committed				
Used at peak usage				

Footnotes

[27] *This figure includes all credit lines extended, including uncommitted and unsecured.*

Additional intraday monitoring tool applicable to reporting banks which are direct participants

Intraday throughput

50.80 The intraday throughput tool will enable supervisors to monitor the throughput of a direct participant's daily payments activity across its settlement account. Direct participants should report the daily average in the reporting period of the percentage of their outgoing payments (relative to total payments) that settle by specific times during the day, by value within each hour of the business day.[28] Over time, this will enable supervisors to identify any changes in a bank's payment and settlement behaviour.

Footnotes

[28] *It should be noted that some jurisdictions already have throughput rules or guidelines in place.*

50.81 A sample reporting template for banks that are direct participants (and which do not use nor provide correspondent banking services) is provided in Table 4.

Sample reporting form for direct participants — Table 4

Reporting month				
Name of the large value payment system				
A(i) Daily maximum intraday liquidity usage	Max	2d max	3d max	Average
Largest positive net cumulative position				
Largest negative net cumulative position				
A(ii) Available intraday liquidity at the start of the business day	Min	2d min	3d min	Average
Total of which: Central bank reserves				
Collateral pledged at the central bank				
Collateral pledged at ancillary systems				
Unencumbered liquid assets on a bank's balance sheet				
Total credit lines available[29] of which: Secured Committed				
Balances with other banks				
Other				
A(iii) Total payments	Max	2d max	3d max	Average
Gross payments sent				
Gross payments received				
A(iv) Time-specific obligations	Max	2d max	3d max	Average

Total value of time-specific obligations				
C(i) Intraday throughput (%)	Average			
Throughput at 0800				
Throughput at 0900				
Throughput at 1000				
Throughput at 1100				
Throughput at 1200				
Throughput at 1300				
Throughput at 1400				
Throughput at 1500				
Throughput at 1600				
Throughput at 1700				
Throughput at 1800				

Footnotes

[29] *This figure includes all available credit lines, including uncommitted and unsecured.*

Intraday liquidity stress scenarios

50.82 The monitoring tools in SRP50.64 to SRP50.81 will provide banking supervisors with information on a bank's intraday liquidity profile in normal conditions. However, the availability and usage of intraday liquidity can change markedly in times of stress. In the course of their discussions on broader liquidity risk management, banks and supervisors should also consider the impact of a bank's intraday liquidity requirements in stress conditions. As guidance, four possible (but non-exhaustive) stress scenarios have been identified and are described below.[30] Banks should determine with their supervisor which of the scenarios (or other scenarios) are relevant to their particular circumstances and business model.

(1) Own financial stress: a bank suffers, or is perceived to be suffering from, a stress event.

(a) For a direct participant, own financial and/or operational stress may result in counterparties deferring payments and/or withdrawing intraday credit lines. This, in turn, may result in the bank having to fund more of its payments from its own intraday liquidity sources to avoid having to defer its own payments.

(b) For banks that use correspondent banking services, an own financial stress may result in intraday credit lines being withdrawn by the correspondent bank(s), and/or its own counterparties deferring payments. This may require the bank having either to prefund its payments and/or to collateralise its intraday credit line(s).

(2) Counterparty stress: a major counterparty suffers an intraday stress event which prevents it from making payments. A counterparty stress may result in direct participants and banks that use correspondent banking services being unable to rely on incoming payments from the stressed counterparty, reducing the availability of intraday liquidity that can be sourced from the receipt of the counterparty's payments.

(3) A customer's bank's stress: a customer bank of a correspondent bank suffers a stress event. A customer bank's stress may result in other banks deferring payments to the customer, creating a further loss of intraday liquidity at its correspondent bank.

(4) Market-wide credit or liquidity stress: this may have adverse implications for the value of liquid assets that a bank holds to meet its intraday liquidity usage. A widespread fall in the market value and/or credit rating of a bank's unencumbered liquid assets may constrain its ability to raise intraday liquidity from the central bank. In a worst case scenario, a material credit downgrade of the assets may result in the assets no longer meeting the eligibility criteria for the central bank's intraday liquidity facilities.

(a) For a bank that uses correspondent banking services, a widespread fall in the market value and/or credit rating of its unencumbered liquid assets may constrain its ability to raise intraday liquidity from its correspondent bank(s).

(b) Banks which manage intraday liquidity on a cross-currency basis should consider the intraday liquidity implications of a closure of, or operational difficulties in, currency swap markets and stresses occurring in multiple systems simultaneously.

Footnotes

[30] *Banks are encouraged to consider reverse stress scenarios and other stress testing scenarios as appropriate (for example, the impact of natural disasters, currency crisis, etc). In addition, banks should use these stress testing scenarios to inform their intraday liquidity risk tolerance and contingency funding plans.*

Application of the stress scenarios

50.83 For the own financial stress and counterparty stress, all reporting banks should consider the likely impact that these stress scenarios would have on their daily maximum intraday liquidity usage, available intraday liquidity at the start of the business day, total payments and time-specific obligations.

50.84 For the customer bank's stress scenario, banks that provide correspondent banking services should consider the likely impact that this stress scenario would have on the value of payments made on behalf of its customers and intraday credit lines extended to its customers.

50.85 For the market-wide stress, all reporting banks should consider the likely impact that the stress would have on their sources of available intraday liquidity at the start of the business day.

50.86 Banks need not report the impact of the stress scenarios on the monitoring tools to supervisors on a regular basis. They should use the scenarios to assess how their intraday liquidity profile in normal conditions would change in conditions of stress and discuss with their supervisor how any adverse impact would be addressed either through contingency planning arrangements and/or their wider intraday liquidity risk management framework.

50.87 While each of the monitoring tools has value in itself, combining the information provided by the tools will give supervisors a comprehensive view of a bank's resilience to intraday liquidity shocks. The following is a non-exhaustive set of examples which illustrate how the tools could be used in different combinations by banking supervisors to assess a bank's resilience to intraday liquidity risk.

(1) Time-specific obligations relative to total payments and available intraday liquidity at the start of the business day: if a high proportion of a bank's payment activity is time critical, the bank has less flexibility to deal with unexpected shocks by managing its payment flows, especially when its amount of available intraday liquidity at the start of the business day is typically low. In such circumstances the supervisor might expect the bank to have adequate risk management arrangements in place or to hold a higher proportion of unencumbered assets to mitigate this risk.

(2) Available intraday liquidity at the start of the business day relative to the impact of intraday stresses on the bank's daily liquidity usage: if the impact of an intraday liquidity stress on a bank's daily liquidity usage is large relative to its available intraday liquidity at the start of the business day, it suggests that the bank may struggle to settle payments in a timely manner in conditions of stress.

(3) Relationship between daily maximum liquidity usage, available intraday liquidity at the start of the business day and the time-specific obligations: if a bank misses its time-specific obligations, it could have a significant impact on other banks. If it were demonstrated that the bank's daily liquidity usage was high and the lowest amount of available intraday liquidity at the start of the business day were close to zero, it might suggest that the bank is managing its payment flows with an insufficient pool of liquid assets.

(4) Total payments and value of payments made on behalf of correspondent banking customers: if a large proportion of a bank's total payment activity is made by a correspondent bank on behalf of its customers and, depending on the type of the credit lines extended, the correspondent bank could be more vulnerable to a stress experienced by a customer. The supervisor may wish to understand how this risk is being mitigated by the correspondent bank.

(5) Intraday throughput and daily liquidity usage: if a bank starts to defer its payments and this coincides with a reduction in its liquidity usage (as measured by its largest positive net cumulative position), the supervisor may wish to establish whether the bank has taken a strategic decision to delay payments to reduce its usage of intraday liquidity. This behavioural change might also be of interest to the overseers given the potential knock-on implications to other participants in the LVPS.

Practical example of the intraday monitoring tools

50.88 The following example illustrates how the tools would operate for a bank on a particular business day. Assume that on the given day, the bank's payment profile and liquidity usage is as in Table 5:

Example of bank payment profile — Table 5

Time	Sent	Received	Net
0700	Payment A: 450		-450
0758		200	-250
0855	Payment B: 100		-350
1000	Payment C: 200		-550
1045		400	-150
1159		300	+150
1300	Payment D: 300		-150
1345		350	+200
1500	Payment E: 250		-50
1532	Payment F: 100		-150
1700		150	0

50.89 As a direct participant, the details of the bank's payment profile are as follows. The bank has 300 units of central bank reserves and 500 units of eligible collateral.

(1) Payment A: 450

(2) Payment B: 100 – to settle obligations in an ancillary system

(3) Payment C: 200 – which has to be settled by 10am

(4) Payment D: 300 – on behalf of a counterparty using some of a 500 unit unsecured credit line that the bank extends to the counterparty

(5) Payment E: 250

(6) Payment F: 100

50.90 The intraday monitoring tools are as follows.

(1) A(i) Daily maximum liquidity usage

(a) Largest negative net cumulative position: 550 units

(b) Largest positive net cumulative position: 200 units

(2) A(ii) available intraday liquidity at the start of the business day: 300 units of central bank reserves + 500 units of eligible collateral (routinely transferred to the central bank) = 800 units

(3) A(iii) total payments:

(a) Gross payments sent: 450 + 100 + 200 + 300 + 250 + 100 = 1400 units

(b) Gross payments received: 200+ 400 +300 + 350 + 150 = 1400 units

(4) A(iv) Time-specific obligations: 200 + value of ancillary payment (100) = 300 units

(5) B(i) Value of payments made on behalf of correspondent banking customers: 300 units

(6) B(ii) Intraday credit line extended to customers:

(a) Value of intraday credit lines extended: 500 units

(b) Value of credit line used: 300 units

(7) C(i) Intraday throughput

Intraday throughput Table 6

	Cumulative sent	% sent
0800	450	32.14
0900	550	39.29
1000	750	53.57
1100	750	53.57
1200	750	53.57
1300	1050	75.00
1400	1050	75.00
1500	1300	92.86
1600	1400	100.00
1700	1400	100.00
1800	1400	100.00

50.91 For a bank that uses a correspondent bank, the details of the bank's payment profile are as follows. The bank has 300 units of account balance at the correspondent bank and 500 units of credit lines of which 300 units are unsecured and also uncommitted.

(1) Payment A: 450

(2) Payment B: 100

(3) Payment C: 200 – which has to be settled by 10am

(4) Payment D: 300

(5) Payment E: 250

(6) Payment F: 100 – which has to be settled by 4pm

50.92 The intraday monitoring tools are as follows.

(1) A(i) Daily maximum liquidity usage

(a) Largest negative net cumulative position: 550 units

(b) Largest positive net cumulative position: 200 units

(2) A(ii) available intraday liquidity at the start of the business day: 300 units of account balance at the correspondent bank + 500 units of credit lines (of which 300 units unsecured and uncommitted) = 800 units

(3) A(iii) total payments:

(a) Gross payments sent: 450 + 100 + 200 + 300 + 250 + 100 = 1400 units

(b) Gross payments received: 200+ 400 +300 + 350 + 150 = 1400 units

(4) A(iv) Time-specific obligations: 200 + 100 = 300 units

SRP90

Transition

This chapter describes the time allowed for newly designated systemically important banks to meet the requirements on risk data aggregation and risk reporting.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

90.1 Global systemically important banks designated in 2016 or later must meet the requirements in this chapter within three years of their designation.

90.2 It is strongly suggested that national supervisors also apply these Principles to banks identified as domestic systemically important banks (D-SIBs) by their national supervisors three years after their designation as D-SIBs.

SRP98

Application guidance on interest rate risk in the banking book

This chapter contains a detailed description of interest rate risk in the banking book, its management techniques and the derivation of the standardised interest rate shocks.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Definition of interest rate risk in the banking book

98.1 Interest rate risk in the banking book (IRRBB) refers to the current or prospective risk to a bank's capital and to its earnings, arising from the impact of adverse movements in interest rates on its banking book.

98.2 Excessive IRRBB can pose a significant threat to a bank's current capital base or future earnings if not managed appropriately. Changes in interest rates can affect the underlying economic value of the bank's assets, liabilities and off-balance sheet instruments, because the present value of future cash flows (and, in many cases, the amounts of cash flows themselves) change when interest rates change. Changes in interest rates also affect a bank's earnings by increasing or decreasing its net interest income (NII) and the level of other interest rate-sensitive income and operating expenses.

98.3 Fundamentally, there are two distinct methods for valuing banking book items, namely:

(1) "amortised" (or "historical") cost, where values are based on initial cost less accumulated depreciation, taking account of the expected life / maturity of the item; and

(2) "fair" (or "market") value, where values are based on market prices (where available) or on the net present value of expected cash flows, discounted at the prevailing rate (where no market price is available).

98.4 For items held at amortised cost, market interest rate changes do not significantly impact profit recognition or accounting values for existing instruments (significant changes in values would be from impairment that needs to be recognised as a permanent diminution in value). Income/cost on items held at amortised cost therefore emerges over time in line with maturity-adjusted cash flows.[1]

Footnotes

[1] *However, the accounting value may not be the same as the balance that needs to be managed for IRRBB purposes, because of the impact of effective interest rate calculations and the treatment of loan loss provisions.*

98.5 Accounting values of fair valued instruments can vary significantly from period to period, due to changes to external factors (eg interest rate changes can impact both the expected future cash flows and the discount rate used for calculation purposes). Income and cost are recognised either through profit and loss (P&L) or through equity, on the basis of changes to embedded value.

98.6 Since most IRRBB economic value measures aim to estimate the change in economic value under shocks and stresses, the presence or absence of higher /lower accounting values for amortised cost instruments is effectively ignored, as is the emergence of profit over time. It is therefore important to note that a loss in economic value does not automatically equate with accounting losses for this element of the banking book. Conversely, for assets held at fair value/mark-to-market, changes in interest rates directly affect current accounting values, and thus have an immediate impact on both P&L and available capital.

98.7 Every interest rate earned by a bank on its assets, or paid on its liabilities, is a composite of a number of price components – some more easily identified than others. Theoretically, all rates contain five elements.

(1) The risk-free rate: this is the fundamental building block for an interest rate, representing the theoretical rate of interest an investor would expect from a risk-free investment for a given maturity.

(2) A market duration spread: the prices/valuations of instruments with long durations are more vulnerable to market interest rate changes than those with short durations. To reflect the uncertainty of both cash flows and the prevailing interest rate environment, and consequent price volatility, the market requires a premium or spread over the risk-free rate to cover duration risk.

(3) A market liquidity spread: even if the underlying instrument were risk-free, the interest rate may contain a premium to represent the market appetite for investments and the presence of willing buyers and sellers.

(4) A general market credit spread: this is distinct from idiosyncratic credit spread, and represents the credit risk premium required by market participants for a given credit quality (eg the additional yield that a debt instrument issued by an AA-rated entity must produce over a risk-free alternative).

(5) Idiosyncratic credit spread: this reflects the specific credit risk associated with the credit quality of the individual borrower (which will also reflect assessments of risks arising from the sector and geographical/currency location of the borrower) and the specifics of the credit instrument (eg whether a bond or a derivative).

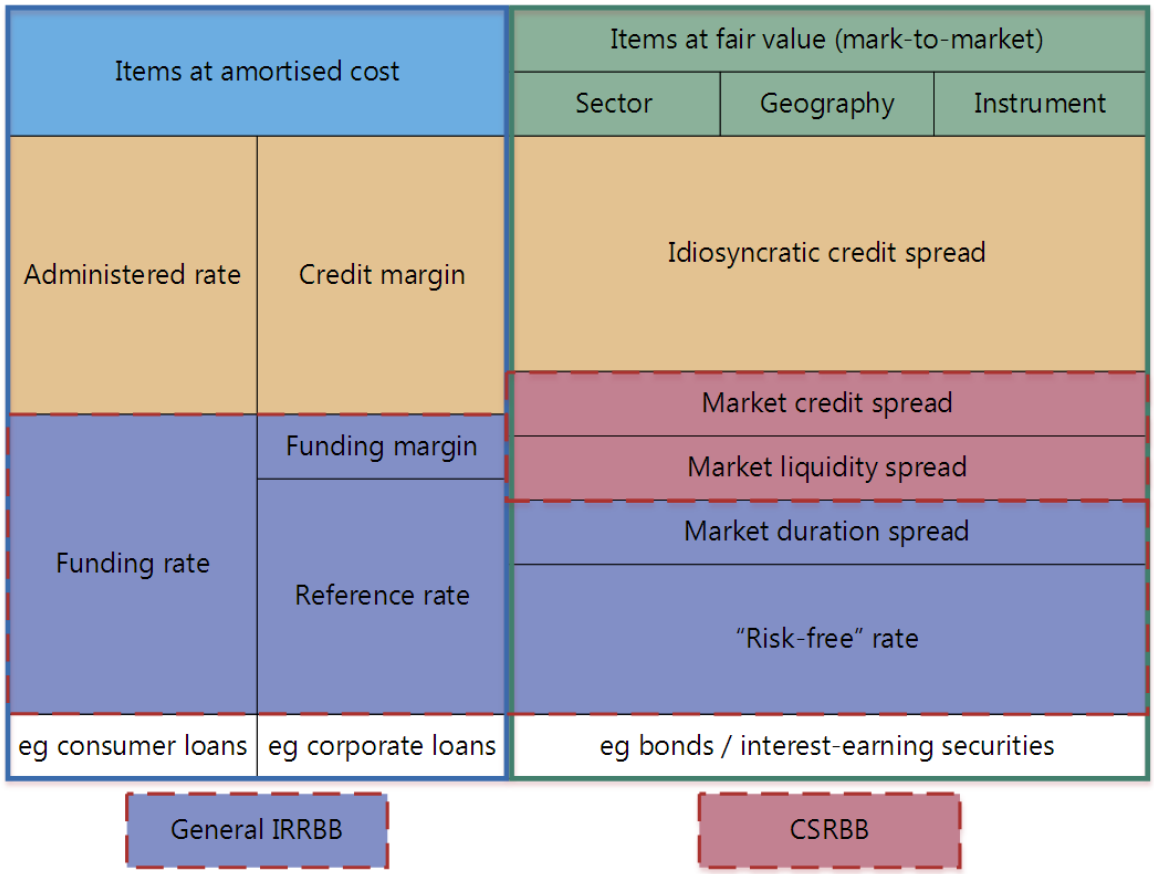
98.8 In theory these rate components apply across all types of credit exposure, but in practice they are more readily identifiable in traded instruments (eg bonds) than in pure loans. The latter tend to carry rates based on two components:

(1) The funding rate, or a reference rate plus a funding margin: the funding rate is the blended internal cost of funding the loan, reflected in the internal funds transfer price (for larger and more sophisticated banks); the reference rate is an externally set benchmark rate, such as the London Interbank Offered Rate (LIBOR) or the federal funds rate, to which a bank may need to add (or from which it may need to subtract) a funding margin to reflect its own all-in funding rate. Both the funding rate and the reference rate incorporate liquidity and duration spread, and potentially some elements of market credit spread. However, the relationship between the funding rate and market reference rate may not be stable over time – this divergence is an example of basis risk.

(2) The credit margin (or commercial margin) applied: this can be a specific add-on (eg LIBOR + 3%, where the 3% may include an element of funding margin) or built into an administered rate (a rate set by and under the absolute control of the bank).

98.9 In practice, decomposing interest rates into their component parts is technically demanding and the boundaries between the theoretical components cannot easily be calculated (eg changes to market credit perceptions can also change market liquidity spreads). As a result, some of the components may be aggregated for interest rate risk management purposes.

98.10 Changes to the risk-free rate, market duration spread, reference rate and funding margin all fall within the definition of IRRBB. Changes to the market liquidity spreads and market credit spreads are combined within the definition of credit spread risk in the banking book (CSRBB). The diagram below gives a visual representation of how the various elements fit together.



98.11 The main driver of IRRBB is a change in market interest rates, both current and expected, as expressed by changes to the shape, slope and level of a range of different yield curves that incorporate some or all of the components of interest rates.

98.12 When the level or shape of a yield curve for a given interest rate basis changes, the relationship between interest rates of different maturities of the same index or market, and relative to other yield curves for different instruments, is affected. This may result in changes to a bank's income or underlying economic value.

98.13 CSRBB is driven by changes in market perception about the credit quality of groups of different credit-risky instruments, either because of changes to expected default levels or because of changes to market liquidity. Changes to underlying credit quality perceptions can amplify the risks already arising from yield curve risk. CSRBB is therefore defined as any kind of asset/liability spread risk of credit-risky instruments which is not explained by IRRBB, nor by the expected credit/jump-to-default risk.

98.14 This chapter and SRP31 focus mainly on IRRBB. CSRBB is a related risk that needs to be monitored and assessed.

98.15 IRRBB derives from three fundamental aspects relating to the level and structural characteristics of interest rates, and the effects on these of changes to yield curves. These aspects of interest rate risk can occur simultaneously, and therefore need to be managed holistically.

(1) Gap risk arises from the term structure of banking book instruments, and describes the risk arising from the timing of instrument rate changes. Since rate resets on different instruments occur at different tenors, the risk to the bank arises when the rate of interest paid on liabilities increases before the rate of interest received on assets, or reduces on assets before liabilities. Unless hedged in terms of tenor and amount, the bank may be exposed to a period of reduced or negative interest margins, or may experience changes in the relative economic values of assets and liabilities. The extent of gap risk depends also on whether changes to the term structure of interest rates occur consistently across the yield curve (parallel risk) or differentially by period (non-parallel risk).[2]

(2) Basis risk describes the impact of relative changes in interest rates for financial instruments that have similar tenors but are priced using different interest rate indices (bases) (eg an asset priced off LIBOR funded by a liability priced off US Treasuries). It arises from the imperfect correlation in the adjustment of the rates earned and paid on different instruments with otherwise similar rate change characteristics. For the purposes of this chapter, IRRBB is defined as excluding changes in idiosyncratic credit margins.

(3) Option risk arises from option derivative positions or from the optional elements embedded in many bank assets, liabilities and off-balance sheet items, where the bank or its customers can alter the level and timing of their cash flows. For IRRBB purposes, option risk can be broken down into two distinct but related sub-types:

(a) automatic option risk arising from standalone instruments, such as exchange-traded and over-the-counter option contracts, or explicitly embedded within the contractual terms of an otherwise standard financial instrument (eg a capped rate loan) and where the holder will almost certainly exercise the option if it is in their financial interest to do so; and

(b) behavioural option risk arising from flexibility embedded implicitly or within the terms of financial contracts, such that changes in interest rates may effect a change in the behaviour of the client (eg rights of a

borrower to prepay a loan, with or without penalty, or the right of a depositor to withdraw their balance in search of higher yield).

Footnotes

[2] *This may sometimes be referred to as "yield curve risk".*

98.16 In addition to the pure economic risks that can arise from changes to the level and structure of interest rates, risks can arise from:

(1) currency mismatches, ie where the interest rate risks are in addition to normal exchange rate risks (this falls within a wider definition of basis risk); or

(2) accounting treatment of risk positions, ie where interest rate hedging activity may achieve the desired economic effect, but fail to achieve hedge accounting treatment.

Measurement of IRRBB

98.17 There are two complementary methods of measuring the potential impact of IRRBB:

(1) changes in expected earnings (earnings-based measures); and

(2) changes in economic value (EV, or EVE when measuring the change in value relative to equity).

98.18 The two methods are complementary in that:

(1) both measures reflect the impact of changing cash flows arising from changing interest rates;

(2) the change in expected earnings is reflected in the change in economic value; and

(3) they are affected by common assumptions.

98.19 The key differences between the measures include:

(1) Outcome measure: EV measures compute a change in the net present value of the balance sheet under an interest rate stress. In undertaking such a calculation, a decision has to be made about whether the outcome should be computed as a change in the theoretical economic value of equity (EVE) – in which case, equity is either excluded from the EV calculation or included with a very short (overnight) duration; or whether the outcome should measure the change in economic value other than for assets representing equity – in which case, equity is either included with the same duration as the assets which it is deemed to be financing, or else both equity and its portfolio of financed assets are excluded (this is earnings-adjusted EV). EVE and earnings-adjusted EV are therefore specific forms of an EV measure. All EV measures can be expressed relative to equity, but EVE includes the change to equity value that would result from revaluing under stress its own financed portfolio of assets. Earnings-based measures focus on changes to future profitability. To the extent that future earnings eventually affect levels of future equity, the two measures are aligned, but the value changes estimated include adjustments to net income that occur beyond the horizon for earnings measures.

(2) Time horizon: EV measures reflect changes in value relative to equity over the remaining life of the balance sheet, ie until all positions have run off. Earnings-based measures cover only the short to medium term, and therefore do not capture in full those risks that will continue to impact profit and loss accounts beyond the period of estimation.

(3) Future transactions: EV measures usually just focus on changes to cash flows of instruments already on the balance sheet. Earnings-based measures can be based on balance sheet run-off, or a static balance sheet, but more sophisticated or dynamic models tend to consider the impact of new business/production that is expected to be written in the future, as well as the run-off of existing business.

98.20 For earnings-based measures, the focus for analysis is the impact of changes in interest rates on future accrued or reported earnings.

98.21 The component of earnings that has traditionally received the most attention is NII, ie the difference between total interest income and total interest expense, taking account of hedging activity (eg via derivatives). This focus reflects both the importance of NII in banks' overall earnings and its direct link to changes in interest rates.[3]

Footnotes

[3] *Note, however, that, as some banks have expanded increasingly into activities that generate fee-based and other non-interest income, a broader focus on operating earnings/overall net income, incorporating both interest and non-interest income and expenses, has become more common.*

98.22 An earnings-based measure offers the possibility of measuring risk under a range of different time horizons. The normal focus is on the short/medium-term horizon (typically one to three years, no more than five years), to limit the cumulative impact of underlying assumptions and the complexity of the calculations. As a consequence, an earnings-based measure is better suited to measuring the short- and medium-term vulnerabilities of the bank to IRRBB, assuming that it is able to continue in business (a going-concern viewpoint).

98.23 An earnings-based measure is therefore commonly used to assess the ability of a bank to generate stable earnings over a medium-term horizon, which will allow it to pay a stable level of dividend and reduce the beta on its equity price and therefore reduce its cost of capital. Hence, it is a measure in line with internal management and asset and liability management objectives.

98.24 In order to be able to calculate changes in expected earnings under different interest rate shocks and stress scenarios, an institution will need to be able to project future earnings under both the expected economic scenario that informs its corporate plan, and the interest rate shock and stress scenarios so that the differences can be measured. Such projections involve a range of further assumptions about client/market behaviour, and the bank's own management response to the evolving economic climate, including:

(1) the volume and type of new/replacement assets and liabilities expected to be originated over the evaluation period;

(2) the volume and type of asset and liability redemptions/reductions over that period;

(3) the interest rate basis and margin associated with the new assets and liabilities, and with those redeemed/withdrawn; and

(4) the impact of any fees collected/paid for exercise of options.

98.25 In practical terms, this may result in modelling of earnings under three different states:

(1) run-off balance sheet: existing assets and liabilities not replaced as they mature, except to the extent necessary to fund the remaining balance sheet;

(2) constant balance sheet: total balance sheet size and shape maintained by assuming like-for-like replacement of assets and liabilities as they run off; and

(3) dynamic balance sheet: incorporating future business expectations, adjusted for the relevant scenario in a consistent manner, ie this is the most meaningful approach.

98.26 Under an economic value approach, the measure of IRRBB is the theoretical change in the net embedded market value of the whole banking book.

98.27 The EV of a tradable instrument is its present value (PV). In the absence of embedded options, the PV of the instrument is determined from its contractual cash flows, which are discounted to reflect current market rates. As a first implication, instruments with short-term or variable rate cash flows have a present value that more nearly equals their face value (ie their carrying value). As a second implication, a change in market rates would not change the EV of such instruments. Third, the PV of an interest rate-sensitive instrument with uncertain contractual cash flows can only be valued on the basis of assumptions about behaviour and timing, which will tend to vary dependent upon external factors.

98.28 Applying the concept of EV to the whole balance sheet of a bank is more challenging: the banking book contains assets and liabilities that are accounted for at held-to-maturity valuation, and for which there may not be observable market prices (eg loans and receivables are not as readily marketable and their market value cannot be determined directly). Moreover, there may be embedded under- and overvaluations in the book on a mark-to-market basis, representing income or costs that will emerge in future reported earnings. In addition, margins on loans may be very heterogeneous, thus making determination of an appropriate discount rate problematic, and the cash flows that are being valued are subject to variation depending upon customer behaviour in response to rate changes (and customers may not behave as might rationally be expected). Finally, there may be structural positions (eg assets held to stabilise return on non-maturity deposits and/or equity) which will produce a significant change in value under EV measurement, but where the risk measured is a direct corollary of risk reduction from an earnings volatility perspective.[4]

Footnotes

[4] *For example, a bank with $100 of capital could manage its earnings volatility by investing all capital in a long-dated fixed rate government security – which would lock in a consistent income but produce economic value risk if market rates changed and the mark-to-market value of the security declined. If its aim was to achieve economic value stability, it could invest its capital in the overnight market, but its earnings would then fluctuate with market interest rates. It is not possible for it to eliminate both EV and earnings risks simultaneously, so a trade-off is needed.*

98.29 To avoid the complexity of measuring total EV, banks typically therefore focus on measuring the level of change to the net present value of the relevant balance sheet items, based on existing or adjusted cash flows that are revalued in line with the interest rate shock and stress scenarios. The change in the valuation is a measure of the level of IRRBB, and can be compared with the current value of equity to determine the change to the EVE.

Key considerations and assumptions

98.30 Both measures of IRRBB are significantly impacted by assumptions made for the purposes of risk quantification:

(1) the range of shocks to the possible changes in the level, slope and shape of interest rate yield curves that are required to produce an IRRBB effect on EV or earnings, and the economic stress scenarios that would be consistent with these shocks;

(2) expectations for the exercise of options (explicit and implicit) by both the bank itself and its customers under the given scenarios;

(3) treatment in risk quantifications of balances and interest flows arising from non-maturity deposits (NMDs);

(4) the bank's own determination of the implied investment term of the bank's own equity capital liability; and

(5) the implications for IRRBB of adopted accounting practices.

98.31 In order to produce a quantitative estimate of IRRBB, it is necessary to assume a shock to current interest rate levels, which would allow the change in EV or earnings, and ultimately the effect on equity, to be computed. The size and shape of the shock will determine the measured outcome, and a range of shocks may be needed to identify all the potential facets of IRRBB (eg basis risks would not be captured by shocks that assume only parallel shifts of similar quantum in all yield curves). Designing interest rate change scenarios that are relevant to the business and sufficiently stressful is a key element of IRRBB management

98.32 Behaviour of option positions is one of the key set of assumptions that drive risk quantification measures. The approach taken by banks generally differs between automatic options, where the customer and bank can assume that the exercise of options will be based on rational expectations, and behavioural options, where behaviour will not always be rational and behavioural assumptions need to be used instead.

98.33 Automatic option positions can therefore be valued on the basis that exercise will always (and only) occur when there is financial benefit (with valuation based on standard financial modelling techniques and the results are fed into EV estimates). The rational expectation that the options will be exercised can also be readily fed into forward projections of interest margin under earnings-based measures.

98.34 Behavioural option positions require more complex analysis of expected outcomes, since customers may exercise some options even when it is not in their financial interest to do so, or may not exercise options even when it would be to their benefit. The most complex area of behavioural analysis is for prepayment options on loans: the right to redeem early may be included voluntarily in a loan contract, or imposed on the lender by operation of national law; there may or may not be early redemption penalties payable, but again the size of these penalties may not reflect the actual economic costs and benefits involved (eg if limited by law or by operation of customer redress policy); and customers may choose to redeem for other reasons than the availability of a new loan at lower cost (eg due housing prices, borrowers' demographics, changing family composition, tax changes).

98.35 However, not all borrowers will act irrationally, and exercise of early redemption options will tend to have a detrimental effect on either an EV or an earnings-based measurement, ie in a classic case of convexity risk, borrowers will tend to repay fixed rate borrowings when rates fall (so that they can borrow again at a lower rate) and retain fixed rate positions when market rates rise (so that banks are unable to lend at the higher rates). In order to manage this redemption or extension risk, banks model their books to establish how much should be hedged, and for what period, in order to match their best expectations of cash flows. Such behavioural modelling is clearly prone to error, and needs frequent updating so that hedge positions can be adjusted. Therefore, when using economic value and earnings-based measures, banks need to review and adjust their calculations to account for any expected behaviours.

98.36 The use of economic value and earnings-based measures involves estimating cash flows, but the content and treatment is different: for EV measures, all existing balance sheet items (both principal and interest flows) are discounted at a relevant rate, whereas NII measures include all cash flows, including all margins and principal flows from expected future business, and are normally not discounted.

98.37 NMDs are liabilities of the banks in which the depositor is free to withdraw at any time since they have no contractually agreed maturity date. Notwithstanding, NMD balances have historically proved to be relatively stable in practice, even when market rates change, and balances lost can usually be replaced with new deposits at the same rate – so, overall, NMDs behave differently to other more rate-sensitive funding.[5] Any interest paid on NMDs is usually at rates significantly below those paid for wholesale or larger-denomination deposits, so NMD balances have historically represented an important source of stable and cost-effective funding.[6]

Footnotes

[5] *A subset of NMDs is non-interest bearing current accounts, where balances may fluctuate but are generally not interest bearing: current account customers hold balances mainly for transactional purposes, and are more sensitive to service levels.*

[6] *However, NMD sensitivity may have increased as a result of the sustained period of accommodative monetary policy in some of the world's largest economies.*

98.38 In considering IRRBB, the focus for some banks is therefore primarily on managing the risk of earnings volatility arising from NMDs. In order to achieve this, banks first identify core deposits, ie that element of NMDs that can be considered to be particularly stable under different interest rate scenarios so that a behavioural maturity can be ascribed specifically to them and matching assets allocated to stabilise earnings. In assessing core balances, banks discount those elements of transactional accounts which are subject to regular fluctuation (withdrawal followed by re-deposit) and overall seasonality of the NMD book.

98.39 The matching book of assets may then be managed dynamically to adjust for changes in levels of core deposits, and to maintain a constant maturity in line with expected behaviour and the bank's risk appetite. Although the behavioural maturity may be determined to be very long, the matching asset position carries risk to a bank's EV since, being fixed rate and of some duration, the net present value of this portfolio will vary with general interest rates. The maturity profile chosen will therefore be a compromise between protection of earnings for an extended period and increased risk to EV that could materialise on a shock event (eg a deposit run on NMDs, failure of the bank). Internal risk measures can be used to evaluate the extent and impact of the compromise made.[7]

Footnotes

[7] *One common technique for achieving a constant maturity profile is a replicating portfolio of matching assets that produces a moving average fixed return in line with the risk appetite (eg a portfolio where one sixtieth of the total is reinvested each month for five years fixed will deliver a weighted average maturity of 2.5 years and a moving average of the five-year rate).*

98.40 In the same way as with NMDs, a bank's own equity capital liability represents an important source of structural risk and endowment return – in accounting terms, equity is the net value of assets less liabilities, so it represents assets for which there are no funding liabilities. Equity usually has a cost in the form of a dividend (although not in the case of mutual or cooperative organisations), and banks therefore seek to stabilise the earnings that can be made on assets funded by equity.

98.41 The technique involves defining net equity capital that is eligible for behavioural treatment – some assets are non-interest bearing (eg land and buildings) and may be considered to be financed by equity, so the value of equity available for behavioural treatment may be reduced accordingly.[8] Since equity capital has no contractual price reset date, banks determine their own strategies for managing the earnings volatility that arises from it using techniques similar to those for NMDs. Given that equity may be written down as a result of losses, regulators will normally focus on the EVE risk associated with any earnings profile ascribed to equity that may materialise as losses under stress events.

Footnotes

[8] *Banks may also determine that a portion of equity should remain invested short-term as a buffer against losses that may be incurred under a more general business stress.*

Quantifying IRRBB: economic value

98.42 Change in economic value can be measured using a variety of techniques, the most common of which are:

(1) PV01: present value of a single basis point change in interest rates based on gap analysis;

(2) EVE: economic value of equity; and

(3) EVaR: economic value at risk.

98.43 The techniques differ in their complexity and ability to capture different types of interest rate sensitivity (gap risk (parallel and non-parallel), yield curve risk, basis risk and option risk). Multiple measures of EV sensitivity therefore produce a better overall understanding of risks embedded in the banking book.

98.44 Gap analysis can be used to derive the duration profile of the banking book or, equivalently, the profile of the present value of a single basis point change in interest rates (PV01). Gap analysis allocates all relevant interest rate-sensitive assets and liabilities to a certain number of predefined time buckets according to their next contractual reset date. The analysis also allocates equity, NMDs, prepaying loans or other instruments with future cash flows subject to customer behaviours according to general/behavioural assumptions regarding their maturity or reset date. It then measures the arithmetic difference (the gap) between the amounts of assets and liabilities in each time bucket, in absolute terms. Each time bucket gap can be multiplied by an assumed change in interest rates to yield an approximation of the change in NII that would result from an increase in interest rates. This method gives a visual impression of the risk exposure dispersion relative to the repricing profile, reflecting exposures to parallel as well as non-parallel gap risk. It does not, however, quantify this risk.[9] The measure assumes that all positions within a particular time bucket mature and reprice simultaneously, ignoring potential basis risks within the gaps.

Footnotes

[9] *A variant of the technique, modified duration, could be applied, which shows the relative change in the market value of a financial instrument corresponding to marginal parallel shift of the yield curve (eg by 1 percentage point). The weakness of this technique is that it measures only marginal shifts of the yield curve and works only for parallel shifts.*

98.45 EV measures mainly focus on valuing the cash flows arising from existing assets and liabilities under different future interest scenarios, ignoring future business flows. The change in EV (ie the change in the NPV of future cash flows as a result of a change in rates) can be calculated across all types of assets and liabilities. When a change in the EV of the whole banking book is calculated, the outcome is highly influenced by the treatment of the bank's own equity capital liability in the calculation. There are two possible approaches:

(1) Since accounting equity is the net residual figure that arises from subtracting total liabilities from total assets (including off-balance sheet items), measuring the change in the net present value of those assets and liabilities under a stressed interest rate scenario shows the actual level of risk to the economic value of equity. In this calculation, therefore, no rate or term is applied to equity itself, which is therefore excluded, and the NPV outcome is compared with the starting value of equity in order to measure the proportionate size of the change. This is the EVE measure.

(2) Given that equity finances surplus assets that earn an endowment return for the bank, the change in value of any asset portfolio that has been created to reduce the volatility of earnings on equity is not a relevant EV risk for the bank (ie it has taken the EV risk specifically to hedge earnings risk). In this calculation, therefore, equity is included in the calculation and treated as having the same interest rate/term characteristics as the portfolio of assets that hedges the earnings on it. The NPV outcome is still compared with the starting value of equity, but measures only risks arising from non-structural positions. This measure is earnings-adjusted EV

98.46 EVE measures the theoretical change in the net present value of the balance sheet excluding equity. The measure therefore depicts the change in equity value resulting from an interest rate shock. Under this method, the value of equity under alternative stress scenarios is compared with the value under a base scenario. All cash flows from on-balance sheet and off-balance sheet interest rate-sensitive items in the banking book may be included in the computation. The market value of equity is computed as the present value of asset cash flows, less the present value of liability cash flows, without including assumptions on the interest rate sensitivity of equity. For internal measurement purposes, a bank may complement its computation of EVE with a separate earnings-adjusted EV model that uses assumptions about the investment term of equity, whereby its interest rate sensitivity is taken into account.

98.47 The accuracy of the measure is extremely dependent upon the precision of the cash flows calculated, and on the discount rates used in the calculation. When the expected cash flows are calculated, any likelihood that the size and the timing of future cash flows may differ between scenarios depending upon customer behaviour in reaction to the rate environment needs to be considered.

98.48 Depending on its specific design, an EV/EVE measure can capture all types of interest rate sensitivity. Gap risk (parallel and non-parallel) will be captured depending on the specific yield curve risk used in the alternative scenario. In computing EV, a full revaluation of automatic options would be normal under each of the alternative scenarios, so automatic option risk measurement is an integral part of a standard EV measure. Behavioural optionality can also be captured if stressed behavioural assumptions are used in alternative scenarios. Banks can then compute the EV effect of a change in customer behaviour either separately or in conjunction with a yield curve shift.

98.49 EV is a technique that can also be used to estimate basis risk in the banking book, either in isolation, or when combined with a general yield curve shift or with a change in assumed parameters. Basis risk can be measured by designing a scenario under which there is a divergence in the different base rates to which a bank is specifically sensitive.

98.50 Economic value at risk (EVaR) measures the expected maximum reduction of market value that can be incurred under normal market circumstances over a given time horizon or holding period and subject to a given confidence level. For calculation of EVaR in the banking book, the changes in the market value of the banking book and thus of the equity are computed for a set of alternative yield curve scenarios. When the EVaR approach is applied to the banking book, the time horizon is normally consistent with the economic model of the banking book. The standard VaR approach comprises three different techniques: historical simulation, variance-covariance approach[10] and Monte Carlo simulation.

Footnotes

[10] *Under this approach, interest rates of different tenors are derived from historical observations of changes and a variance-covariance matrix is constructed to account for the correlations between the rate shocks across tenors.*

98.51 EVaR models are suited to capture all types of interest rate sensitivity such as EVE. However, EVaR measurement techniques have their limitations. EVaR is designed for normal market circumstances and does not adequately assess tail risk. Both historical value-at-risk (VaR) and variance-covariance VaR are backward-looking methods which are prone to missing the tail events that carry significant risks. The Monte Carlo simulation method is very demanding in terms of technology and computational power.

Quantifying IRRBB: earnings-based measures

98.52 Earnings-based measures look at the expected increase or reduction in NII over a shorter time horizon (typically one to three years, up to a maximum five years) resulting from interest rate movements that are composed of either a gradual or a one-time large interest rate shock. The change in NII is the difference in the expected NII between a base scenario and an alternative, more stressful scenario. The base case scenario reflects the bank's current corporate plan in projecting the volume, pricing and repricing dates of future business transactions. Interest rates used for resetting transactions in the base scenario can be derived from market expected rates or from spot rates. The rate for each instrument will also contain appropriate projected spreads and margins.

98.53 In assessing the possible extent of change in NII, banks can use models to predict the path of rates and the run-off of existing assets and liabilities. Earnings measures can be differentiated according to the complexity of their forward calculations of income, from simple run-off models which assume that existing

assets and liabilities mature without replacement, to constant balance sheet models which assume that assets and liabilities are replaced like for like, to the most complex dynamic models which reflect the changes in the volumes and types of business that will be undertaken (or not undertaken) in differing interest rate environments, with the expected level of prices in those circumstances.

98.54 An earnings-based measure analyses the interest rate risk profile of the banking book in a detailed way tailored to the bank's specific circumstances. As it can account for new business, it reflects a full going-concern perspective. Depending on the design of the alternative scenarios, this method is able to capture all different types of interest rate risk sensitivity. Banks are able to incorporate fully the cash flow changes that occur under alternative scenarios due to automatic options.

98.55 However, the results of the modelling are highly sensitive to assumptions about customer behaviour as well as to the anticipated management responses to different rate scenarios. Earnings-based measures cover a relatively short time horizon, so changes in earnings falling beyond the observation period are ignored (including those arising from any behavioural treatment of NMDs and/or equity that involves long-term structural positions to reduce earnings volatility). Last but not least, earnings-based measures do not necessarily identify the risks to capital that can arise from revaluation of available-for-sale portfolios.

Derivation of the interest rate shocks

98.56 SRP31 describes six prescribed interest rate shock scenarios that banks should apply to parallel and non-parallel gap risks for EVE and two prescribed interest rate shock scenarios for NII. In order to derive these shocks, the following general steps are taken.

98.57 Step 1: generate a 16-year time series of daily average interest rates for each currency c. The average daily interest rates from the year 2000 (3 January 2000) to 2015 (31 December 2015) are contained in Table 1. The average local percentile of the rate series is determined by calculating the average rate across all daily rates in time buckets 3m, 6m, 1Y, 2Y, 5Y, 7Y, 10Y, 15Y and 20Y.

Average interest rates by currency Table 1

	ARS	AUD	BRL	CAD	CHF	CNY	EUR	GBP	HKD	IDR	INR
Average	3363	517	1153	341	183	373	300	375	295	1466	719

	JPY	KRW	MXN	RUB	SAR	SEK	SGD	TRY	USD	ZAR
Average	89	471	754	868	360	330	230	1494	329	867

98.58 Step 2: the global shock parameter is prescribed based on the weighted average of the currency-specific shock parameters, $\bar{\alpha}_i$. The shock parameter for scenario i is a weighted average of the $\alpha_{i,c,h}$ across all currencies and defined as α_i. The following baseline global parameters are obtained:

Baseline global interest rate shock parameters Table 2

Parallel	$\bar{\alpha}_{parallel}$	60%
Short rate	$\bar{\alpha}_{short}$	85%
Long rate	$\bar{\alpha}_{long}$	40%

98.59 Applying the α_i from Table 2 to the average long-term rates from Table 1 results in the revised interest rate shocks by currency for parallel, short and long segments of the yield curve in Table 3.

Revised interest rate shocks, $\Delta\overline{R}_{shocktype,c}$ Table 3

	ARS	AUD	BRL	CAD	CHF	CNY	EUR	GBP	HKD	IDR	INR
Parallel	2018	310	692	204	110	224	180	225	177	880	431
Short	2858	440	980	290	155	317	255	319	251	1246	611
Long	1345	207	461	136	73	149	120	150	118	586	288

	JPY	KRW	MXN	RUB	SAR	SEK	SGD	TRY	USD	ZAR
Parallel	53	283	452	521	216	198	138	896	197	520
Short	75	401	641	738	306	280	196	1270	279	737
Long	35	188	301	347	144	132	92	597	131	347

98.60 However, the proposed interest rate shock calibration can lead to unrealistically low interest rate shocks for some currencies and to unrealistically high interest rate shocks for others. In order to ensure a minimum level of prudence and a level playing field, a floor of 100 basis points and variable caps (denoted as $\Delta\overline{R}_j$) are set for the scenarios concerned, those caps being 500 basis points for the short-term, 400 basis points for the parallel and 300 basis points for the long-term interest rate shock scenario.

98.61 The change in the risk-free interest rate for shock scenario j and currency c can be defined as follows, where $\Delta\overline{R}_j$ is 400, 500 or 300 when j is parallel, short or long respectively.[11]

$$\overline{R}_{j,c} = \max\left(100, \min(\Delta\overline{R}_{j,c}, \Delta\overline{R}_j)\right)$$

Footnotes

[11] *In the case of the rotation scenarios, $\Delta\overline{R}_{j,c}$ cannot exceed 500 basis points and $\Delta\overline{R}_{j,c}(t_k)$ cannot exceed 300 basis points.*

98.62 Applying the caps and floors to the shocks described in Table 3 results in the final set of interest rate shocks by currency that is shown in SRP31.90.

98.63 Supervisors may, applying national discretion, set a higher floor under the local interest rate shock scenarios for their home currency. Supervisors may also, applying national discretion, set a zero or negative lower bound for the post-shock interest rates, where:

$$\bar{R}_{j,c}(t_k) = \max\left(\bar{R}_{0,c}(t_k) + \Delta\bar{R}_{j,c}(t_k), (\textit{zero or negative lower bound set})\right)$$

SRP99

Application guidance

This chapter contains additional guidance on supervisory transparency and cross-border cooperation. It also provides references to other Basel Committee guidelines that support supervisory review under Pillar 2 and additional considerations for the application of Pillar 2 to systemically important banks.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Supervisory transparency and accountability

99.1 The supervision of banks is not an exact science, and therefore, discretionary elements within the supervisory review process are inevitable. Supervisors must take care to carry out their obligations in a transparent and accountable manner. Supervisors should make publicly available the criteria to be used in the review of banks' internal capital assessments. If a supervisor chooses to set target or trigger ratios or to set categories of capital in excess of the regulatory minimum, factors that may be considered in doing so should be publicly available. Where the capital requirements are set above the minimum for an individual bank, the supervisor should explain to the bank the risk characteristics specific to the bank which resulted in the requirement and any remedial action necessary.

Enhanced cross-border communication and cooperation

99.2 Effective supervision of large banking organisations necessarily entails a close and continuous dialogue between industry participants and supervisors. In addition, the Framework will require enhanced cooperation between supervisors, on a practical basis, especially for the cross-border supervision of complex international banking groups.

99.3 The Framework will not change the legal responsibilities of national supervisors for the regulation of their domestic institutions or the arrangements for consolidated supervision as set out in the existing Basel Committee standards. The home country supervisor is responsible for the oversight of the implementation of the Framework for a banking group on a consolidated basis; host country supervisors are responsible for supervision of those entities operating in their countries. In order to reduce the compliance burden and avoid regulatory arbitrage, the methods and approval processes used by a bank at the group level may be accepted by the host country supervisor at the local level, provided that they adequately meet the local supervisor's requirements. Wherever possible, supervisors should avoid performing redundant and uncoordinated approval and validation work in order to reduce the implementation burden on banks, and conserve supervisory resources.

99.4 In implementing the Framework, supervisors should communicate the respective roles of home country and host country supervisors as clearly as possible to banking groups with significant cross-border operations in multiple jurisdictions. The home country supervisor would lead this coordination effort in cooperation with the host country supervisors. In communicating the respective supervisory roles, supervisors will take care to clarify that existing supervisory legal responsibilities remain unchanged.

99.5 The Committee supports a pragmatic approach of mutual recognition for internationally active banks as a key basis for international supervisory co-operation. This approach implies recognising common capital adequacy approaches when considering the entities of internationally active banks in host jurisdictions, as well as the desirability of minimising differences in the national capital adequacy regulations between home and host jurisdictions so that subsidiary banks are not subjected to excessive burden.

99.6 Before giving consent to the creation of a cross-border establishment, the host country authority and the bank's and banking group's home country authorities should each review the allocation of supervisory responsibilities recommended in the Concordat[1] in order to determine whether its application to the proposed establishment is appropriate. If, as a result of the establishment's proposed activities or the location and structure of the bank's or the banking group's management, either authority concludes that the division of supervisory responsibilities suggested in the Concordat is not appropriate, then that authority consults with the other authority on how to promote effective supervisory cooperation, either generally or in respect of specific activities. A similar review should be undertaken by all authorities if there is a significant change in the bank' s or banking group's activities or structure.

Footnotes

[1] *See Principles for the supervision of banks' foreign establishments (Concordat), Basel Committee, May 1983, www.bis.org/publ/bcbsc312.htm .*

99.7 Before giving either inward or outward consent for the creation of a cross-border banking establishment, a supervisory authority should establish an understanding with the other authority that they may each gather information to the extent necessary for effective home country supervision, either through on-site examination or by other means satisfactory to the recipient, from the cross-border establishments located in one another's jurisdictions of banks or banking groups chartered or incorporated in their respective jurisdictions. Through such bilateral arrangements, all home country authorities should be able to improve their ability to review the financial condition of their banks' and banking groups' cross-border banking establishments.

Guidance related to the supervisory review process

99.8 The Basel Committee has published guidelines and sound practices which supervisors should take into account during the supervisory review process. These documents are available on the website of the Bank for International Settlements (www.bis.org/bcbs/publications.htm).

Pillar 2 for systemically important banks

99.9 The higher loss absorbency requirement for global systemically important banks (G-SIBs) incorporates elements of both Pillar 1 and Pillar 2. The indicator-based measurement approach, the pre-specified requirements for banks within each bucket and the fixed consequences of not meeting the requirement can be considered close to Pillar 1. However, the use of supervisory judgment to finalise the allocation of individual banks to buckets can be considered close to Pillar 2. Irrespective of whether the higher loss absorbency requirement is considered to be a Pillar 1 or a Pillar 2 approach, it is essentially a requirement in addition to other capital buffers and the minimum capital requirement, with a predetermined set of consequences for banks that do not meet the requirement. The same is true of the higher loss absorbency requirement for domestic systemically important banks (D-SIBs).

99.10 In some jurisdictions, Pillar 2 may need to adapt to accommodate the existence of the higher loss absorbency requirements for G-SIBs or D-SIBs. Specifically, it would make sense for authorities to ensure that a bank's Pillar 2 requirements do not require capital to be held twice for issues related to the externalities associated with distress or failure of G-SIBs or D-SIBs if they are captured by the higher loss absorbency requirement. However, Pillar 2 will normally capture other risks that are not directly related to these externalities of G-SIBs and D-SIBs (eg interest rate and concentration risks), so capital meeting the higher loss absorbency requirement should not be permitted to be simultaneously used to meet Pillar 2 requirement that relate to these other risks.

DIS

Disclosure requirements

This standard sets out disclosure requirements, which aim to encourage market discipline.

DIS10

Definitions and applications

This chapter describes the scope of application of disclosure requirements, along with requirements on the location, frequency, timing of reporting, assurance considerations and guiding principles on high-quality disclosures.

Download all of the disclosure templates and tables of the DIS standard in Excel format.

Version effective as of 01 Jan 2023

Updated Excel format tables to take account of the changes announced on 11 November 2021 (ie DIS45 added and amendments to DIS50 and DIS99).

Introduction

10.1 The provision of meaningful information about common key risk metrics to market participants is a fundamental tenet of a sound banking system. It reduces information asymmetry and helps promote comparability of banks' risk profiles within and across jurisdictions. Pillar 3 of the Basel framework aims to promote market discipline through regulatory disclosure requirements. These requirements enable market participants to access key information relating to a bank's regulatory capital and risk exposures in order to increase transparency and confidence about a bank's exposure to risk and the overall adequacy of its regulatory capital.

Scope of application

10.2 Disclosure requirements are an integral part of the Basel framework. Unless otherwise stated, for Tables and Templates applicable to "all banks", it refers to internationally active banks at the top consolidated level.

Reporting location

10.3 Banks must publish their Pillar 3 report in a standalone document that provides a readily accessible source of prudential measures for users. The Pillar 3 report may be appended to, or form a discrete section of, a bank's financial reporting, but it must be easily identifiable to users. Signposting of disclosure requirements is permitted in certain circumstances, as set out in DIS10.25 to DIS10.27. Banks or supervisors must also make available on their websites an archive (for a suitable retention period to be determined by the relevant supervisor) of Pillar 3 reports (quarterly, semi-annual and annual) relating to prior reporting periods.

Implementation dates

10.4 Disclosure requirements are applicable for Pillar 3 reports related to fiscal periods that include or come after the specific calendar implementation date.

Frequency and timing of disclosures

10.5 The frequencies of disclosure as indicated in the disclosure templates and tables vary between quarterly, semiannual and annual reporting depending upon the nature of the specific disclosure requirement.

10.6 A bank's Pillar 3 report must be published concurrently with its financial report for the corresponding period. If a Pillar 3 disclosure is required to be published for a period when a bank does not produce any financial report, the disclosure requirement must be published as soon as practicable. However, the time lag must not exceed that allowed to the bank for its regular financial reporting period-ends (eg if a bank reports only annually and its annual financial statements are made available five weeks after the end of the annual reporting period-end, interim Pillar 3 disclosures on a quarterly or semiannual basis must be available within five weeks after the end of the relevant quarter or semester).

Retrospective disclosures, disclosure of transitional metrics and reporting periods

10.7 In templates which require the disclosure of data points for current and previous reporting periods, the disclosure of the data point for the previous period is not required when a metric for a new standard is reported for the first time unless this is explicitly stated in the disclosure requirement.

10.8 Unless otherwise specified in the disclosure templates, when a bank is under a transitional regime permitted by the standards, the transitional data should be reported unless the bank already complies with the fully loaded requirements. Banks should clearly state whether the figures disclosed are computed on a transitional or fully-loaded basis. Where applicable, banks under a transitional regime may separately disclose fully-loaded figures in addition to transitional metrics.

10.9 Unless otherwise specified in the disclosure templates, the data required for annual, semiannual and quarterly disclosures should be for the corresponding 12-month, six-month and three-month period, respectively.

Assurance of Pillar 3 data

10.10 The information provided by banks under Pillar 3 must be subject, at a minimum, to the same level of internal review and internal control processes as the information provided by banks for their financial reporting (ie the level of assurance must be the same as for information provided within the management discussion and analysis part of the financial report).

10.11 Banks must establish a formal board-approved disclosure policy for Pillar 3 information that sets out the internal controls and procedures for disclosure of such information. The key elements of this policy should be described in the year-end Pillar 3 report or cross-referenced to another location where they are available. The board of directors and senior management are responsible for establishing and maintaining an effective internal control structure over the disclosure of financial information, including Pillar 3 disclosures. They must also ensure that appropriate review of the disclosures takes place. One or more senior officers of a bank, ideally at board level or equivalent, must attest in writing that Pillar 3 disclosures have been prepared in accordance with the board-agreed internal control processes.

Proprietary and confidential information

10.12 The Committee believes that the disclosure requirements strike an appropriate balance between the need for meaningful disclosure and the protection of proprietary and confidential information. In exceptional cases, disclosure of certain items required by Pillar 3 may reveal the position of a bank or contravene its legal obligations by making public information that is proprietary or confidential in nature. In such cases, a bank does not need to disclose those specific items, but must disclose more general information about the subject matter of the requirement instead. It must also explain in the narrative commentary to the disclosure requirement the fact that the specific items of information have not been disclosed and the reasons for this.

Guiding principles of banks' Pillar 3 disclosures

10.13 The Committee has agreed upon five guiding principles for banks' Pillar 3 disclosures. Pillar 3 complements the minimum risk-based capital requirements and other quantitative requirements (Pillar 1) and the supervisory review process (Pillar 2) and aims to promote market discipline by providing meaningful regulatory information to investors and other interested parties on a consistent and comparable basis. The guiding principles aim to provide a firm foundation for achieving transparent, high-quality Pillar 3 risk disclosures that will enable users to better understand and compare a bank's business and its risks.

Principle 1: Disclosures should be clear

10.14 Disclosures should be presented in a form that is understandable to key stakeholders (ie investors, analysts, financial customers and others) and communicated through an accessible medium. Important messages should be highlighted and easy to find. Complex issues should be explained in simple language with important terms defined. Related risk information should be presented together.

Principle 2: Disclosures should be comprehensive

10.15 Disclosures should describe a bank's main activities and all significant risks, supported by relevant underlying data and information. Significant changes in risk exposures between reporting periods should be described, together with the appropriate response by management.

10.16 Disclosures should provide sufficient information in both qualitative and quantitative terms on a bank's processes and procedures for identifying, measuring and managing those risks. The level of detail of such disclosure should be proportionate to a bank's complexity.

10.17 Approaches to disclosure should be sufficiently flexible to reflect how senior management and the board of directors internally assess and manage risks and strategy, helping users to better understand a bank's risk tolerance/appetite.

Principle 3: Disclosures should be meaningful to users

10.18 Disclosures should highlight a bank's most significant current and emerging risks and how those risks are managed, including information that is likely to receive market attention. Where meaningful, linkages must be provided to line items on the balance sheet or the income statement. Disclosures that do not add value to users' understanding or do not communicate useful information should be avoided. Furthermore, information which is no longer meaningful or relevant to users should be removed.

Principle 4: Disclosures should be consistent over time

10.19 Disclosures should be consistent over time to enable key stakeholders to identify trends in a bank's risk profile across all significant aspects of its business. Additions, deletions and other important changes in disclosures from previous reports, including those arising from a bank's specific, regulatory or market developments, should be highlighted and explained.

Principle 5: Disclosures should be comparable across banks

10.20 The level of detail and the format of presentation of disclosures should enable key stakeholders to perform meaningful comparisons of business activities, prudential metrics, risks and risk management between banks and across jurisdictions.

Presentation of the disclosure requirements – Templates and tables

10.21 The disclosure requirements are presented either in the form of templates or tables. Templates must be completed with quantitative data in accordance with the definitions provided. Tables generally relate to qualitative requirements, but quantitative information is also required in some instances. Banks may choose the format they prefer when presenting the information requested in tables.

10.22 In line with Principle 3 in DIS10.18, the information provided in the templates and tables should be meaningful to users. The disclosure requirements in this document that necessitate an assessment from banks are specifically identified. When preparing these individual tables and templates, banks will need to consider carefully how widely the disclosure requirement should apply. If a bank considers that the information requested in a template or table would not be meaningful to users, for example because the exposures and risk-weighted asset (RWA) amounts are deemed immaterial, it may choose not to disclose part or all of the information requested. In such circumstances, however, the bank will be required to explain in a narrative commentary why it considers such information not to be meaningful to users. It should describe the portfolios excluded from the disclosure requirement and the aggregate total RWA those portfolios represent.

10.23 For templates, the format is designated as either fixed or flexible:

(1) Where the format of a template is described as fixed, banks must complete the fields in accordance with the instructions given. If a row/column is not considered to be relevant to a bank's activities or the required information would not be meaningful to users (eg immaterial from a quantitative perspective), the bank may delete the specific row/column from the template, but the numbering of the subsequent rows and columns must not be altered. Banks may add extra rows and extra columns to fixed format templates if they wish to provide additional detail to a disclosure requirement by adding sub-rows or columns, but the numbering of prescribed rows and columns in the template must not be altered.

(2) Where the format of a template is described as flexible, banks may present the required information either in the format provided in this document or in one that better suits the bank. The format for the presentation of qualitative information in tables is not prescribed. Notwithstanding, banks should comply with the restrictions in presentation, should such restrictions be prescribed in the template (eg Template CCR5 in DIS42). In addition, when a customised presentation of the information is used, the bank must provide information comparable with that required in the disclosure requirement (ie at a similar level of granularity as if the template/table were completed as presented in this document).

10.24 Banks are encouraged to engage with their national supervisors on the provision of the quantitative disclosure requirements in this standard in a common electronic format that would facilitate the use of the data.

Presentation of the disclosure requirements – Signposting

10.25 Banks may disclose in a document separate from their Pillar 3 report (eg in a bank's annual report or through published regulatory reporting) the templates /tables with a flexible format, and the fixed format templates where the criteria in DIS10.26 are met. In such circumstances, the bank must signpost clearly in its Pillar 3 report where the disclosure requirements have been published. This signposting in the Pillar 3 report must include:

(1) the title and number of the disclosure requirement;

(2) the full name of the separate document in which the disclosure requirement has been published;

(3) a web link, where relevant; and

(4) the page and paragraph number of the separate document where the disclosure requirements can be located.

10.26 The disclosure requirements for templates with a fixed format may be disclosed by banks in a separate document other than the Pillar 3 report, provided all of the following criteria are met:

(1) the information contained in the signposted document is equivalent in terms of presentation and content to that required in the fixed template and allows users to make meaningful comparison with information provided by banks disclosing the fixed format templates;

(2) the information contained in the signposted document is based on the same scope of consolidation as the one used in the disclosure requirement;

(3) the disclosure in the signposted document is mandatory; and

(4) the supervisory authority responsible for ensuring the implementation of the Basel standards is subject to legal constraints in its ability to require the reporting of duplicative information.

10.27 Banks can only make use of signposting to another document if the level of assurance on the reliability of data in the separate document are equivalent to, or greater than, the internal assurance level required for the Pillar 3 report (see sections on reporting location and assurance above).

Qualitative narrative to accompany the disclosure requirements

10.28 Banks are expected to supplement the quantitative information provided in both fixed and flexible templates with a narrative commentary to explain at least any significant changes between reporting periods and any other issues that management considers to be of interest to market participants. The form taken by this additional narrative is at the bank's discretion.

10.29 Disclosure of additional quantitative and qualitative information will provide market participants with a broader picture of a bank´s risk position and promote market discipline.

10.30 Additional voluntary risk disclosures allow banks to present information relevant to their business model that may not be adequately captured by the standardised requirements. Additional quantitative information that banks choose to disclose must provide sufficient meaningful information to enable market participants to understand and analyse any figures provided. It must also be accompanied by a qualitative discussion. Any additional disclosure must comply with the five guiding principles above.

DIS20

Overview of risk management, key prudential metrics and RWA

This chapter covers disclosures on a bank's strategy, the senior management and directors' assessment and management of risk and key prudential metrics.

Version effective as of 01 Jan 2023

Updated to include the disclosure of: (i) leverage and capital ratios that exclude the output floor in the computation of RWA (Template KM1); and (ii) the level of the output floor and the resultant floor adjustment (Template OV1). Updated to take account of new implementation date as announced on 27 March 2020.

Introduction

20.1 The disclosure requirements under this section are:

(1) Template KM1 – Key metrics (at consolidated level)

(2) Template KM2 – Key metrics – total loss-absorbing capacity (TLAC) requirements (at resolution group level)

(3) Table OVA – Bank risk management approach

(4) Template OV1 – Overview of risk-weighted assets (RWA)

20.2 Template KM1 provides users of Pillar 3 data with a time series set of key prudential metrics covering a bank's available capital (including buffer requirements and ratios), its RWA, leverage ratio, Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR). As set out in CAP90.17, banks are required to publicly disclose whether they are applying a transitional arrangement for the impact of expected credit loss accounting on regulatory capital. If a transitional arrangement is applied, Template KM1 will provide users with information on the impact on the bank's regulatory capital and leverage ratios compared to the bank's "fully loaded" capital and leverage ratios had the transitional arrangement not been applied.

20.3 Template KM2 requires global systemically important banks (G-SIBs) to disclose key metrics on TLAC. Template KM2 becomes effective from the TLAC conformance date.

20.4 Table OVA provides information on a bank's strategy and how senior management and the board of directors assess and manage risks.

20.5 Template OV1 provides an overview of total RWA forming the denominator of the risk-based capital requirements.

FAQ

FAQ1 *For counterparty credit risk (CCR) (rows 6-9), the split requested is by the exposure at default (EAD) methodology classification used to determine exposure levels rather than the risk-weighted asset (RWA) methodology classification used to determine risk weights. This contradicts the presentation for credit risk (rows 1–5) and securitisation (rows 16-19). Should line items be added (where necessary) to reconcile the disclosure to the total RWA?*

Template OV1 does not request CCR to be split by risk weighting methodology, but by EAD methodology. Nevertheless, banks should add extra rows, as appropriate, to split the exposures by risk weighting methodology, in order to facilitate the reconciliation with the RWA changes in Template CCR7.*

** RWA and capital requirements under the Standardised Approach for credit risk weighting are to be subdivided in the standardised approach for counterparty credit risk (SA-CCR) and the internal models method (IMM), and the same for RWA and capital requirements under the internal ratings-based (IRB) approach for credit risk weighting.*

Template KM1: Key metrics (at consolidated group level)

Purpose: To provide an overview of a bank's prudential regulatory metrics.

Scope of application: The template is mandatory for all banks.

Content: Key prudential metrics related to risk-based capital ratios, leverage ratio and liquidity standards. Banks are required to disclose each metric's value using the corresponding standard's specifications for the reporting period-end (designated by T in the template below) as well as the four previous quarter-end figures (T-1 to T-4). All metrics are intended to reflect actual bank values for (T), with the exception of "fully loaded expected credit losses (ECL)" metrics, the leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves) and metrics designated as "pre-floor" which may not reflect actual values.

Frequency: Quarterly.

Format: Fixed. If banks wish to add rows to provide additional regulatory or financial metrics, they must provide definitions for these metrics and a full explanation of how the metrics are calculated (including the scope of consolidation and the regulatory capital used if relevant). The additional metrics must not replace the metrics in this disclosure requirement.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant change in each metric's value compared with previous quarters, including the key drivers of such changes (eg whether the changes are due to changes in the regulatory framework, group structure or business model).

Banks that apply transitional arrangement for ECL are expected to supplement the template with the key elements of the transition they use.

		a	b	c	d	e
		T	T-1	T-2	T-3	T-4
	Available capital (amounts)					
1	Common Equity Tier 1 (CET1)					
1a	Fully loaded ECL accounting model CET1					
2	Tier 1					
2a	Fully loaded ECL accounting model Tier 1					
3	Total capital					
3a	Fully loaded ECL accounting model total capital					
	Risk-weighted assets (amounts)					
4	Total risk-weighted assets (RWA)					
4a	Total risk-weighted assets (pre-floor)					

	Risk-based capital ratios as a percentage of RWA					
5	CET1 ratio (%)					
5a	Fully loaded ECL accounting model CET1 (%)					
5b	CET1 ratio (%) (pre-floor ratio)					
6	Tier 1 ratio (%)					
6a	Fully loaded ECL accounting model Tier 1 ratio (%)					
6b	Tier 1 ratio (%) (pre-floor ratio)					
7	Total capital ratio (%)					
7a	Fully loaded ECL accounting model total capital ratio (%)					
7b	Total capital ratio (%) (pre-floor ratio)					
	Additional CET1 buffer requirements as a percentage of RWA					
8	Capital conservation buffer requirement (2.5% from 2019) (%)					
9	Countercyclical buffer requirement (%)					
10	Bank G-SIB and/or D-SIB additional requirements (%)					
11	Total of bank CET1 specific buffer requirements (%) (row 8 + row 9 + row 10)					
12	CET1 available after meeting the bank's minimum capital requirements (%)					
	Basel III Leverage ratio					
13	Total Basel III leverage ratio exposure measure					
14	Basel III leverage ratio (%) (including the impact of any applicable temporary exemption of central bank reserves)					
14a	Fully loaded ECL accounting model Basel III leverage ratio (including the impact of any applicable temporary exemption of central bank reserves) (%)					
14b						

	Basel III leverage ratio (%) (excluding the impact of any applicable temporary exemption of central bank reserves)					
14c	Basel III leverage ratio (%) (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values for SFT assets					
14d	Basel III leverage ratio (%) (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values for SFT assets					
	Liquidity Coverage Ratio (LCR)					
15	Total high-quality liquid assets (HQLA)					
16	Total net cash outflow					
17	LCR ratio (%)					
	Net Stable Funding Ratio (NSFR)					
18	Total available stable funding					
19	Total required stable funding					
20	NSFR ratio					

Instructions

Row number	Explanation
4a	For *pre-floor total RWA*, the disclosed amount should exclude any adjustment made to total RWA from the application of the output floor.
5a, 6a, 7a, 14a	For fully loaded ECL ratios (%) in rows 5a, 6a, 7a and 14a, the denominator (RWA, Basel III leverage ratio exposure measure) is also "Fully loaded ECL", ie as if ECL transitional arrangements were not applied.
5b, 6b, 7b	For *pre-floor risk based ratios* in rows 5b, 6b and 7b, the disclosed ratios should exclude the impact of the output floor in the calculation of RWA.
12	*CET1 available after meeting the bank's minimum capital requirements (as a percentage of RWA)*: it may not necessarily be the difference between row 5 and the minimum CET1 requirement of 4.5% because CET1 capital may be used to meet the bank's Tier 1 and/or total capital ratio requirements. See instructions to [CC1:68/a].

13	*Total Basel III leverage ratio exposure measure:* The amounts may reflect period-end values or averages depending on local implementation.
15	*Total HQLA:* total adjusted value using simple averages of daily observations over the previous quarter (ie the average calculated over a period of, typically, 90 days).
16	*Total net cash outflow:* total adjusted value using simple averages of daily observations over the previous quarter (ie the average calculated over a period of, typically, 90 days).

Linkages across templates

Amount in [KM1:1/a] is equal to [CC1:29/a]

Amount in [KM1:2/a] is equal to [CC1:45/a]

Amount in [KM1:3/a] is equal to [CC1:59/a]

Amount in [KM1:4/a] is equal to [CC1:60/a] and is equal to [OV1:29/a]

Amount in [KM1:4a/a] is equal to ([OV1:29/a] - [OV1:28/a])

Amount in [KM1:5/a] is equal to [CC1:61/a]

Amount in [KM1:6/a] is equal to [CC1:62/a]

Amount in [KM1:7/a] is equal to [CC1:63/a]

Amount in [KM1:8/a] is equal to [CC1:65/a]

Amount in [KM1:9/a] is equal to [CC1:66/a]

Amount in [KM1:10/a] is equal to [CC1:67/a]

Amount in [KM1:12/a] is equal to [CC1:68/a]

Amount in [KM1:13/a] is equal to [LR2:24/a] (only if the same calculation basis is used)

Amount in [KM1:14/a] is equal to [LR2:25/a] (only if the same calculation basis is used)

Amount in [KM1:14b/a] is equal to [LR2:25a/a] (only if the same calculation basis is used)

Amount in [KM1:14c/a] is equal to [LR2:31/a]

Amount in [KM1:14d/a] is equal to [LR2:31a/a]

Amount in [KM1:15/a] is equal to [LIQ1:21/b]

Amount in [KM1:16/a] is equal to [LIQ1:22/b]

Amount in [KM1:17/a] is equal to [LIQ1:23/b]

Amount in [KM1:18/a] is equal to [LIQ2:14/e]

Amount in [KM1:19/a] is equal to [LIQ2:33/e]

Amount in [KM1:20/a] is equal to [LIQ2:34/e]

Template KM2: Key metrics - TLAC requirements (at resolution group level)

Purpose: Provide summary information about total loss-absorbing capacity (TLAC) available, and TLAC requirements applied, at resolution group level under the single point of entry and multiple point of entry (MPE) approaches.

Scope of application: The template is mandatory for all resolution groups of G-SIBs.

Content: Key prudential metrics related to TLAC. Banks are required to disclose the figure as of the end of the reporting period (designated by T in the template below) as well as the previous four quarter-ends (designed by T-1 to T-4 in the template below). When the banking group includes more than one resolution group (MPE approach), this template is to be reproduced for each resolution group.

Frequency: Quarterly.

Format: Fixed.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant change over the reporting period and the key drivers of such changes.

		a	b	c	d	e
		T	T-1	T-2	T-3	T-4
Resolution group 1						
1	Total Loss Absorbing Capacity (TLAC) available					
1a	Fully loaded ECL accounting model TLAC available					
2	Total RWA at the level of the resolution group					
3	TLAC as a percentage of RWA (row1/row2) (%)					
3a	Fully loaded ECL accounting model TLAC as a percentage of fully loaded ECL accounting model RWA (%)					
4	Leverage exposure measure at the level of the resolution group					
5	TLAC as a percentage of leverage exposure measure (row1/row4) (%)					
5a	Fully loaded ECL accounting model TLAC as a percentage of fully loaded ECL accounting model leverage ratio exposure measure (%)					
6a	Does the subordination exemption in the antepenultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply?					

6b	Does the subordination exemption in the penultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply?					
6c	If the capped subordination exemption applies, the amount of funding issued that ranks pari passu with Excluded Liabilities and that is recognised as external TLAC, divided by funding issued that ranks pari passu with Excluded Liabilities and that would be recognised as external TLAC if no cap was applied (%)					

Linkages across templates

Amount in [KM2:1/a] is equal to [resolution group-level TLAC1:22/a]

Amount in [KM2:2/a] is equal to [resolution group-level TLAC1:23/a]

Aggregate amounts in [KM2:2/a] across all resolution groups will not necessarily equal or directly correspond to amount in [KM1:4/a]

Amount in [KM2:3/a] is equal to [resolution group-level TLAC1:25/a]

Amount in [KM2:4/a] is equal to [resolution group-level TLAC1:24/a]

Amount in [KM2:5/a] is equal to [resolution group-level TLAC1:26/a]

[KM2:6a/a] refers to the uncapped exemption in Section 11 of the FSB TLAC Term Sheet, for jurisdictions in which all liabilities excluded from TLAC specified in Section 10 are statutorily excluded from the scope of the bail-in tool and therefore cannot legally be written down or converted to equity in a bail-in resolution. Possible answers for [KM2:6a/a]: [Yes], [No].

[KM2:6b/a] refers to the capped exemption in Section 11 of the FSB TLAC Term Sheet, for jurisdictions where the resolution authority may, under exceptional circumstances specified in the applicable resolution law, exclude or partially exclude from bail-in all of the liabilities excluded from TLAC specified in Section 10, and where the relevant authorities have permitted liabilities that would otherwise be eligible to count as external TLAC but which rank alongside those excluded liabilities in the insolvency creditor hierarchy to contribute a quantum equivalent of up to 2.5% RWA (from 2019) or 3.5% RWA (from 2022. Possible answers for [KM2:6b/a]: [Yes], [No].

Amount in [KM2:6c/a] is equal to [resolution group-level TLAC1:14 divided by TLAC1:13]. This only needs to be completed if the answer to [KM2:6b] is [Yes].

Table OVA: Bank risk management approach

Purpose: Description of the bank's strategy and how senior management and the board of directors assess and manage risks, enabling users to gain a clear understanding of the bank's risk tolerance/appetite in relation to its main activities and all significant risks.

Scope of application: The template is mandatory for all banks.

Content: Qualitative information.

Frequency: Annual

Format: Flexible

Banks must describe their risk management objectives and policies, in particular:

(a)	How the business model determines and interacts with the overall risk profile (eg the key risks related to the business model and how each of these risks is reflected and described in the risk disclosures) and how the risk profile of the bank interacts with the risk tolerance approved by the board.
(b)	The risk governance structure: responsibilities attributed throughout the bank (eg oversight and delegation of authority; breakdown of responsibilities by type of risk, business unit etc); relationships between the structures involved in risk management processes (eg board of directors, executive management, separate risk committee, risk management structure, compliance function, internal audit function).
(c)	Channels to communicate, decline and enforce the risk culture within the bank (eg code of conduct; manuals containing operating limits or procedures to treat violations or breaches of risk thresholds; procedures to raise and share risk issues between business lines and risk functions).
(d)	The scope and main features of risk measurement systems.
(e)	Description of the process of risk information reporting provided to the board and senior management, in particular the scope and main content of reporting on risk exposure.
(f)	Qualitative information on stress testing (eg portfolios subject to stress testing, scenarios adopted and methodologies used, and use of stress testing in risk management).
(g)	The strategies and processes to manage, hedge and mitigate risks that arise from the bank's business model and the processes for monitoring the continuing effectiveness of hedges and mitigants.

Template OV1: Overview of RWA

Purpose: To provide an overview of total RWA forming the denominator of the risk-based capital requirements. Further breakdowns of RWA are presented in subsequent parts.

Scope of application: The template is mandatory for all banks.

Content: RWA and capital requirements under Pillar 1. Pillar 2 requirements should not be included.

Frequency: Quarterly.

Format: Fixed.

Accompanying narrative: Banks are expected to identify and explain the drivers behind differences in reporting periods T and T-1 where these differences are significant.

When minimum capital requirements in column (c) do not correspond to 8% of RWA in column (a), banks must explain the adjustments made. If the bank uses the internal model method (IMM) for its equity exposures under the market-based approach, it must provide annually a description of the main characteristics of its internal model.

		a	b	c
		RWA		Minimum capital requirements
		T	T-1	T
1	Credit risk (excluding counterparty credit risk)			
2	Of which: standardised approach (SA)			
3	Of which: foundation internal ratings-based (F-IRB) approach			
4	Of which: supervisory slotting approach			
5	Of which: advanced internal ratings-based (A-IRB) approach			
6	Counterparty credit risk (CCR)			
7	Of which: standardised approach for counterparty credit risk			
8	Of which: IMM			
9	Of which: other CCR			
10	Credit valuation adjustment (CVA)			

11	Equity positions under the simple risk weight approach and the internal model method during the five-year linear phase-in period			
12	Equity investments in funds - look-through approach			
13	Equity investments in funds - mandate-based approach			
14	Equity investments in funds - fall-back approach			
15	Settlement risk			
16	Securitisation exposures in banking book			
17	Of which: securitisation IRB approach (SEC-IRBA)			
18	Of which: securitisation external ratings-based approach (SEC-ERBA), including internal assessment approach (IAA)			
19	Of which: securitisation standardised approach (SEC-SA)			
20	Market risk			
21	Of which: standardised approach (SA)			
22	Of which: internal model approach (IMA)			
23	Capital charge for switch between trading book and banking book			
24	Operational risk			
25	Amounts below the thresholds for deduction (subject to 250% risk weight)			
26	Output floor applied			
27	Floor adjustment (before application of transitional cap)			
28	Floor adjustment (after application of transitional cap)			
29	Total (1 + 6 + 10 + 11 + 12 + 13 + 14 + 15 + 16 + 20 + 23 + 24 + 25 + 28)			

Definitions and instructions

RWA: risk-weighted assets according to the Basel framework and as reported in accordance with the subsequent parts of this standard. Where the regulatory framework does not refer to RWA but directly to capital charges (eg for market risk and operational risk), banks should indicate the derived RWA number (ie by multiplying capital charge by 12.5).

RWA (T-1): risk-weighted assets as reported in the previous Pillar 3 report (ie at the end of the previous quarter).

Minimum capital requirement T: Pillar 1 capital requirements at the reporting date. This will normally be RWA * 8% but may differ if a floor is applicable or adjustments (such as scaling factors) are applied at jurisdiction level.

Row number	Explanation
1	*Credit risk (excluding counterparty credit risk):* RWA and capital requirements according to the credit risk standard of the Basel framework (CRE), with the exceptions of RWA and capital requirements related to: (i) counterparty credit risk (reported in row 6); (ii) equity positions (reported in row 11 to 14); (iii) settlement risk (reported in row 15); (iv) securitisation positions subject to the securitisation regulatory framework, including securitisation exposures in the banking book (reported in row 16); and (v) amounts below the thresholds for deduction (reported in row 25).
2	*Of which: standardised approach:* RWA and capital requirements according to the standardised approach to credit risk (as specified in CRE20 to CRE22).
3 and 5	*Of which: (foundation/advanced) internal rating based approaches:* RWA and capital requirements according to the F-IRB approach and/or A-IRB approach (as specified in CRE30 to CRE36 with the exception of CRE33).
4	*Of which: supervisory slotting approach:* RWA and capital requirements according to the supervisory slotting approach (as specified in CRE33).
6 to 9	*Counterparty credit risk:* RWA and capital charges according to the counterparty credit risk chapters of the Basel framework (CRE50 to CRE56).
10	*Credit valuation adjustment:* RWA and capital charge requirements according to MAR50.
11	*Equity positions under the simple risk weight approach and internal models method:* the amounts in row 11 correspond to RWA where the bank applies the simple risk weight approach or the internal model method, which remain available during the five-year linear phase-in arrangement as specified in CRE90.2. Equity positions under the PD/LGD approach during the five-year linear phase-in arrangement should be reported in row 3. Where the regulatory treatment of equities is in accordance with the standardised approach, the corresponding RWA are reported in Template CR4 and included in row 2 of this template.

12	*Equity investments in funds - look-through approach:* RWA and capital requirements calculated in accordance with CRE60.
13	*Equity investments in funds - mandate-based approach:* RWA and capital requirements calculated in accordance with CRE60.
14	*Equity investments in funds - fall-back approach:* RWA and capital requirements calculated in accordance with CRE60.
15	*Settlement risk:* the amounts correspond to the requirements in CRE70.
16 to 19	*Securitisation exposures in banking book:* the amounts correspond to capital requirements applicable to the securitisation exposures in the banking book. The RWA amounts must be derived from the capital requirements (which include the impact of the cap in accordance with CRE40.50 to CRE40.55, and do not systematically correspond to the RWA reported in Templates SEC3 and SEC4, which are before application of the cap).
20	*Market risk:* the amounts reported in row 20 correspond to the RWA and capital requirements in the market risk standard (MAR), with the exception of amounts that relate to CVA risk (as specified in MAR50 and reported in row 10). They also include capital charges for securitisation positions booked in the trading book but exclude the counterparty credit risk capital charges (reported in row 6 of this template). The RWA for market risk correspond to the capital charge times 12.5.
21	*Of which: standardised approach:* RWA and capital requirements according to the market risk standardised approach, including capital requirements for securitisation positions booked in the trading book.
22	*Of which: Internal Models Approach:* RWA and capital requirements according to the market risk IMA.
23	*Capital charge for switch between trading book and banking book*: outstanding accumulated capital surcharge imposed on the bank in accordance with RBC25.14 and RBC25.15 when the total capital charge (across banking book and trading book) of a bank is reduced as a result of the instruments being switched between the trading book and the banking book at the bank's discretion and after their original designation. The outstanding accumulated capital surcharge takes into account any adjustment due to run-off as the positions mature or expire, in a manner agreed with the supervisor.
24	*Operational risk:* the amounts corresponding to the minimum capital requirements for operational risk as specified in the operational risk standard (OPE).
25	*Amounts below the thresholds for deduction (subject to 250% risk weight):* the amounts correspond to items subject to a 250% risk weight according to CAP30.34. They include significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation and below the threshold for deduction, after application of the 250% risk weight.

26	*Output floor applied:* the output floor (expressed as a percentage) applied by the bank in its computation of the floor adjustment value in rows 27 and 28.
27	*Floor adjustment (before the application of transitional cap):* the impact of the output floor before the application of the transitional cap, based on the output floor applied in row 26, in terms of the increase in RWA.
28	*Floor adjustment (after the application of transitional cap):* the impact of the output floor after the application of the transitional cap, based on the output floor applied in row 26, in terms of the increase in RWA. The figure disclosed in this row takes into account the transitional cap (if any) applied by the bank's national supervisor, which will limit the increase in RWA to 25% of the bank's RWA before the application of the output floor.
29	The bank's total RWA.

Linkages across templates

Amount in [OV1:2/a] is equal to [CR4:12/e]

Amount in [OV1:3/a] and [OV1:5/a] is equal to the sum of [CR6: Total (all portfolios)/i]

Amount in [OV1:6/a] is equal to the sum of [CCR1:6/f+CCR8:1/b+CCR8:11/b]

Amount in [OV1:16/c] is equal to the sum of [SEC3:1/n + SEC3:1/o + SEC3:1/p + SEC3:1/q] + [SEC4:1/n + SEC4:1/o + SEC4:1/p + SEC4:1/q]

Amount in [OV1:21/c] is equal to [MR1:12/a]

Amount in [OV1:22/c] is equal to [MR2:12]

DIS21

Comparison of modelled and standardised RWA

This chapter covers disclosures on RWA calculated according to the full standardised approach as compared to the actual RWA at the risk level, and for credit risk at asset class and sub-asset class levels.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework, updated to take account of new implementation date as announced on 27 March 2020. Also, cross references to the securitisation chapters updated to include a reference to the chapter on NPL securitisations (CRE45) published on 26 November 2020.

Introduction

21.1 The disclosure requirements under this section are:

(1) Template CMS1 – Comparison of modelled and standardised RWA at risk level

(2) Template CMS2 – Comparison of modelled and standardised RWA for credit risk at asset class level

21.2 Template CMS1 provides the disclosure of RWA calculated according to the full standardised approach as compared to actual RWA at risk level. Template CMS2 further elaborates on the comparison between RWA computed under the standardised and the internally modelled approaches by focusing on RWA for credit risk at asset class and sub-asset class levels.

Template CMS1 - Comparison of modelled and standardised RWA at risk level

Purpose: To compare full standardised risk-weighted assets (RWA) against modelled RWA that banks have supervisory approval to use in accordance with the Basel framework. The disclosure also provides the full standardised RWA amount that is the base of the output floor as defined in RBC20.4(2).

Scope of application: The template is mandatory for all banks using internal models.

Content: RWA.

Frequency: Quarterly.

Format: Fixed.

Accompanying narrative: Banks are expected to explain the main drivers of difference (eg asset class or sub-asset class of a particular risk category, key assumptions underlying parameter estimations, national implementation differences) between the internally modelled RWA disclosed that are used to calculate their capital ratios and RWA disclosed under the full standardised approach that would be used should the banks not be allowed to use internal models. Explanation should be specific and, where appropriate, might be supplemented with quantitative information. In particular, if the RWA for securitisation exposures in the banking book are a main driver of the difference, banks are expected to explain the extent to which they are using each of the three potential approaches (SEC-ERBA, SEC-SA and 1,250% risk weight) for calculating SA RWA for securitisation exposures.

		a	b	c	d
		RWA			
		RWA for modelled approaches that banks have supervisory approval to use	RWA for portfolios where standardised approaches are used	Total Actual RWA (a + b) (ie RWA which banks report as current requirements)	RWA calculated using full standardised approach (ie used in the base of the output floor)
1	Credit risk (excluding counterparty credit risk)				
2	Counterparty credit risk				
3	Credit valuation adjustment				
	Securitisation				

4	exposures in the banking book				
5	Market risk				
6	Operational risk				
7	Residual RWA				
8	Total				

Definitions and instructions

Rows:

Credit risk (excluding counterparty credit risk, credit valuation adjustments and securitisation exposures in the banking book) (row 1):

Definition of standardised approach: The standardised approach for credit risk. When calculating the degree of credit risk mitigation, banks must use the simple approach or the comprehensive approach with standard supervisory haircuts. This also includes failed trades and non-delivery-versus-payment transactions as set out in CRE70.

The prohibition on the use of the IRB approach for equity exposures will be subject to a five-year linear phase-in arrangement as specified in CRE90.2. During the phase-in period, the risk weight for equity exposures used to calculate the RWA reported in column (a) will be the greater of: (i) the risk weight as calculated under the IRB approach, and (ii) the risk weight set for the linear phase-in arrangement under the standardised approach for credit risk.

RWA for modelled approaches that banks have supervisory approval to use (cell 1/a): For exposures where the RWA is not computed based on the standardised approach described above (ie subject to the credit risk IRB approaches (Foundation Internal Ratings-Based (F-IRB), Advanced Internal Ratings-Based (A-IRB) and supervisory slotting approaches of the credit risk framework). The row excludes all positions subject to CRE40 to CRE45, including securitisation exposures in the banking book (which are reported in row 4) and capital requirements relating to a counterparty credit risk charge, which are reported in row 2.

RWA for portfolios where standardised approaches are used (cell 1/b): RWA which result from applying the above-described standardised approach.

Total actual RWA (cell 1/c): The sum of cells 1/a and 1/b.

RWA calculated using full standardised approach (cell 1/d): RWA as would result from applying the above-described standardised approach to all exposures giving rise to the RWA reported in cell 1/c.

Counterparty credit risk (row 2):

Definition of standardised approach: To calculate the exposure for derivatives, banks must use the standardised approach for measuring counterparty credit risk (SA-CCR). The exposure amounts must then be multiplied by the relevant borrower risk weight using the standardised approach for credit risk to calculate RWA under the standardised approach for credit risk.

RWA for modelled approaches that banks have supervisory approval to use (cell 2/a): For exposures where the RWA is not computed based on the standardised approach described above.

RWA for portfolios where standardised approaches are used (cell 2/b): RWA which result from applying the above-described standardised approach.

Total actual RWA (cell 2/c): The sum of cells 2/a and 2/b.

RWA calculated using full standardised approach (cell 2/d): RWA as would result from applying the above-described standardised approach to all exposures giving rise to the RWA reported in cell 2/c.

Credit valuation adjustment (row 3):

Definition of standardised approach: The standardised approach for CVA (SA-CVA), the basic approach (BA-CVA) or 100% of a bank's counterparty credit risk capital requirements (depending on which approach the bank uses for CVA risk).

Total actual RWA (cell 3/c) and RWA calculated using full standardised approach (cell 3/d): RWA according to the standardised approach described above.

Securitisation exposures in the banking book (row 4):

Definition of standardised approach: The external ratings-based approach (SEC-ERBA), the standardised approach (SEC-SA) or a risk weight of 1,250%.

RWA for modelled approaches that banks have supervisory approval to use (cell 4/a): For exposures where the RWA is computed based on the SEC-IRBA or SEC-IAA.

RWA for portfolios where standardised approaches are used (cell 4/b): RWA which result from applying the above-described standardised approach.

Total actual RWA (cell 4/c): The sum of cells 4/a and 4/b.

RWA calculated using full standardised approach (cell 4/d): RWA as would result from applying the above-described standardised approach to all exposures giving rise to the RWA reported in cell 4/c.

Market risk (row 5):

Definition of standardised approach: The standardised approach for market risk. The SEC-ERBA, SEC-SA or a risk weight of 1,250% must also be used when determining the default risk charge component for securitisations held in the trading book.

RWA for modelled approaches that banks have supervisory approval to use (cell 5/a): For exposures where the RWA is not computed based on the standardised approach described above.

RWA for portfolios where standardised approaches are used (cell 5/b): RWA which result from applying the above-described standardised approach.

Total actual RWA (cell 5/c): The sum of cells 5/a and 5/b.

RWA calculated using full standardised approach (cell 5/d): RWA as would result from applying the above-described standardised approach to all exposures giving rise to the RWA reported in cell 5/c.

Operational risk (row 6):

Definition of standardised approach: The standardised approach for operational risk.

Total actual RWA (cell 6/c) and RWA calculated using full standardised approach (cell 6/d): RWA according to the revised standardised approach for operational risk.

Residual RWA (row 7):

Total actual RWA (cell 7/c) and RWA calculated using full standardised approach (cell 7/d): RWA not captured within rows 1 to 6 (ie the RWA arising from equity investments in funds (rows 12 to 14 in Template OV1), settlement risk (row 15 in Template OV1), capital charge for switch between trading book and banking book (row 23 in Template OV1) and amounts below the thresholds for deduction (row 25 in Template OV1)).

Total (row 8):

RWA for modelled approaches that banks have supervisory approval to use (cell 8/a): The total sum of cells 1/a, 2/a, 4/a and 5/a.

RWA for portfolios where standardised approaches are used (cell 8/b): The total sum of cells 1/b, 2 /b, 3/b, 4/b, 5/b, 6/b and 7/b.

Total actual RWA (cell 8/c): The bank's total RWA before the output floor adjustment (ie the amount specified in RBC20.4(1)). The total sum of cells 1/c, 2/c, 3/c, 4/c, 5/c, 6/c and 7/c.

RWA calculated using full standardised approach (cell 8/d): The bank's RWA that are the base of the output floor, as specified in [RBC20.4](2) (ie amount before multiplication by 72.5%). The

total sum of cells 1/d, 2/d, 3/d, 4/d, 5/d, 6/d and 7/d. Disclosed numbers in rows 1 to 7 are calculated purely for comparison purposes and do not represent requirements under the Basel framework.

Linkages across templates

[CMS1: 1/c] is equal to [OV1:1/a]

[CMS1: 2/c] is equal to [OV1:6/a]

[CMS1:3/c] is equal to [OV1:10/a]

[CMS1: 4/c] is equal to [OV1:16/a]

[CMS1: 5/c] is equal to [OV1:20/a]

[CMS1:5/d] is equal to [MR2:12/a] multiplied by 12.5

[CMS1:6/c] is equal to [OV1:24/a]

Template CMS2 - Comparison of modelled and standardised RWA for credit risk at asset class level

Purpose: To compare risk-weighted assets (RWA) calculated according to the standardised approach (SA) for credit risk at the asset class level against the corresponding RWA figure calculated using the approaches (including both the standardised and IRB approach for credit risk and the supervisory slotting approach) that banks have supervisory approval to use in accordance with the Basel framework for credit risk.

Scope of application: The template is mandatory for all banks using internal models for credit risk. Similar to row 1 of Template CMS1, it excludes counterparty credit risk, credit valuation adjustments and securitisation exposures in the banking book.

Content: RWA.

Frequency: Semiannual.

Format: Fixed. The columns are fixed, but the portfolio breakdowns in the rows will be set at jurisdiction level to reflect the exposure classes required under national implementation of IRB and SA. Banks are encouraged to add rows to show where significant differences occur.

Accompanying narrative: Banks are expected to explain the main drivers of differences between the internally modelled amounts disclosed that are used to calculate their capital ratios and amounts disclosed should the banks apply the standardised approach. Where differences are attributable to mapping between IRB and SA, banks are encouraged to provide explanation and estimated materiality.

		a	b	c	d
		RWA			
		RWA for modelled approaches that banks have supervisory approval to use	RWA for column (a) if re-computed using the standardised approach	Total Actual RWA (ie RWA which banks report as current requirements)	RWA calculated using full standardised approach (ie RWA used in the base of the output floor)
1	Sovereign				
	Of which: categorised as MDB/PSE in SA				
2	Banks and other financial institutions				
3	Equity[1]				
4	Purchased receivables				

5	Corporates				
	Of which: F-IRB is applied				
	Of which: A-IRB is applied				
6	Retail				
	Of which: qualifying revolving retail				
	Of which: other retail				
	Of which: retail residential mortgages				
7	Specialised lending				
	Of which: income-producing real estate and high volatility commercial real estate				
8	Others				
9	Total				

Definitions and instructions

Columns:

RWA for modelled approaches that banks have supervisory approval to use *(column (a)):* Represents the portion of RWA according to the IRB approach for credit risk as specified in CRE30 to CRE36.

Corresponding standardised approach RWA for column (a) *(column (b)):* RWA equivalent as derived under the standardised approach.

Total actual RWA (column (c)): Represents the sum of the RWA for modelled approaches that banks have supervisory approval to use and the RWA *under standardised approaches.*

RWA calculated using full standardised approach (column (d)): Total RWA assuming the full standardised approach applied at asset class level. Disclosed numbers for each asset class are calculated purely for comparison purposes and do not represent requirements under the Basel framework.

Linkages across templates

[CMS2:9/a] is equal to [CMS1:1/a]

[CMS2:9/c] is equal to [CMS1:1/c]

[CMS2:9/d] is equal to [CMS1:1/d]

Footnotes

[1] *The prohibition on the use of the IRB approach for equity exposures will be subject to a five-year linear phase-in arrangement as specified in CRE90.2. During the phase-in period, the risk weight for equity exposures (to be reported in column (a)) will be the greater of: (i) the risk weight as calculated under the IRB approach, and (ii) the risk weight set for the linear phase-in arrangement under the standardised approach for credit risk. Column (b) should reflect the corresponding RWA for these exposures based on the phased-in standardised approach. After the phase-in period, columns (a) and (b) for equity exposures should both be empty.*

DIS25

Composition of capital and TLAC

The disclosures described in this chapter cover the composition of regulatory capital, the main features of regulatory capital instruments and, for global systemically important banks, the composition of total loss-absorbing capacity and the creditor hierarchies of material subgroups and resolution entities.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Introduction

25.1 The disclosure requirements set out in this chapter are:

(1) Table CCA – Main features of regulatory capital instruments and of other total loss-absorbing capacity (TLAC) - eligible instruments

(2) Template CC1 – Composition of regulatory capital

(3) Template CC2 – Reconciliation of regulatory capital to balance sheet

(4) Template TLAC1 – TLAC composition for global systemically important banks (G-SIBs) (at resolution group level)

(5) Template TLAC2 – Material subgroup entity – creditor ranking at legal entity level

(6) Template TLAC3 – Resolution entity – creditor ranking at legal entity level

25.2 The following table and templates must be completed by all banks:

(1) Table CCA details the main features of a bank's regulatory capital instruments and other TLAC-eligible instruments, where applicable. This table should be posted on a bank's website, with the web link referenced in the bank's Pillar 3 report to facilitate users' access to the required disclosure. Table CCA represents the minimum level of disclosure that banks are required to report in respect of each regulatory capital instrument and, where applicable, other TLAC-eligible instruments issued.[1]

(2) Template CC1 details the composition of a bank's regulatory capital.

(3) Template CC2 provides users of Pillar 3 data with a reconciliation between the scope of a bank's accounting consolidation, as per published financial statements, and the scope of its regulatory consolidation.

Footnotes

[1] *In this context, "other TLAC-eligible instruments" are instruments other than regulatory capital instruments issued by G-SIBs that meet the TLAC eligibility criteria.*

FAQ

FAQ1 *For the disclosure requirements under DIS25, in the event a bank restates its prior year accounting balance sheet, does the bank restate the archived prior year reconciliation templates?*

The requirement to keep an archive of a minimum period also applies to the reconciliation template. As such, any prospective/retrospective restatement of the balance sheet would require similar amendments to be reflected in the reconciliation templates within the archive with a clear indication that such a revision has been made.

25.3 The following additional templates must be completed by banks which have been designated as G-SIBs:

(1) Template TLAC1 provides details of the TLAC positions of G-SIB resolution groups. This disclosure requirement applies to all G-SIBs at the resolution group level. For single point of entry G-SIBs, there is only one resolution group. This means that they only need to complete Template TLAC1 once to report their TLAC positions.

(2) Templates TLAC2 and TLAC3 present information on creditor rankings at the legal entity level for material subgroup entities (ie entities that are part of a material subgroup) which have issued internal TLAC to one or more resolution entities, and also for resolution entities. These templates provide information on the amount and residual maturity of TLAC and on the instruments issued by resolution entities and material subgroup entities that rank pari passu with, or junior to, TLAC instruments.

25.4 Templates TLAC1, TLAC2 and TLAC3 become effective from the TLAC conformance date.

25.5 Through the following three-step approach, all banks are required to show the link between the balance sheet in their published financial statements and the numbers disclosed in Template CC1:

(1) Step 1: Disclose the reported balance sheet under the regulatory scope of consolidation in Template CC2. If the scopes of regulatory consolidation and accounting consolidation are identical for a particular banking group, banks should state in Template CC2 that there is no difference and move on to Step 2. Where the accounting and regulatory scopes of consolidation differ, banks are required to disclose the list of those legal entities that are included within the accounting scope of consolidation, but excluded from the regulatory scope of consolidation or, alternatively, any legal entities included in the regulatory consolidation that are not included in the accounting scope of consolidation. This will enable users of Pillar 3 data to consider any risks posed by unconsolidated subsidiaries. If some entities are included in both the regulatory and accounting scopes of consolidation, but the method of consolidation differs between these two scopes, banks are required to list the relevant legal entities separately and explain the differences in the consolidation methods. For each legal entity that is required to be disclosed in this requirement, a bank must also disclose the total assets and equity on the entity's balance sheet and a description of the entity's principal activities.

(2) Step 2: Expand the lines of the balance sheet under the regulatory scope of consolidation in Template CC2 to display all of the components that are used in Template CC1. It should be noted that banks will only need to expand elements of the balance sheet to the extent necessary to determine the components that are used in Template CC1 (eg if all of the paid-in capital of the bank meets the requirements to be included in Common Equity Tier 1 (CET1) capital, the bank would not need to expand this line). The level of disclosure should be proportionate to the complexity of the bank's balance sheet and its capital structure.

(3) Step 3: Map each of the components that are disclosed in Template CC2 in Step 2 to the composition of capital disclosure set out in Template CC1.

Table CCA - Main features of regulatory capital instruments and of other TLAC-eligible instruments

Purpose: Provide a description of the main features of a bank's regulatory capital instruments and other TLAC-eligible instruments, as applicable, that are recognised as part of its capital base / TLAC resources.

Scope of application: The template is mandatory for all banks. In addition to completing the template for all regulatory capital instruments, G-SIB resolution entities should complete the template (including lines 3a and 34a) for all other TLAC-eligible instruments that are recognised as external TLAC resources by the resolution entities, starting from the TLAC conformance date. Internal TLAC instruments and other senior debt instruments are not covered in this template.

Content: Quantitative and qualitative information as required.

Frequency: Table CCA should be posted on a bank's website. It should be updated whenever the bank issues or repays a capital instrument (or other TLAC-eligible instrument where applicable), and whenever there is a redemption, conversion/writedown or other material change in the nature of an existing instrument. Updates should, at a minimum, be made semiannually. Banks should include the web link in each Pillar 3 report to the issuances made over the previous period.

Format: Flexible.

Accompanying information: Banks are required to make available on their websites the full terms and conditions of all instruments included in regulatory capital and TLAC.

		a
		Quantitative / qualitative information
1	Issuer	
2	Unique identifier (eg Committee on Uniform Security Identification Procedures (CUSIP), International Securities Identification Number (ISIN) or Bloomberg identifier for private placement)	
3	Governing law(s) of the instrument	
3a	Means by which enforceability requirement of Section 13 of the TLAC Term Sheet is achieved (for other TLAC-eligible instruments governed by foreign law)	
4	Transitional Basel III rules	
5	Post-transitional Basel III rules	
6	Eligible at solo/group/group and solo	
7	Instrument type (types to be specified by each jurisdiction)	

8	Amount recognised in regulatory capital (currency in millions, as of most recent reporting date)	
9	Par value of instrument	
10	Accounting classification	
11	Original date of issuance	
12	Perpetual or dated	
13	Original maturity date	
14	Issuer call subject to prior supervisory approval	
15	Optional call date, contingent call dates and redemption amount	
16	Subsequent call dates, if applicable	
	Coupons / dividends	
17	Fixed or floating dividend/coupon	
18	Coupon rate and any related index	
19	Existence of a dividend stopper	
20	Fully discretionary, partially discretionary or mandatory	
21	Existence of step-up or other incentive to redeem	
22	Non-cumulative or cumulative	
23	Convertible or non-convertible	
24	If convertible, conversion trigger(s)	
25	If convertible, fully or partially	
26	If convertible, conversion rate	
27	If convertible, mandatory or optional conversion	
28	If convertible, specify instrument type convertible into	
29	If convertible, specify issuer of instrument it converts into	

30	Writedown feature	
31	If writedown, writedown trigger(s)	
32	If writedown, full or partial	
33	If writedown, permanent or temporary	
34	If temporary write-down, description of writeup mechanism	
34a	Type of subordination	
35	Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument in the insolvency creditor hierarchy of the legal entity concerned).	
36	Non-compliant transitioned features	
37	If yes, specify non-compliant features	

Instructions

Banks are required to complete the template for each outstanding regulatory capital instrument and, in the case of G-SIBs, TLAC-eligible instruments (banks should insert "NA" if the question is not applicable).

Banks are required to report each instrument, including common shares, in a separate column of the template, such that the completed Table CCA would provide a "main features report" that summarises all of the regulatory capital and TLAC-eligible instruments of the banking group. G-SIBs disclosing these instruments should group them under three sections (horizontally along the table) to indicate whether they are for meeting (i) only capital (but not TLAC) requirements; (ii) both capital and TLAC requirements; or (iii) only TLAC (but not capital) requirements.

The list of main features represents a minimum level of required summary disclosure. In implementing this minimum requirement, each national authority is encouraged to add to this list if there are features that it deems important to disclose in the context of the banks they supervise.

Row number	**Explanation**	**Format / list of options (where relevant)**
1	Identifies issuer legal entity.	Free text
2	Unique identifier (eg CUSIP, ISIN or Bloomberg identifier for private placement).	Free text
3	Specifies the governing law(s) of the instrument.	Free text

3a	Other TLAC-eligible instruments governed by foreign law (ie a law other than that of the home jurisdiction of a resolution entity) include a clause in the contractual provisions whereby investors expressly submit to, and provide consent to the application of, the use of resolution tools in relation to the instrument by the home authority notwithstanding any provision of foreign law to the contrary, unless there is equivalent binding statutory provision for cross-border recognition of resolution actions. Select "NA" where the governing law of the instrument is the same as that of the country of incorporation of the resolution entity.	Disclosure: [Contractual] [Statutory] [NA]
4	Specifies the regulatory capital treatment during the Basel III transitional phase (ie the component of capital from which the instrument is being phased out).	Disclosure: [Common Equity Tier 1] [Additional Tier 1] [Tier 2]
5	Specifies regulatory capital treatment under Basel III rules not taking into account transitional treatment.	Disclosure: [Common Equity Tier 1] [Additional Tier 1] [Tier 2] [Ineligible]
6	Specifies the level(s) within the group at which the instrument is included in capital.	Disclosure: [Solo] [Group] [Solo and Group]
7	Specifies instrument type, varying by jurisdiction. Helps provide more granular understanding of features, particularly during transition.	Disclosure: Options to be provided to banks by each jurisdiction
8	Specifies amount recognised in regulatory capital.	Free text
9	Par value of instrument.	Free text
10	Specifies accounting classification. Helps to assess loss-absorbency.	Disclosure: [Shareholders' equity] [Liability - amortised cost] [Liability - fair value option] [Non-controlling interest in consolidated subsidiary]
11	Specifies date of issuance.	Free text
12	Specifies whether dated or perpetual.	Disclosure: [Perpetual] [Dated]
13	For dated instrument, specifies original maturity date (day, month and year). For perpetual instrument, enter "no maturity".	Free text
14	Specifies whether there is an issuer call option.	Disclosure: [Yes] [No]

15	For instrument with issuer call option, specifies: (i) the first date of call if the instrument has a call option on a specific date (day, month and year); (ii) the instrument has a tax and /or regulatory event call; and (iii) the redemption price.	Free text
16	Specifies the existence and frequency of subsequent call dates, if applicable.	Free text
17	Specifies whether the coupon/dividend is fixed over the life of the instrument, floating over the life of the instrument, currently fixed but will move to a floating rate in the future, or currently floating but will move to a fixed rate in the future.	Disclosure: [Fixed], [Floating] [Fixed to floating], [Floating to fixed]
18	Specifies the coupon rate of the instrument and any related index that the coupon/dividend rate references.	Free text
19	Specifies whether the non-payment of a coupon or dividend on the instrument prohibits the payment of dividends on common shares (ie whether there is a dividend-stopper).	Disclosure: [Yes] [No]
20	Specifies whether the issuer has full, partial or no discretion over whether a coupon/dividend is paid. If the bank has full discretion to cancel coupon/dividend payments under all circumstances, it must select "fully discretionary" (including when there is a dividend-stopper that does not have the effect of preventing the bank from cancelling payments on the instrument). If there are conditions that must be met before payment can be cancelled (eg capital below a certain threshold), the bank must select "partially discretionary". If the bank is unable to cancel the payment outside of insolvency, the bank must select "mandatory".	Disclosure: [Fully discretionary] [Partially discretionary] [Mandatory]
21	Specifies whether there is a step-up or other incentive to redeem.	Disclosure: [Yes] [No]
22	Specifies whether dividends/coupons are cumulative or non-cumulative.	Disclosure: [Non-cumulative] [Cumulative]
23	Specifies whether the instrument is convertible.	Disclosure: [Convertible] [Non-convertible]
24	Specifies the conditions under which the instrument will convert, including point of non-viability. Where one or more authorities have the ability to trigger conversion, the authorities should be listed. For each of the authorities it should be stated whether the legal basis for the authority to trigger conversion is provided by the terms of the	Free text

	contract of the instrument (a contractual approach) or statutory means (a statutory approach).	
25	For conversion trigger separately, specifies whether the instrument will: (i) always convert fully; (ii) may convert fully or partially; or (iii) will always convert partially.	Free text referencing one of the options above
26	Specifies the rate of conversion into the more loss-absorbent instrument.	Free text
27	For convertible instruments, specifies whether conversion is mandatory or optional.	Disclosure: [Mandatory] [Optional] [NA]
28	For convertible instruments, specifies the instrument type it is convertible into.	Disclosure: [Common Equity Tier 1] [Additional Tier 1] [Tier 2] [Other]
29	If convertible, specifies the issuer of the instrument into which it converts.	Free text
30	Specifies whether there is a writedown feature.	Disclosure: [Yes] [No]
31	Specifies the trigger at which writedown occurs, including point of non-viability. Where one or more authorities have the ability to trigger writedown, the authorities should be listed. For each of the authorities it should be stated whether the legal basis for the authority to trigger conversion is provided by the terms of the contract of the instrument (a contractual approach) or statutory means (a statutory approach).	Free text
32	For each writedown trigger separately, specifies whether the instrument will: (i) always be written down fully; (ii) may be written down partially; or (iii) will always be written down partially.	Free text referencing one of the options above
33	For writedown instruments, specifies whether writedown is permanent or temporary.	Disclosure: [Permanent] [Temporary] [NA]
34	For instruments that have a temporary writedown, description of writeup mechanism.	Free text
34a	Type of subordination.	Disclosure: [Structural] [Statutory] [Contractual] [Exemption from subordination]
35	Specifies instrument to which it is most immediately subordinate. Where applicable, banks should specify the	Free text

	column numbers of the instruments in the completed main features template to which the instrument is most immediately subordinate. In the case of structural subordination, "NA" should be entered.	
36	Specifies whether there are non-compliant features.	Disclosure: [Yes] [No]
37	If there are non-compliant features, specifies which ones.	Free text

Template CC1 - Composition of regulatory capital

Purpose: Provide a breakdown of the constituent elements of a bank's capital.

Scope of application: The template is mandatory for all banks at the consolidated level.

Content: Breakdown of regulatory capital according to the scope of regulatory consolidation

Frequency: Semiannual.

Format: Fixed.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporting period and the key drivers of such change.

		a	b
		Amounts	**Source based on reference numbers /letters of the balance sheet under the regulatory scope of consolidation**
	Common Equity Tier 1 capital: instruments and reserves		
1	Directly issued qualifying common share (and equivalent for non-joint stock companies) capital plus related stock surplus		h
2	Retained earnings		
3	Accumulated other comprehensive income (and other reserves)		
4	*Directly issued capital subject to phase-out from CET1 capital (only applicable to non-joint stock companies)*		
5	Common share capital issued by subsidiaries and held by third parties (amount allowed in group CET1 capital)		
6	**Common Equity Tier 1 capital before regulatory adjustments**		
	Common Equity Tier 1 capital: regulatory adjustments		
7	Prudent valuation adjustments		
8	Goodwill (net of related tax liability)		a minus d
			b minus e

9	Other intangibles other than mortgage servicing rights (MSR) (net of related tax liability)		
10	Deferred tax assets (DTA) that rely on future profitability, excluding those arising from temporary differences (net of related tax liability)		
11	Cash flow hedge reserve		
12	Shortfall of provisions to expected losses		
13	Securitisation gain on sale (as set out in CAP30.14)		
14	Gains and losses due to changes in own credit risk on fair valued liabilities		
15	Defined benefit pension fund net assets		
16	Investments in own shares (if not already subtracted from paid-in capital on reported balance sheet)		
17	Reciprocal cross-holdings in common equity		
18	Investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation, where the bank does not own more than 10% of the issued share capital (amount above 10% threshold)		
19	Significant investments in the common stock of banking, financial and insurance entities that are outside the scope of regulatory consolidation (amount above 10% threshold)		
20	MSR (amount above 10% threshold)		c minus f minus 10% threshold
21	DTA arising from temporary differences (amount above 10% threshold, net of related tax liability)		
22	Amount exceeding the 15% threshold		
23	Of which: significant investments in the common stock of financials		
24	Of which: MSR		
25	Of which: DTA arising from temporary differences		
26	National specific regulatory adjustments		
27	Regulatory adjustments applied to Common Equity Tier 1 capital due to insufficient Additional Tier 1 and Tier 2 capital to cover deductions		

28	**Total regulatory adjustments to Common Equity Tier 1 capital**		
29	**Common Equity Tier 1 capital (CET1)**		
	Additional Tier 1 capital: instruments		
30	Directly issued qualifying additional Tier 1 instruments plus related stock surplus		i
31	Of which: classified as equity under applicable accounting standards		
32	Of which: classified as liabilities under applicable accounting standards		
33	*Directly issued capital instruments subject to phase-out from additional Tier 1 capital*		
34	Additional Tier 1 instruments (and CET1 instruments not included in row 5) issued by subsidiaries and held by third parties (amount allowed in group additional Tier 1 capital)		
35	*Of which: instruments issued by subsidiaries subject to phase-out*		
36	Additional Tier 1 capital before regulatory adjustments		
	Additional Tier 1 capital: regulatory adjustments		
37	Investments in own additional Tier 1 instruments		
38	Reciprocal cross-holdings in additional Tier 1 instruments		
39	Investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation, where the bank does not own more than 10% of the issued common share capital of the entity (amount above 10% threshold)		
40	Significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation		
41	National specific regulatory adjustments		
42	Regulatory adjustments applied to additional Tier 1 capital due to insufficient Tier 2 capital to cover deductions		
43	**Total regulatory adjustments to additional Tier 1 capital**		
44	**Additional Tier 1 capital (AT1)**		

45	**Tier 1 capital (T1 = CET1 + AT1)**		
	Tier 2 capital: instruments and provisions		
46	Directly issued qualifying Tier 2 instruments plus related stock surplus		
47	*Directly issued capital instruments subject to phase-out from Tier 2 capital*		
48	Tier 2 instruments (and CET1 and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties (amount allowed in group Tier 2)		
49	*Of which: instruments issued by subsidiaries subject to phase-out*		
50	Provisions		
51	**Tier 2 capital before regulatory adjustments**		
	Tier 2 capital: regulatory adjustments		
52	Investments in own Tier 2 instruments		
53	Reciprocal cross-holdings in Tier 2 instruments and other TLAC liabilities		
54	Investments in the capital and other TLAC liabilities of banking, financial and insurance entities that are outside the scope of regulatory consolidation, where the bank does not own more than 10% of the issued common share capital of the entity (amount above 10% threshold)		
54a	Investments in the other TLAC liabilities of banking, financial and insurance entities that are outside the scope of regulatory consolidation and where the bank does not own more than 10% of the issued common share capital of the entity: amount previously designated for the 5% threshold but that no longer meets the conditions (for G-SIBs only)		
55	Significant investments in the capital and other TLAC liabilities of banking, financial and insurance entities that are outside the scope of regulatory consolidation (net of eligible short positions)		
56	National specific regulatory adjustments		
57	**Total regulatory adjustments to Tier 2 capital**		
58	**Tier 2 capital**		
59	**Total regulatory capital (= Tier 1 + Tier2)**		

60	**Total risk-weighted assets**		
	Capital adequacy ratios and buffers		
61	**Common Equity Tier 1 capital (as a percentage of risk-weighted assets)**		
62	**Tier 1 capital (as a percentage of risk-weighted assets)**		
63	**Total capital (as a percentage of risk-weighted assets)**		
64	**Institution-specific buffer requirement (capital conservation buffer plus countercyclical buffer requirements plus higher loss absorbency requirement, expressed as a percentage of risk-weighted assets)**		
65	Of which: capital conservation buffer requirement		
66	Of which: bank-specific countercyclical buffer requirement		
67	Of which: higher loss absorbency requirement		
68	**Common Equity Tier 1 capital (as a percentage of risk-weighted assets) available after meeting the bank's minimum capital requirements**		
	National minima (if different from Basel III)		
69	National minimum Common Equity Tier 1 capital adequacy ratio (if different from Basel III minimum)		
70	National minimum Tier 1 capital adequacy ratio (if different from Basel III minimum)		
71	National minimum Total capital adequacy ratio (if different from Basel III minimum)		
	Amounts below the thresholds for deduction (before risk-weighting)		
72	Non-significant investments in the capital and other TLAC liabilities of other financial entities		
73	Significant investments in the common stock of financial entities		
74	MSR (net of related tax liability)		
75	DTA arising from temporary differences (net of related tax liability)		
	Applicable caps on the inclusion of provisions in Tier 2 capital		

76	Provisions eligible for inclusion in Tier 2 capital in respect of exposures subject to standardised approach (prior to application of cap)		
77	Cap on inclusion of provisions in Tier 2 capital under standardised approach		
78	Provisions eligible for inclusion in Tier 2 capital in respect of exposures subject to internal ratings-based approach (prior to application of cap)		
79	Cap for inclusion of provisions in Tier 2 capital under internal ratings-based approach		
	Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2018 and 1 Jan 2022)		
80	*Current cap on CET1 instruments subject to phase-out arrangements*		
81	*Amount excluded from CET1 capital due to cap (excess over cap after redemptions and maturities)*		
82	*Current cap on AT1 instruments subject to phase-out arrangements*		
83	*Amount excluded from AT1 capital due to cap (excess over cap after redemptions and maturities)*		
84	*Current cap on Tier 2 instruments subject to phase-out arrangements*		
85	*Amount excluded from Tier 2 capital due to cap (excess over cap after redemptions and maturities)*		

Instructions

(i) Rows in italics will be deleted after all the ineligible capital instruments have been fully phased out (ie from 1 January 2022 onwards).

(ii) The reconciliation requirements included in Template CC2 result in the decomposition of certain regulatory adjustments. For example, the disclosure template below includes the adjustment "Goodwill net of related tax liability". The reconciliation requirements will lead to the disclosure of both the goodwill component and the related tax liability component of this regulatory adjustment.

(iii) Shading:

- Each dark grey row introduces a new section detailing a certain component of regulatory capital.

- Light grey rows with no thick border represent the sum cells in the relevant section.

- Light grey rows with a thick border show the main components of regulatory capital and the capital adequacy ratios.

Columns

Source: Banks are required to complete column b to show the source of every major input, which is to be cross-referenced to the corresponding rows in Template CC2.

Rows

Set out in the following table is an explanation of each row of the template above. Regarding the regulatory adjustments, banks are required to report deductions from capital as positive numbers and additions to capital as negative numbers. For example, goodwill (row 8) should be reported as a positive number, as should gains due to the change in the own credit risk of the bank (row 14). However, losses due to the change in the own credit risk of the bank should be reported as a negative number as these are added back in the calculation of CET1 capital.

Row number	Explanation
1	Instruments issued by the parent company of the reporting group that meet all of the CET1 capital entry criteria set out in CAP10.8. This should be equal to the sum of common stock (and related surplus only) and other instruments for non-joint stock companies, both of which must meet the common stock criteria. This should be net of treasury stock and other investments in own shares to the extent that these are already derecognised on the balance sheet under the relevant accounting standards. Other paid-in capital elements must be excluded. All minority interest must be excluded.
2	Retained earnings, prior to all regulatory adjustments. In accordance with CAP10.6 and CAP10.7, this row should include interim profit and loss that has met any audit, verification or review procedures that the supervisory authority has put in place. Dividends are to be removed in accordance with the applicable accounting standards, ie they should be removed from this row when they are removed from the balance sheet of the bank.
3	Accumulated other comprehensive income and other disclosed reserves, prior to all regulatory adjustments.
4	Directly issued capital instruments subject to phase-out from CET1 capital in accordance with the requirements of CAP90.4. This is only applicable to non-joint stock companies. Banks structured as joint stock companies must report zero in this row.
5	Common share capital issued by subsidiaries and held by third parties. Only the amount that is eligible for inclusion in group CET1 capital should be reported here, as determined by the application of CAP10.20 and CAP10.21 (see CAP99.1 to CAP99.7 for an example of the calculation).
6	Sum of rows 1 to 5.
7	Prudent valuation adjustments according to the requirements of CAP50.11 to CAP50.14, taking into account the guidance set out in *Supervisory guidance for assessing banks' financial instrument fair value practices*, April 2009 (in particular Principle 10).

8	Goodwill net of related tax liability, as set out in CAP30.7 and CAP30.8.
9	Other intangibles other than MSR (net of related tax liability), as set out in CAP30.7 and CAP30.8.
10	DTA that rely on future profitability excluding those arising from temporary differences (net of related tax liability), as set out in CAP30.9.
11	The element of the cash flow hedge reserve described in CAP30.11 and CAP30.12.
12	Shortfall of provisions to expected losses as described in CAP30.13.
13	Securitisation gain on sale (as set out in CAP30.14).
14	Gains and losses due to changes in own credit risk on fair valued liabilities, as described in CAP30.15.
15	Defined benefit pension fund net assets, the amount to be deducted as set out in CAP30.16 and CAP30.17.
16	Investments in own shares (if not already subtracted from paid-in capital on reported balance sheet), as set out in CAP30.18 to CAP30.20.
17	Reciprocal cross-holdings in common equity, as set out in CAP30.21.
18	Investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation and where the bank does not own more than 10% of the issued share capital, net of eligible short positions and amount above 10% threshold. Amount to be deducted from CET1 capital calculated in accordance with CAP30.22 to CAP30.28.
19	Significant investments in the common stock of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions and amount above 10% threshold. Amount to be deducted from CET1 capital calculated in accordance with CAP30.29 to CAP30.33.
20	MSR (amount above 10% threshold), amount to be deducted from CET1 capital in accordance with CAP30.32 and CAP30.33.
21	DTA arising from temporary differences (amount above 10% threshold, net of related tax liability), amount to be deducted from CET1 capital in accordance with CAP30.32 and CAP30.33.
22	Total amount by which the three threshold items exceed the 15% threshold, excluding amounts reported in rows 19-21, calculated in accordance with CAP30.32 and CAP30.33.
23	The amount reported in row 22 that relates to significant investments in the common stock of financials.
24	The amount reported in row 22 that relates to MSR.
25	The amount reported in row 22 that relates to DTA arising from temporary differences.

26	Any national specific regulatory adjustments that national authorities require to be applied to CET1 capital in addition to the Basel III minimum set of adjustments. Guidance should be sought from national supervisors.
27	Regulatory adjustments applied to CET1 capital due to insufficient AT1 capital to cover deductions. If the amount reported in row 43 exceeds the amount reported in row 36, the excess is to be reported here.
28	Total regulatory adjustments to CET1 capital, to be calculated as the sum of rows 7-22 plus rows 26-7.
29	CET1 capital, to be calculated as row 6 minus row 28.
30	Instruments issued by the parent company of the reporting group that meet all of the AT1 capital entry criteria set out in CAP10.11 and any related stock surplus as set out in CAP10.13. All instruments issued by subsidiaries of the consolidated group should be excluded from this row. This row may include AT1 capital issued by an SPV of the parent company only if it meets the requirements set out in CAP10.26.
31	The amount in row 30 classified as equity under applicable accounting standards.
32	The amount in row 30 classified as liabilities under applicable accounting standards.
33	Directly issued capital instruments subject to phase-out from AT1 capital in accordance with the requirements of CAP90.1 to CAP90.3.
34	AT1 instruments (and CET1 instruments not included in row 5) issued by subsidiaries and held by third parties, the amount allowed in group AT1 capital in accordance with CAP10.22 and CAP10.23.
35	The amount reported in row 34 that relates to instruments subject to phase-out from AT1 capital in accordance with the requirements of CAP90.1 to CAP90.3.
36	The sum of rows 30, 33 and 34.
37	Investments in own AT1 instruments, amount to be deducted from AT1 capital in accordance with CAP30.18 to CAP30.20.
38	Reciprocal cross-holdings in AT1 instruments, amount to be deducted from AT1 capital in accordance with CAP30.21
39	Investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation and where the bank does not own more than 10% of the issued common share capital of the entity, net of eligible short positions and amount above 10% threshold. Amount to be deducted from AT1 capital calculated in accordance with CAP30.22 to CAP30.28.
40	Significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions. Amount to be deducted from AT1 capital in accordance with CAP30.29 and CAP30.30.

41	Any national specific regulatory adjustments that national authorities require to be applied to AT1 capital in addition to the Basel III minimum set of adjustments. Guidance should be sought from national supervisors.
42	Regulatory adjustments applied to AT1 capital due to insufficient Tier 2 capital to cover deductions. If the amount reported in row 57 exceeds the amount reported in row 51, the excess is to be reported here.
43	The sum of rows 37-42.
44	AT1 capital, to be calculated as row 36 minus row 43.
45	Tier 1 capital, to be calculated as row 29 plus row 44.
46	Instruments issued by the parent company of the reporting group that meet all of the Tier 2 capital criteria set out in CAP10.16 and any related stock surplus as set out in CAP10.17. All instruments issued by subsidiaries of the consolidated group should be excluded from this row. This row may include Tier 2 capital issued by an SPV of the parent company only if it meets the requirements set out in CAP10.26.
47	Directly issued capital instruments subject to phase-out from Tier 2 capital in accordance with the requirements of CAP90.1 to CAP90.3.
48	Tier 2 instruments (and CET1 and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties (amount allowed in group Tier 2 capital), in accordance with CAP10.24 and CAP10.25.
49	The amount reported in row 48 that relates to instruments subject to phase-out from Tier 2 capital in accordance with the requirements of CAP90.1 to CAP90.3.
50	Provisions included in Tier 2 capital, calculated in accordance with CAP10.18 and CAP10.19.
51	The sum of rows 46-8 and row 50.
52	Investments in own Tier 2 instruments, amount to be deducted from Tier 2 capital in accordance with CAP30.18 to CAP30.20.
53	Reciprocal cross-holdings in Tier 2 capital instruments and other TLAC liabilities, amount to be deducted from Tier 2 capital in accordance with CAP30.21.
54	Investments in the capital instruments and other TLAC liabilities of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions, where the bank does not own more than 10% of the issued common share capital of the entity: amount in excess of the 10% threshold that is to be deducted from Tier 2 capital in accordance with CAP30.22 to CAP30.28. For non-G-SIBs, any amount reported in this row will reflect other TLAC liabilities not covered by the 5% threshold and that cannot be absorbed by the 10% threshold. For G-SIBs, the 5% threshold is subject to additional conditions; deductions in excess of the 5% threshold are reported instead in 54a.
	(This row is for G-SIBs only.) Investments in other TLAC liabilities of banking, financial and insurance entities that are outside the scope of regulatory consolidation and where

54a	the bank does not own more than 10% of the issued common share capital of the entity, previously designated for the 5% threshold but no longer meeting the conditions under paragraph 80a of the TLAC holdings standard, measured on a gross long basis. The amount to be deducted will be the amount of other TLAC liabilities designated to the 5% threshold but not sold within 30 business days, no longer held in the trading book or now exceeding the 5% threshold (eg in the instance of decreasing CET1 capital). Note that, for G-SIBs, amounts designated to this threshold may not subsequently be moved to the 10% threshold. This row does not apply to non-G-SIBs, to whom these conditions on the use of the 5% threshold do not apply.
55	Significant investments in the capital and other TLAC liabilities of banking, financial and insurance entities that are outside the scope of regulatory consolidation (net of eligible short positions), amount to be deducted from Tier 2 capital in accordance with CAP30.29 and CAP30.30.
56	Any national specific regulatory adjustments that national authorities require to be applied to Tier 2 capital in addition to the Basel III minimum set of adjustments. Guidance should be sought from national supervisors.
57	The sum of rows 52-6.
58	Tier 2 capital, to be calculated as row 51 minus row 57.
59	Total capital, to be calculated as row 45 plus row 58.
60	Total risk-weighted assets of the reporting group.
61	CET1 capital adequacy ratio (as a percentage of risk-weighted assets), to be calculated as row 29 divided by row 60 (expressed as a percentage).
62	Tier 1 capital adequacy ratio (as a percentage of risk-weighted assets), to be calculated as row 45 divided by row 60 (expressed as a percentage).
63	Total capital adequacy ratio (as a percentage of risk-weighted assets), to be calculated as row 59 divided by row 60 (expressed as a percentage).
64	Bank-specific buffer requirement (capital conservation buffer plus countercyclical buffer requirements plus higher loss absorbency requirement, expressed as a percentage of risk-weighted assets). If an MPE G-SIB resolution entity is not subject to a buffer requirement at that scope of consolidation, then it should enter zero.
65	The amount in row 64 (expressed as a percentage of risk-weighted assets) that relates to the capital conservation buffer, ie banks will report 2.5% here.
66	The amount in row 64 (expressed as a percentage of risk-weighted assets) that relates to the bank-specific countercyclical buffer requirement.
67	The amount in row 64 (expressed as a percentage of risk-weighted assets) that relates to the bank's higher loss absorbency requirement, if applicable.
	CET1 capital (as a percentage of risk-weighted assets) available after meeting the bank's minimum capital requirements. To be calculated as the CET1 capital adequacy ratio of the bank (row 61) less the ratio of RWA of any common equity used to meet the bank's

68	minimum CET1, Tier 1 and Total capital requirements. For example, suppose a bank has 100 RWA, 10 CET1 capital, 1.5 additional Tier 1 capital and no Tier 2 capital. Since it does not have any Tier 2 capital, it will have to earmark its CET1 capital to meet the 8% minimum capital requirement. The net CET1 capital left to meet other requirements (which could include Pillar 2, buffers or TLAC requirements) will be 10 - 4.5 - 2 = 3.5.
69	National minimum CET1 capital adequacy ratio (if different from Basel III minimum). Guidance should be sought from national supervisors.
70	National minimum Tier 1 capital adequacy ratio (if different from Basel III minimum). Guidance should be sought from national supervisors.
71	National minimum Total capital adequacy ratio (if different from Basel III minimum). Guidance should be sought from national supervisors.
72	Investments in the capital instruments and other TLAC liabilities of banking, financial and insurance entities that are outside the scope of regulatory consolidation where the bank does not own more than 10% of the issued common share capital of the entity (in accordance with CAP30.22 to CAP30.28.
73	Significant investments in the common stock of financial entities, the total amount of such holdings that are not reported in row 19 and row 23.
74	MSR, the total amount of such holdings that are not reported in row 20 and row 24.
75	DTA arising from temporary differences, the total amount of such holdings that are not reported in row 21 and row 25.
76	Provisions eligible for inclusion in Tier 2 capital in respect of exposures subject to standardised approach, calculated in accordance with CAP10.18, prior to the application of the cap.
77	Cap on inclusion of provisions in Tier 2 capital under the standardised approach, calculated in accordance with CAP10.18.
78	Provisions eligible for inclusion in Tier 2 capital in respect of exposures subject to the internal ratings-based approach, calculated in accordance with CAP10.19, prior to the application of the cap.
79	Cap on inclusion of provisions in Tier 2 capital under the internal ratings-based approach, calculated in accordance with CAP10.19.
80	Current cap on CET1 instruments subject to phase-out arrangements; see CAP90.4.
81	Amount excluded from CET1 capital due to cap (excess over cap after redemptions and maturities); see CAP90.4.
82	Current cap on AT1 instruments subject to phase-out arrangements; see CAP90.1 to CAP90.3.
83	Amount excluded from AT1 capital due to cap (excess over cap after redemptions and maturities); see CAP90.1 to CAP90.3.

84	Current cap on Tier 2 capital instruments subject to phase-out arrangements; see CAP90.1 to CAP90.3.
85	Amount excluded from Tier 2 capital due to cap (excess over cap after redemptions and maturities); see CAP90.1 to CAP90.3.

In general, to ensure that Template CC1 remains comparable across jurisdictions, there should be no adjustments to the version banks use to disclose their regulatory capital position. However, the following exceptions apply to take account of language differences and to reduce the reporting of unnecessary information:

· The template and explanatory table above can be translated by national authorities into the relevant national language(s) that implement the Basel standards. The translated version of the template will retain all of the rows included in the template.

· For the explanatory table, the national version of the template can reference the national rules that implement the relevant sections of Basel III.

· Banks are not permitted to add, delete or change the definitions of any rows from the template implemented in their jurisdiction. This is irrespective of the concession allowed in DIS10.23.

· The national version of the template must retain the same row numbering used in the first column of the template, such that users of Pillar 3 data can easily map the national version to the template. However, the template includes certain rows that reference specific national regulatory adjustments (rows 26, 41 and 56). The relevant national authority should insert rows after each of these to provide rows for banks to disclose each of the relevant national specific adjustments (with the totals reported in rows 26, 41 and 56). The insertion of any rows must leave the numbering of the remaining rows unchanged, eg rows detailing national specific regulatory adjustments to CET1 could be labelled row 26a, row 26b etc, to ensure that the subsequent row numbers are not affected.

· In cases where the national implementation of Basel III applies a more conservative definition of an element listed in the template, national authorities may choose between two approaches:

  - Approach 1: in the national version of the template, maintain the same definitions of all rows as set out in the template, and require banks to report the impact of the more conservative national definition in the designated rows for national specific adjustments (ie rows 26, 41 and 56).

  - Approach 2: in the national version of the template, use the definitions of elements as implemented in that jurisdiction, clearly labelling them as being different from the Basel III minimum definition, and require banks to separately disclose the impact of each of these different definitions in the notes to the template.

The aim of both approaches is to provide all the information necessary to enable users of Pillar 3 data to calculate the capital of banks on a common basis.

Template CC2 - Reconciliation of regulatory capital to balance sheet

Purpose: Enable users to identify the differences between the scope of accounting consolidation and the scope of regulatory consolidation, and to show the link between a bank's balance sheet in its published financial statements and the numbers that are used in the composition of capital disclosure template set out in Template CC1.

Scope of application: The template is mandatory for all banks.

Content: Carrying values (corresponding to the values reported in financial statements).

Frequency: Semiannual.

Format: Flexible (but the rows must align with the presentation of the bank's financial report).

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes in the expanded balance sheet items over the reporting period and the key drivers of such change. Narrative commentary to significant changes in other balance sheet items could be found in Table LIA.

	a	b	c
	Balance sheet as in published financial statements	**Under regulatory scope of consolidation**	**Reference**
	As at period-end	**As at period-end**	
Assets			
Cash and balances at central banks			
Items in the course of collection from other banks			
Trading portfolio assets			
Financial assets designated at fair value			
Derivative financial instruments			
Loans and advances to banks			
Loans and advances to customers			
Reverse repurchase agreements and other similar secured lending			
Available for sale financial investments			
Current and deferred tax assets			
Prepayments, accrued income and other assets			

Investments in associates and joint ventures			
Goodwill and intangible assets			
Of which: goodwill			a
Of which: other intangibles (excluding MSR)			b
Of which: MSR			c
Property, plant and equipment			
Total assets			
Liabilities			
Deposits from banks			
Items in the course of collection due to other banks			
Customer accounts			
Repurchase agreements and other similar secured borrowing			
Trading portfolio liabilities			
Financial liabilities designated at fair value			
Derivative financial instruments			
Debt securities in issue			
Accruals, deferred income and other liabilities			
Current and deferred tax liabilities			
Of which: deferred tax liabilities (DTL) related to goodwill			d
Of which: DTL related to intangible assets (excluding MSR)			e
Of which: DTL related to MSR			f
Subordinated liabilities			
Provisions			
Retirement benefit liabilities			
Total liabilities			
Shareholders' equity			

Paid-in share capital			
Of which: amount eligible for CET1 capital			h
Of which: amount eligible for AT1 capital			i
Retained earnings			
Accumulated other comprehensive income			
Total shareholders' equity			

Columns

Banks are required to take their balance sheet in their published financial statements (numbers reported in column a above) and report the numbers when the regulatory scope of consolidation is applied (numbers reported in column b above)..

If there are rows in the balance sheet under the regulatory scope of consolidation that are not present in the published financial statements, banks are required to add these and give a value of zero in column a.

If a bank's scope of accounting consolidation and its scope of regulatory consolidation are exactly the same, columns a and b should be merged and this fact should be clearly disclosed.

Rows

Similar to Template LI1, the rows in the above template should follow the balance sheet presentation used by the bank in its financial statements, on which basis the bank is required to expand the balance sheet to identify all the items that are disclosed in Template CC1. Set out above (ie items a to i) are some examples of items that may need to be expanded for a particular banking group. Disclosure should be proportionate to the complexity of the bank's balance sheet. Each item must be given a reference number/letter in column c that is used as cross-reference to column b of Template CC1.

Linkages across templates

(i) The amounts in columns a and b in Template CC2 before balance sheet expansion (ie before Step 2) should be identical to columns a and b in Template LI1.

(ii) Each expanded item is to be cross-referenced to the corresponding items in Template CC1.

Template TLAC1: TLAC composition for G-SIBs (at resolution group level)

Purpose: Provide details of the composition of a G-SIB's TLAC.

Scope of application: This template is mandatory for all G-SIBs. It should be completed at the level of each resolution group within a G-SIB.

Content: Carrying values (corresponding to the values reported in financial statements).

Frequency: Semiannual.

Format: Fixed.

Accompanying narrative: G-SIBs are expected to supplement the template with a narrative commentary to explain any significant changes over the reporting period and the key drivers of any such change(s). Qualitative narrative on the G-SIB resolution strategy, including the approach (SPE or multiple point of entry (MPE)) and structure to which the resolution measures are applied, may be included to help understand the templates.

		a
		Amounts
	Regulatory capital elements of TLAC and adjustments	
1	Common Equity Tier 1 (CET1) capital	
2	Additional Tier 1 (AT1) capital before TLAC adjustments	
3	AT1 capital ineligible as TLAC as issued out of subsidiaries to third parties	
4	Other adjustments	
5	AT1 instruments eligible under the TLAC framework	
6	Tier 2 capital before TLAC adjustments	
7	Amortised portion of Tier 2 instruments where remaining maturity > 1 year	
8	Tier2 capital ineligible as TLAC as issued out of subsidiaries to third parties	
9	Other adjustments	
10	Tier2 instruments eligible under the TLAC framework	
11	TLAC arising from regulatory capital	
	Non-regulatory capital elements of TLAC	
12	External TLAC instruments issued directly by the bank and subordinated to excluded liabilities	
13	External TLAC instruments issued directly by the bank which are not subordinated to excluded liabilities but meet all other TLAC Term Sheet requirements	

14	Of which: amount eligible as TLAC after application of the caps	
15	External TLAC instruments issued by funding vehicles prior to 1 January 2022	
16	Eligible ex ante commitments to recapitalise a G-SIB in resolution	
17	TLAC arising from non-regulatory capital instruments before adjustments	
	Non-regulatory capital elements of TLAC: adjustments	
18	TLAC before deductions	
19	Deductions of exposures between MPE resolution groups that correspond to items eligible for TLAC (not applicable to single point of entry G-SIBs)	
20	Deduction of investments in own other TLAC liabilities	
21	Other adjustments to TLAC	
22	TLAC after deductions	
	Risk-weighted assets (RWA) and leverage exposure measure for TLAC purposes	
23	Total RWA adjusted as permitted under the TLAC regime	
24	Leverage exposure measure	
	TLAC ratios and buffers	
25	TLAC (as a percentage of RWA adjusted as permitted under the TLAC regime)	
26	TLAC (as a percentage of leverage exposure)	
27	CET1 (as a percentage of RWA) available after meeting the resolution group's minimum capital and TLAC requirements	
28	Bank-specific buffer requirement (capital conservation buffer plus countercyclical buffer requirements plus higher loss-absorbency requirement, expressed as a percentage of RWA)	
29	Of which: capital conservation buffer requirement	
30	Of which: bank-specific countercyclical buffer requirement	
31	Of which: higher loss-absorbency requirement	

Instructions

For SPE G-SIBs, where the resolution group is the same as the regulatory scope of consolidation for Basel III regulatory capital, those rows that refer to regulatory capital before adjustments coincide with information provided under Template CC1. For MPE G-SIBs, information is provided for each resolution group. Aggregation of capital and total RWA for capital purposes across resolution

groups will not necessarily equal or directly correspond to values reported for regulatory capital and RWA under Template CC1.

The TLAC position related to the regulatory capital of the resolution group shall include only capital instruments issued by entities belonging to the resolution group. Similarly, the TLAC position is based on the RWA (adjusted as permitted under Section 3 of the TLAC Term Sheet) and leverage ratio exposure measures calculated at the level of the resolution group. Regarding the shading:

- Each dark grey row introduces a new section detailing a certain component of TLAC.

- The light grey rows with no thick border represent the sum cells in the relevant section.

- The light grey rows with a thick border show the main components of TLAC.

The following table explains each row of the above template. Regarding the regulatory adjustments, banks are required to report deductions from capital or TLAC as positive numbers and additions to capital or TLAC as negative numbers. For example, the amortised portion of Tier 2 where remaining maturity is greater than one year (row 7) should be reported as a negative number (as it adds back in the calculation of Tier 2 instruments eligible as TLAC), while Tier 2 capital ineligible as TLAC (row 8) should be reported as a positive number.

Row number	**Explanation**
1	CET1 capital of the resolution group, calculated in line with the Basel III and TLAC frameworks. National authorities may require this row to be reported net of an MPE G-SIB resolution entity's CET1 capital investments in other resolution groups (see Note).
2	AT 1 capital. This row will provide information on the AT1 capital of the resolution group, calculated in line with the CAP standard and the TLAC framework.
3	AT1 instruments issued out of subsidiaries to third parties that are ineligible as TLAC. According to Section 8c of the TLAC Term Sheet, such instruments could be recognised to meet minimum TLAC until 31 December 2021. An amount (equal to that reported in row 34 in Template CC1) should thus be reported only starting from 1 January 2022.
4	Other elements of AT1 capital that are ineligible as TLAC (excluding those already incorporated in row 3). For example, national authorities may include in this row deductions related to an MPE G-SIB resolution entity's AT1 capital investments in other resolution groups (see also Note).
5	AT1 instruments eligible under the TLAC framework, to be calculated as row 2 minus rows 3 and 4.
6	Tier 2 capital of the resolution group, calculated in line with the Basel III and TLAC frameworks.
7	Amortised portion of Tier 2 instruments where remaining maturity is greater than one year. This row recognises that as long as the remaining maturity of a Tier 2 instrument is above the one-year residual maturity requirement of the TLAC Term Sheet, the full amount may be included in TLAC, even if the instrument is partially derecognised in regulatory capital via the requirement to amortise the instrument in the five years before

	maturity. Only the amount not recognised in regulatory capital but meeting all TLAC eligibility criteria should be reported in this row.
8	Tier 2 instruments issued out of subsidiaries to third parties that are ineligible as TLAC. According to Section 8c of the TLAC Term Sheet, such instruments could be recognised to meet minimum TLAC until 31 December 2021. An amount (equal to that reported in row 48 of Template CC1) should thus be reported only starting from 1 January 2022.
9	Other elements of Tier 2 capital that are ineligible as TLAC (excluding those that are already incorporated in row 8). For example, some jurisdictions recognise an element of Tier 2 capital in the final year before maturity, but such amounts are ineligible as TLAC. Regulatory capital instruments issued by funding vehicles are another example. Also, national authorities may include in this row deductions related to an MPE G-SIB resolution entity's investments in the Tier 2 instruments or other TLAC liabilities of other resolution groups (see Note).
10	Tier 2 instruments eligible under the TLAC framework, to be calculated as: row 6 + row 7 - row 8 - row 9.
11	TLAC arising from regulatory capital, to be calculated as: row 1 + row 5 + row 10.
12	External TLAC instruments issued directly by the resolution entity and subordinated to excluded liabilities. The amount reported in this row must meet the subordination requirements set out in points (a) to (c) of Section 11 of the TLAC Term Sheet, or be exempt from the requirement by meeting the conditions set out in points (i) to (iv) of the same section.
13	External TLAC instruments issued directly by the resolution entity that are not subordinated to Excluded Liabilities but meet the other TLAC Term Sheet requirements. The amount reported in this row should be those subject to recognition as a result of the application of the penultimate and antepenultimate paragraphs of Section 11 of the TLAC Term Sheet. The full amounts should be reported in this row, ie without applying the 2.5% and 3.5% caps set out the penultimate paragraph.
14	The amount reported in row 13 above after the application of the 2.5% and 3.5% caps set out in the penultimate paragraph of Section 11 of the TLAC Term Sheet.
15	External TLAC instrument issued by a funding vehicle prior to 1 January 2022. Amounts issued after 1 January 2022 are not eligible as TLAC and should not be reported here.
16	Eligible ex ante commitments to recapitalise a G-SIB in resolution, subject to the conditions set out in the second paragraph of Section 7 of the TLAC Term Sheet.
17	Non-regulatory capital elements of TLAC before adjustments. To be calculated as: row 12 + row 14 + row 15 + row 16.
18	TLAC before adjustments. To be calculated as: row 11 + row 17.
19	Deductions of exposures between MPE G-SIB resolution groups that correspond to items eligible for TLAC (not applicable for SPE G-SIBs). All amounts reported in this row should correspond to deductions applied after the appropriate adjustments agreed by the crisis management group (CMG) (following the penultimate paragraph of Section 3 of the TLAC Term Sheet, the CMG shall discuss and, where appropriate and consistent with the

	resolution strategy, agree on the allocation of the deduction). National authorities may include in this row an MPE G-SIB resolution entity's investments in other resolution groups (see Note).
20	Deductions of investments in own other TLAC liabilities; amount to be deducted from TLAC resources in accordance with CAP30.18 to CAP30.20.
21	Other adjustments to TLAC.
22	TLAC of the resolution group (as the case may be) after deductions. To be calculated as: row 18 - row 19 - row 20 - row 21.
23	Total RWA of the resolution group under the TLAC regime. For SPE G-SIBs, this information is based on the consolidated figure, so the amount reported in this row will coincide with that in row 60 of Template CC1.
24	Leverage exposure measure of the resolution group (denominator of leverage ratio).
25	TLAC ratio (as a percentage of RWA for TLAC purposes), to be calculated as row 22 divided by row 23.
26	TLAC ratio (as a percentage of leverage exposure measure), to be calculated as row 22 divided by row 24.
27	CET1 capital (as a percentage of RWA) available after meeting the resolution group's minimum capital requirements and TLAC requirement. To be calculated as the CET1 capital adequacy ratio, less any common equity (as a percentage of RWA) used to meet CET1, Tier 1, and Total minimum capital and TLAC requirements. For example, suppose a resolution group (that is subject to regulatory capital requirements) has 100 RWA, 10 CET1 capital, 1.5 AT1 capital, no Tier 2 capital and 9 non-regulatory capital TLAC-eligible instruments. The resolution group will have to earmark its CET1 capital to meet the 8% minimum capital requirement and 18% minimum TLAC requirement. The net CET1 capital left to meet other requirements (which could include Pillar 2 or buffers) will be 10 - 4.5 - 2 - 1 = 2.5.
28	Bank-specific buffer requirement (capital conservation buffer plus countercyclical buffer requirements plus G-SIB buffer requirement, expressed as a percentage of RWA). Calculated as the sum of: (i) the G-SIB's capital conservation buffer; (ii) the G-SIB's specific countercyclical buffer requirement calculated in accordance with RBC30; and (iii) the higher loss-absorbency requirement as set out in RBC40. Not applicable to individual resolution groups of an MPE G-SIB, unless the relevant authority imposes buffer requirements at the level of consolidation and requires such disclosure.
29	The amount in row 28 (expressed as a percentage of RWA) that relates to the capital conservation buffer), ie G-SIBs will report 2.5% here. Not applicable to individual resolution groups of an MPE G-SIB, unless otherwise required by the relevant authority.
	The amount in row 28 (expressed as a percentage of RWA) that relates to the G-SIB's specific countercyclical buffer requirement.

30	Not applicable to individual resolution groups of an MPE G-SIB, unless otherwise required by the relevant authority.
31	The amount in row 28 (expressed as a percentage of RWA) that relates to the higher loss-absorbency requirement. Not applicable to individual resolution groups of an MPE G-SIB, unless otherwise required by the relevant authority.

Note: In the case of a resolution group of an MPE G-SIB, unless otherwise specified, the relevant national authority supervising the group can choose to require the group to calculate and report row 11 either: (i) **net** of its investments in the regulatory capital or other TLAC liabilities of other resolution groups (ie by deducting such investments in rows 1, 4 and 9 as applicable); or (ii) **gross**, in which case the investments will need to be deducted from TLAC resources in row 19 along with any investments in non-regulatory-capital elements of TLAC.

In general, to ensure that the templates remain comparable across jurisdictions, there should be no adjustments to the version that G-SIB resolution entities use to disclose their TLAC position. However, the following exceptions apply to take account of language differences and to reduce the reporting of unnecessary information:

- The template and explanatory table can be translated by the relevant national authorities into the relevant national language(s) that implement the standards in the TLAC Term Sheet. The translated version of the template will retain all of the rows included in the template above.
- Regarding the explanatory table, the national version can reference the national rules that implement the relevant sections of the TLAC Term Sheet.
- G-SIB resolution groups are not permitted to add, delete or change the definitions of any rows from the common reporting template implemented in their jurisdiction. This is irrespective of the concession allowed in DIS10.23 that banks may delete the specific row /column from the template if such row/column is not considered to be relevant to the G-SIBs' activities or the required information would not be meaningful to the users, and will prevent a divergence of templates that could undermine the objectives of consistency and comparability.
- The national version of the template must retain the same row numbering used in the first column of the template above, such that users of Pillar 3 data can easily map the national templates to the common version above. The insertion of any rows must leave the numbering of the remaining rows unchanged, eg rows detailing national specific regulatory adjustments to AT1 capital could be labelled row 3a, row 3b etc, to ensure that the subsequent row numbers are not affected.
- In cases where the national implementation of the Term Sheet applies a more conservative definition of an element listed in the template above, national authorities may choose between one of two approaches:

  - Approach 1: In the national version of the template, maintain the same definitions of all rows as set out in the template above, and require G-SIBs to report the impact of the more conservative national definition in designated rows for specific national adjustments.

- Approach 2: In the national version of the template, use the definitions of elements as implemented in that jurisdiction, clearly label them as being different from the TLAC definition, and require G-SIBs to separately disclose the impact of each of these different definitions in the notes to the template.

The aim of both approaches is to provide all the information necessary to enable users of Pillar 3 data to calculate the TLAC of G-SIBs on a common basis.

Template TLAC2 - Material subgroup entity - creditor ranking at legal entity level

Purpose: Provide creditors with information regarding their ranking in the liabilities structure of a material subgroup entity (ie an entity that is part of a material subgroup) which has issued internal TLAC to a G-SIB resolution entity.

Scope of application: The template is mandatory for all G-SIBs. It is to be completed in respect of every material subgroup entity within each resolution group of a G-SIB, as defined by the FSB TLAC Term Sheet, on a legal entity basis. G-SIBs should group the templates according to the resolution group to which the material subgroup entities belong (whose positions are represented in the templates) belong, in a manner that makes it clear to which resolution entity they have exposures.

Content: Nominal values.

Frequency: Semiannual.

Format: Fixed (number and description of each column under "Creditor ranking" depending on the liabilities structure of a material subgroup entity).

Accompanying narrative: Where appropriate, banks should provide bank- or jurisdiction-specific information relating to credit hierarchies.

		Creditor ranking							Sum of 1 to *n*
		1	1	2	2	-	*n*	*n*	
		(most junior)	(most junior)				(most senior)	(most senior)	
1	Is the resolution entity the creditor/investor? (yes or no)					-			
2	Description of creditor ranking (free text)								
3	Total capital and liabilities net of credit risk mitigation					-			
4	Subset of row 3 that are excluded liabilities					-			
5	Total capital and liabilities less excluded liabilities (row 3 minus row 4)					-			
6	Subset of row 5 that are eligible as TLAC					-			
7	Subset of row 6 with 1 year ≤ residual maturity < 2 years					-			

8	Subset of row 6 with 2 years ≤ residual maturity < 5 years					-			
9	Subset of row 6 with 5 years ≤ residual maturity < 10 years					-			
10	Subset of row 6 with residual maturity ≥ 10 years, but excluded perpetual securities					-			
11	Subset of row 6 that is perpetual securities								

Explanations

- Different jurisdictions have different statutory creditor hierarchies. The number of creditor rankings (*n*) in the creditor hierarchy will depend on the set of liabilities of the entity. There is at least one column for each creditor ranking. In cases where the resolution entity is a creditor of part of the total amount in the creditor ranking, two columns should be completed (both with the same ordinal ranking): one covering amounts owned by the resolution entity and the other covering amounts not owned by the resolution entity.
- Columns should be added until the most senior-ranking internal TLAC-eligible instruments, and all pari passu liabilities, have been reported. The table therefore contains all funding that is pari passu or junior to internal TLAC-eligible instruments, including equity and other capital instruments. Note that there may be some instruments that are eligible as internal TLAC despite ranking pari passu to excluded liabilities, as described in Section 11 of the FSB TLAC Term Sheet.
- G-SIBs should provide a description of each creditor class ranking. This description can be in free form text. Typically the description should include a specification of at least one type of instrument that is within that creditor class ranking (eg common shares, Tier 2 instruments). This allows for the disclosure of the creditor hierarchy even if there is a range of different statutory creditor hierarchies in different jurisdictions, tranching that may exist within some jurisdictions' statutory hierarchies or which banks have established contractually with respect to the ranking of claims.
- Instruments are not eligible as TLAC if they are subject to setoff or netting rights, under Sections 9 (paragraph (c)) and 19 of the FSB TLAC Term Sheet. However, where there are internal TLAC instruments that rank pari passu with excluded liabilities, these excluded liabilities should be reported in rows 3 and 4, net of credit risk mitigation, as they could be bailed in alongside TLAC. Collateralised loans should be excluded, except for any debt in excess of the value of the collateral. Instruments subject to public guarantee should be included as they can be bailed in (with investors compensated in accordance with the guarantee). Liabilities subject to setoff or netting rights should be included net of the firm's claims on the creditor.
- Excluded liabilities in row 4 include all of the following: (i) insured deposits; (ii) sight deposits and short-term deposits (deposits with original maturity of less than one year); (iii) liabilities which are preferred to senior unsecured creditors under the relevant insolvency law; (iv) liabilities arising from derivatives or debt instruments with derivative-linked features, such as structured notes; (v) liabilities arising other than through a contract, such as tax liabilities; and (vi) any other liabilities that, under the laws governing the issuing entity, cannot be effectively written down or converted into equity by the relevant resolution authority.

Row 6 includes the subset of the amounts reported in row 5 that are internal TLAC-eligible according to Section 19 the FSB TLAC Term Sheet (eg those that have a residual maturity of at least one year, are unsecured and if redeemable are not redeemable without supervisory approval).

Template TLAC3 - Resolution entity - creditor ranking at legal entity level

Purpose: Provide creditors with information regarding their ranking in the liabilities structure of each G-SIB resolution entity.

Scope of application: The template is to be completed in respect of every resolution entity within the G-SIB, as defined by the TLAC standard, on a legal entity basis.

Content: Nominal values.

Frequency: Semiannual.

Format: Fixed (number and description of each column under "Creditor ranking" depending on the liabilities structure of a resolution entity).

Accompanying narrative: Where appropriate, banks should provide bank- or jurisdiction-specific information relating to credit hierarchies.

		Creditor ranking				Sum of 1 to *n*
		1 (most junior)	2	-	*n* (most senior)	
1	Description of creditor ranking (free text)					
2	Total capital and liabilities net of credit risk mitigation			-		
3	Subset of row 2 that are excluded liabilities			-		
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)			-		
5	Subset of row 4 that are *potentially* eligible as TLAC			-		
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years			-		
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years			-		
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years			-		
9	Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities			-		
10	Subset of row 5 that is perpetual securities			-		

Definitions and instructions

This template is the same as Template TLAC 2 except that no information is collected regarding exposures to the resolution entity (since the template describes the resolution entity itself). This means that there will only be one column for each layer of the creditor hierarchy.

Row 5 represents the subset of the amounts reported in row 4 that are TLAC-eligible according to the FSB TLAC Term Sheet (eg those that have a residual maturity of at least one year, are unsecured and if redeemable are not redeemable without supervisory approval). For the purposes of reporting this amount, the 2.5% cap (3.5% from 2022) on the exemption from the subordination requirement under the penultimate paragraph of Section 11 of the TLAC Term Sheet should be disapplied. That is, amounts that are ineligible solely as a result of the 2.5% cap (3.5%) should be included in full in row 5 together with amounts that are receiving recognition as TLAC. See also the second paragraph in Section 7 of the FSB TLAC Term Sheet.

DIS26

Capital distribution constraints

This chapter covers disclosures on capital distribution constraints, when required by national supervisors at a jurisdiction level.

Version effective as of 01 Jan 2023

Updated to include disclosure requirements for G-SIBs and the new implementation date announced on 27 March 2020.

Introduction

26.1 The disclosure requirement under this section is: Template CDC - Capital distribution constraints.

Template CDC: Capital distribution constraints

26.2 Template CDC provides the common equity tier 1 (CET1) capital ratios that would trigger capital distribution constraints. This disclosure extends to leverage ratio in the case of G-SIBs.

Purpose: To provide disclosure of the capital ratio(s) below which capital distribution constraints are triggered as required under the Basel framework (ie risk-based, leverage, etc) to allow meaningful assessment by market participants of the likelihood of capital distributions becoming restricted.

Scope of application: The table is mandatory for banks only when required by national supervisors at a jurisdictional level. Where applicable, the template may include additional rows to accommodate other national requirements that could trigger capital distribution constraints.

Content: Quantitative information. Includes the CET1 capital ratio that would trigger capital distribution constraints when taking into account (i) CET1 capital that banks must maintain to meet the minimum CET1 capital ratio, applicable risk-based buffer requirements (ie capital conservation buffer, G-SIB surcharge and countercyclical capital buffer) and Pillar 2 capital requirements (if CET1 capital is required); (ii) CET1 capital that banks must maintain to meet the minimum regulatory capital ratios and any CET1 capital used to meet Tier 1 capital, total capital and TLAC[1] requirements, applicable risk-based buffer requirements (ie capital conservation buffer, G-SIB surcharge and countercyclical capital buffer) and Pillar 2 capital requirements (if CET1 capital is required); and (iii) the leverage ratio inclusive of leverage ratio buffer requirement.

Frequency: Annual.

Format: Fixed. Jurisdictions may add rows to supplement the disclosure to include other requirements that trigger capital distribution constraints.

Accompanying narrative: In cases where capital distribution constraints have been imposed, banks should describe the constraints imposed. In addition, banks shall provide a link to the supervisor's or regulator's website, where the characteristics of the relevant jurisdictions' national requirements governing capital distribution constraints are set out (eg stacking hierarchy of buffers, relevant time frame between breach of buffer and application of constraints, definition of earnings and distributable profits used to calculate restrictions). Further, banks may choose to provide any additional information they consider to be relevant for understanding the stated figures.

		a	b
		CET1 capital ratio that would trigger capital distribution constraints (%)	**Current CET1 capital ratio (%)**
1	CET1 minimum requirement plus capital buffers (not taking into account CET1 capital used to meet other minimum regulatory capital/ TLAC ratios)		
2			

	CET1 capital plus capital buffers (taking into account CET1 capital used to meet other minimum regulatory capital/ TLAC ratios)		
		Leverage ratio that would trigger capital distribution constraints (%)	**Current leverage ratio (%)**
3	*[Applicable only for G-SIBs]* *Leverage ratio*		

Instructions

Row number	**Explanation**
1	*CET1 minimum plus capital buffers (not taking into account CET1 capital used to meet other minimum regulatory capital/TLAC ratios):* CET1 capital ratio which would trigger capital distribution constraints, should the bank's CET1 capital ratio fall below this level. The ratio takes into account only CET1 capital that banks must maintain to meet the minimum CET1 capital ratio (4.5%), applicable risk-based buffer requirements (ie capital conservation buffer (2.5%), G-SIB surcharge and countercyclical capital buffer) and Pillar 2 capital requirements (if CET1 capital is required). The ratio does not take into account instances where the bank has used its CET1 capital to meet its other minimum regulatory ratios (ie Tier 1 capital, total capital and/or TLAC requirements), which could increase the CET1 capital ratio which the bank has to meet in order to prevent capital distribution constraints from being triggered.
2	*CET1 minimum plus capital buffers (taking into account CET1 capital used to meet other minimum regulatory capital/TLAC ratios):* CET1 capital ratio which would trigger capital distribution constraints, should the bank's CET1 capital ratio fall below this level. The ratio takes into account CET1 capital that banks must maintain to meet the minimum regulatory ratios (ie CET1, Tier 1, total capital requirements and TLAC requirements), applicable risk-based buffer requirements (ie capital conservation buffer (2.5%), G-SIB surcharge and countercyclical capital buffer) and Pillar 2 capital requirements (if CET1 capital is required).
3	*Leverage ratio:* Leverage ratio which would trigger capital distribution constraints, should the bank's leverage ratio fall below this level.

Linkages across templates

Amount in [CDC:1/b] is equal to [KM1:5/a]

Amount in [CDC:3/b] is equal to [KM1:14/a]

Footnotes

[1] *RBC30.2 states that Common Equity Tier 1 must first be used to meet the minimum capital and TLAC requirements if necessary (including the 6% Tier 1, 8% total capital and 18% TLAC requirements), before the remainder can contribute to the capital conservation buffer.*

DIS30

Links between financial statements and regulatory exposures

This chapter describes requirements for banks to disclose reconciliations between elements of the calculation of regulatory capital to audited financial statements.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Introduction

30.1 The disclosure requirements set out in this chapter are:

(1) Table LIA – Explanations of differences between accounting and regulatory exposure amounts

(2) Template LI1 – Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories

(3) Template LI2 – Main sources of differences between regulatory exposure amounts and carrying values in financial statements

(4) Template PV1 – Prudent valuation adjustments (PVAs)

30.2 Table LIA provides qualitative explanations on the differences observed between accounting carrying value (as defined in Template LI1) and amounts considered for regulatory purposes (as defined in Template LI2) under each framework.

30.3 Template LI1 provides information on how the amounts reported in banks' financial statements correspond to regulatory risk categories. Template LI2 provides information on the main sources of differences (other than due to different scopes of consolidation which are shown in Template LI1) between the financial statements' carrying value amounts and the exposure amounts used for regulatory purposes.

FAQ

FAQ1 *In Template LI1, are assets deducted from regulatory capital in accordance with Basel III (eg goodwill and intangible assets) disclosed in column (g)?*

Elements which are deducted from a bank's regulatory capital (eg goodwill and intangible assets and deferred tax assets) should be included in column (g), taking into consideration the different thresholds that apply where relevant. Assets should be disclosed for the amount that is actually deducted from capital. Some examples are shown below:

- *Goodwill and intangible assets: the amount to be disclosed in column (g) is the amount of any goodwill or intangibles,* including any goodwill included in the valuation of significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation. The amount disclosed in the assets rows is net of any associated deferred tax liability which would be extinguished if the intangible assets become impaired or derecognised under the relevant accounting standards. The associated deferred tax liability is also to be disclosed in the liabilities rows of column (g).*

- *Deferred tax assets: for all types of deferred tax assets to be deducted from own funds, the amount to be disclosed in column (g) is net of associated deferred tax liabilities that are eligible for netting. The associated deferred tax liabilities are to be disclosed in the liabilities rows of column (g). For deferred tax assets, for which the deduction is subject to a threshold, the amount disclosed in column (g) in the assets rows is the amount, net of any eligible deferred tax liability, above the threshold. The associated deferred tax liabilities are also to be disclosed in the liabilities rows of column (g).*

- *Defined benefit pension fund assets: the amount disclosed is net of any deferred tax liabilities which would be extinguished if the asset should become impaired or derecognised under the relevant accounting standards. These deferred tax liabilities are also to be disclosed in the liabilities rows of column (g).*

- *Investments in own shares (treasury stock) or own instruments of regulatory capital: when investments in own shares or own instruments of regulatory capital are not already derecognised under the relevant accounting standards, the deducted amount disclosed is net of short positions in the same underlying exposure*

or in the same underlying index allowed to be netted under the Basel framework. These short positions are also to be disclosed in the liabilities rows of column (g).

** Under CAP30.8, subject to supervisory approval, banks that report under local GAAP may use the IFRS definition of intangible assets to determine which assets are classified as intangible and are thus required to be deducted.*

FAQ2 *In Template LI1, are exposures required to be 1,250% risk-weighted to be disclosed in column (g)?*

1,250% risk-weighted exposures should be disclosed in the relevant credit risk or securitisation risk templates.

FAQ3 *Template LI1: Considering that the risk weighting framework bears on assets rather than liabilities, should all the liabilities be disclosed in column (g)? Should in any case deferred tax liabilities and defined benefit pension fund liabilities be included in column (g)?*

The liabilities disclosed in column (g) are all liabilities under the regulatory scope of consolidation, except for the following, which are disclosed in columns (c), (d), (e) and (f) as applicable: liabilities that are included in the determination of the exposure values in the market risk or the counterparty credit risk framework; and liabilities that are eligible under the Basel netting rules.

FAQ4 *What is the difference in Template LI2 between the required disclosure in row 2 (Liabilities carrying value amount under regulatory scope of consolidation) and row 6 (Differences due to different netting rules, other than those already included in row 2).*

Row 2 refers to balance sheet netting, while row 6 refers to incremental netting in application of the Basel rules (when not already covered by balance sheet netting). The netting rules under the Basel framework are different from the rules under the applicable accounting frameworks. The incremental netting in row 6 could represent an additional deduction from the net exposure value before application of the Basel netting rules (when those rules lead to more netting than the balance sheet netting in row 2) or a gross-up of the net exposure value when the off-balance sheet netting operated in row 2 is broader than what the Basel netting rules allow.

FAQ5

How does the disclosure in Template LI2, in particular row 3 (total net amount under regulatory scope of consolidated) relate to accounting equity?

The netting between assets and liabilities in Template LI2 does not lead to accounting equity under a regulatory scope of consolidation being disclosed in row 3. Assets and liabilities included in rows 1 and 2 are limited to those assets and liabilities that are taken into consideration in the regulatory framework. Other assets and liabilities not considered in the regulatory framework are to be disclosed in column (g) in Template LI1 and are consequently excluded from rows 1 and 2 of Template LI2.

FAQ6 *For Template LI2, how would the entry in row 10 (exposure amounts considered for regulatory purpose) differ from the balance sheet values under a regulatory scope of consolidation? Is it correct that there would be no differences to be explained, given that market risk does not have exposure values and the linkage for the other risk categories does not apply?*

In general, under a regulatory scope of consolidation, the accounting carrying amount and the regulatory exposure value would vary due to the incidence of off-balance sheet elements, provisions, and different netting and measurement rules. Under market risk, the regulatory exposure value will also differ from the accounting carrying amount. Differences could be due to off-balance sheet items, netting rules and different measurement rules of market risk positions via prudent valuation (as opposed to fair valuation in the applicable accounting framework).

30.4 Template PV1 will provide users with a detailed breakdown of how the aggregate PVAs have been derived. In light of instances where the underlying exposures cannot be easily classified as a banking book or trading book exposure due to the varied implementation of PVAs across jurisdictions, national supervisors are allowed discretion to tailor the format of the template to reflect the implementation of PVAs in their jurisdiction. Where such discretion has been exercised, the allocation methodology should be explained in the narrative commentary to the disclosure requirement.

Table LIA: Explanations of differences between accounting and regulatory exposure amounts

Purpose: Provide qualitative explanations on the differences observed between accounting carrying value (as defined in Template LI1) and amounts considered for regulatory purposes (as defined in Template LI2) under each framework.	
Scope of application: The template is mandatory for all banks.	
Content: Qualitative information.	
Frequency: Annual.	
Format: Flexible.	
Banks must explain the origins of the differences between accounting amounts, as reported in financial statements amounts and regulatory exposure amounts, as displayed in Templates LI1 and LI2.	
(a)	Banks must explain the origins of any significant differences between the amounts in columns (a) and (b) in Template LI1.
(b)	Banks must explain the origins of differences between carrying values and amounts considered for regulatory purposes shown in Template LI2.
(c)	In accordance with the implementation of the guidance on prudent valuation (see CAP50), banks must describe systems and controls to ensure that the valuation estimates are prudent and reliable. Disclosure must include: • Valuation methodologies, including an explanation of how far mark-to-market and mark-to-model methodologies are used. • Description of the independent price verification process. • Procedures for valuation adjustments or reserves (including a description of the process and the methodology for valuing trading positions by type of instrument).
(d)	Banks with insurance subsidiaries must disclose: • the national regulatory approach used with respect to insurance entities in determining a bank's reported capital positions (ie deduction of investments in insurance subsidiaries or alternative approaches, as discussed in SCO30.5; and • any surplus capital in insurance subsidiaries recognised when calculating the bank's capital adequacy (see SCO30.6.

Template LI1: Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories

Purpose: Columns (a) and (b) enable users to identify the differences between the scope of accounting consolidation and the scope of regulatory consolidation; and columns (c)-(g) break down how the amo reported in banks' financial statements (rows) correspond to regulatory risk categories.

Scope of application: The template is mandatory for all banks.

Content: Carrying values (corresponding to the values reported in financial statements).

Frequency: Annual.

Format: Flexible (but the rows must align with the presentation of the bank's financial report).

Accompanying narrative: See Table LIA. Banks are expected to provide qualitative explanation on ite subject to regulatory capital charges in more than one risk category.

	a	b	c	d	e	f
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Carrying values of items:			
			Subject to credit risk framework	Subject to counterparty credit risk framework	Subject to the securitisation framework	Subject to the market risk framework
Assets						
Cash and balances at central banks						
Items in the course of collection from other banks						
Trading portfolio assets						
Financial assets designated at fair value						
Derivative financial instruments						

Loans and advances to banks						
Loans and advances to customers						
Reverse repurchase agreements and other similar secured lending						
Available for sale financial investments						
-.						
Total assets						
Liabilities						
Deposits from banks						
Items in the course of collection due to other banks						
Customer accounts						
Repurchase agreements and other similar secured borrowings						
Trading portfolio liabilities						
Financial liabilities						

designated at fair value						
Derivative financial instruments						
-.						
Total liabilities						

Instructions

Rows

The rows must strictly follow the balance sheet presentation used by the bank in its financial reporting

Columns

If a bank's scope of accounting consolidation and its scope of regulatory consolidation are exac columns (a) and (b) should be merged.

The breakdown of regulatory categories (c) to (f) corresponds to the breakdown prescribed in the column (c) corresponds to the carrying values of items other than off-balance sheet items repor column (d) corresponds to the carrying values of items other than off-balance sheet items repor column (e) corresponds to carrying values of items in the banking book other than off-balanc reported in DIS43; and column (f) corresponds to the carrying values of items other than off-balanc reported in DIS50.

Column (g) includes amounts not subject to capital requirements according to the Basel framework deductions from regulatory capital.

Note: Where a single item attracts capital charges according to more than one risk category f should be reported in all columns that it attracts a capital charge. As a consequence, the sum c columns (c) to (g) may not equal the amounts in column (b) as some items may be subject t capital charges in more than one risk category.

For example, derivative assets/liabilities held in the regulatory trading book may relate to both cc column (f). In such circumstances, the sum of the values in columns (c)-(g) would not equal to that When amounts disclosed in two or more different columns are material and result in a difference be (b) and the sum of columns (c)-(g), the reasons for this difference should be explained by accompanying narrative.

Template LI2: Main sources of differences between regulatory exposure amounts and carrying values in financial statements

Purpose: Provide information on the main sources of differences (other than due to different scopes of consolidation which are shown in Template LI1) between the financial statements' carrying value amounts and the exposure amounts used for regulatory purposes.

Scope of application: The template is mandatory for all banks.

Content: Carrying values that correspond to values reported in financial statements but according to the scope of regulatory consolidation (rows 1-3) and amounts considered for regulatory exposure purposes (row 10).

Frequency: Annual.

Format: Flexible. Row headings shown below are provided for illustrative purposes only and should be adapted by the bank to describe the most meaningful drivers for differences between its financial statement carrying values and the amounts considered for regulatory purposes.

Accompanying narrative: See Table LIA.

		a	b	c	d	e
		Total	Items subject to:			
			Credit risk framework	Securitisation framework	Counterparty credit risk framework	Market risk framework
1	**Asset carrying value amount under scope of regulatory consolidation (as per Template LI1)**					
2	Liabilities carrying value amount under regulatory scope of consolidation (as per Template LI1)					
3	Total net amount under regulatory scope of consolidation (Row 1 - Row 2)					
4	Off-balance sheet amounts					
5	*Differences in valuations*					
6						

	Differences due to different netting rules, other than those already included in row 2					
7	*Differences due to consideration of provisions*					
8	*Differences due to prudential filters*					
9	⋮					
10	**Exposure amounts considered for regulatory purposes**					

Instructions

Amounts in rows 1 and 2, columns (b)-(e) correspond to the amounts in columns (c)-(f) of Template LI1.

Row 1 of Template LI2 includes only assets that are risk-weighted under the Basel framework, while row 2 includes liabilities that are considered for the application of the risk weighting requirements, either as short positions, trading or derivative liabilities, or through the application of the netting rules to calculate the net position of assets to be risk-weighted. These liabilities are not included in column (g) in Template LI1. Assets that are risk-weighted under the Basel framework include assets that are not deducted from capital because they are under the applicable thresholds or due to the netting with liabilities.

Off-balance sheet amounts include off-balance sheet original exposure in column (a) and the amounts subject to regulatory framework, after application of the credit conversion factors (CCFs) where relevant in columns (b)-(d).

Column (a) is not necessarily equal to the sum of columns (b)-(e) due to assets being risk-weighted more than once (see Template LI1). In addition, exposure values used for risk weighting may differ under each risk framework depending on whether standardised approaches or internal models are used in the computation of this exposure value. Therefore, for any type of risk framework, the exposure values under different regulatory approaches can be presented separately in each of the columns if a separate presentation eases the reconciliation of the exposure values for banks.

The breakdown of columns in regulatory risk categories (b)-(e) corresponds to the breakdown prescribed in the rest of the document, ie column (b) credit risk corresponds to the exposures reported in DIS40, column (c) corresponds to the exposures reported in DIS43, column (d) corresponds to exposures reported in DIS42, and column (e) corresponds to the exposures reported in DIS50.

Differences due to consideration of provisions: The exposure values under row 1 are the carrying amounts and hence net of provisions (ie specific and general provisions, as set out in CAP10.18). Nevertheless, exposures under the foundation internal ratings-based (F-IRB) and advanced internal ratings-based (A-IRB) approaches are risk-weighted gross of provisions. Row 7 therefore is the re-inclusion of general and specific provisions in the carrying amount of exposures in the F-IRB and A-IRB approaches so that the carrying amount of those exposures is reconciled with their regulatory exposure value. Row 7 may also include the elements qualifying as general provisions that may have been deducted from the carrying amount of exposures under the standardised approach and that therefore need to be reintegrated in the regulatory exposure value of those exposures. Any differences between the accounting impairment and the regulatory provisions under the Basel framework that have an impact on the exposure amounts considered for regulatory purposes should also be included in row 7.

Exposure amounts considered for regulatory purposes: The expression designates the aggregate amount considered as a starting point of the RWA calculation for each of the risk categories. Under the credit risk framework this should correspond either to the exposure amount applied in the standardised approach for credit risk (see CRE20) or to the exposures at default (EAD) in the

IRB approach for credit risk (see CRE32.29); securitisation exposures should be defined as in the securitisation framework (see CRE40.4 and CRE40.5); and counterparty credit exposures are defined as the EAD considered for counterparty credit risk purposes (see CRE51).

Linkages across templates

Template LI2 is focused on assets in the regulatory scope of consolidation that are subject to the regulatory framework. Therefore, column (g) in Template LI1, which includes the elements of the balance sheet that are **not** subject to the regulatory framework, is not included in Template LI2. The following linkage holds: column (a) in Template LI2 = column (b) in Template LI1 - column (g) in Template LI1.

Template PV1: Prudent valuation adjustments (PVAs)

Purpose: Provide a breakdown of the constituent elements of a bank's PVAs according to the requirements of CAP50, taking into account the guidance set out in *Supervisory guidance for assessing banks' financial instrument fair value practices*, April 2009 (in particular Principle 10).

Scope of application: The template is mandatory for all banks which record PVAs.

Content: PVAs for all assets measured at fair value (marked to market or marked to model) and for which PVAs are required. Assets can be non-derivative or derivative instruments.

Frequency: Annual.

Format: Fixed. The row number cannot be altered. Rows which are not applicable to the reporting bank should be filled with "0" and the reason why they are not applicable should be explained in the accompanying narrative. Supervisors have the discretion to tailor the format of the template to reflect the implementation of PVA in their jurisdictions.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporting period and the key drivers of such changes. In particular, banks are expected to detail "Other adjustments", where significant, and to define them when they are not listed in the Basel framework. Banks are also expected to explain the types of financial instruments for which the highest amounts of PVAs are observed.

		a	b	c	d	e	**f**	g	h
		Equity	Interest rates	Foreign exchange	Credit	Commodities	**Total**	Of which: in the trading book	Of which: in the banking book
1	Closeout uncertainty, of which:								
2	*Mid-market value*								
3	*Closeout cost*								

4	*Concentration*								
5	Early termination								
6	Model risk								
7	Operational risk								
8	Investing and funding costs								
9	Unearned credit spreads								
10	Future administrative costs								
11	Other								
12	**Total adjustment**								

Definitions and instructions

Row number	**Explanation**
3	*Closeout cost:* PVAs required to take account of the valuation uncertainty to adjust for the fact that the position level valuations calculated do not reflect an exit price for the position or portfolio (for example, where such valuations are calibrated to a mid-market price).

4	*Concentration:* PVAs over and above market price and closeout costs that would be required to get to a prudent exit price for positions that are larger than the size of positions for which the valuation has been calculated (ie cases where the aggregate position held by the bank is larger than normal traded volume or larger than the position sizes on which observable quotes or trades that are used to calibrate the price or inputs used by the core valuation model are based).
5	*Early termination*: PVAs to take into account the potential losses arising from contractual or non-contractual early terminations of customer trades that are not reflected in the valuation.
6	*Model risk*: PVAs to take into account valuation model risk which arises due to: (i) the potential existence of a range of different models or model calibrations which are used by users of Pillar 3 data; (ii) the lack of a firm exit price for the specific product being valued; (iii) the use of an incorrect valuation methodology; (iv) the risk of using unobservable and possibly incorrect calibration parameters; or (v) the fact that market or product factors are not captured by the core valuation model.
7	*Operational risk*: PVAs to take into account the potential losses that may be incurred as a result of operational risk related to valuation processes.
8	*Investing and funding costs*: PVAs to reflect the valuation uncertainty in the funding costs that other users of Pillar 3 data would factor into the exit price for a position or portfolio. It includes funding valuation adjustments on derivatives exposures.
9	*Unearned credit spreads*: PVAs to take account of the valuation uncertainty in the adjustment necessary to include the current value of expected losses due to counterparty default on derivative positions, including the valuation uncertainty on CVA.
10	*Future administrative costs*: PVAs to take into account the administrative costs and future hedging costs over the expected life of the exposures for which a direct exit price is not applied for the closeout costs. This valuation adjustment has to include the operational costs arising from hedging, administration and settlement of contracts in the portfolio. The future administrative costs are incurred by the portfolio or position but are not reflected in the core valuation model or the prices used to calibrate inputs to that model.
11	*Other*: "Other" PVAs which are required to take into account factors that will influence the exit price but which do not fall in any of the categories listed in CAP50.10. These should be described by banks in the narrative commentary that supports the disclosure.

Linkages across templates

[PV1:12/f] is equal to [CC1:7/a]

DIS31

Asset encumbrance

This chapter covers disclosures on the amount of encumbered and unencumbered assets.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework, updated to take account of new implementation date as announced on 27 March 2020.

Introduction

31.1 The disclosure requirement under this section is: Template ENC – Asset encumbrance.

31.2 Template ENC provides information on the encumbered and unencumbered assets of a bank. Jurisdictions may include at their discretion a column that requires banks to report separately all assets currently used in central bank facilities, irrespective of whether those assets are considered to be encumbered or unencumbered as defined in the disclosure requirement.

31.3 The definition of "encumbered assets" in Template ENC is different to that under LCR30 for on-balance sheet assets. Specifically, the definition of "encumbered assets" in Template ENC excludes the aspect of asset monetisation. Under Template ENC, "encumbered assets" are assets that the bank is restricted or prevented from liquidating, selling, transferring or assigning, due to regulatory, contractual or other limitations.

Template ENC: Asset encumbrance

Purpose: To provide the amount of encumbered and unencumbered assets.

Scope of application: The template is mandatory for all banks.

Content: Carrying amount for encumbered and unencumbered assets on the balance sheet using period-end values. Banks must use the specific definition of "encumbered assets" set out in the instructions below in making the disclosure. The scope of consolidation for the purposes of this disclosure requirement should be a bank's regulatory scope of consolidation, but including its securitisation exposures.

Frequency: Semiannual

Format: Fixed.

Banks should always complete columns (a), (c) and (d). Supervisors may separately, require the breakdown of column (a) by types of transaction, and/or require the breakdown of column (c) into categories of unencumbered assets. Supervisors may also provide guidance on the treatment of some assets as encumbered or unencumbered (eg central bank facilities, assets that secure transactions or facilities in excess of minimum requirements).

Irrespective of whether breakdowns of banks' encumbered and unencumbered assets by transaction type and category are required, supervisors may require banks to disclose, separately, assets supporting central bank facilities. This is illustrated by the "optional" column in the template below.

In jurisdictions where supervisors do not require banks to disclose assets supporting central bank facilities using the optional column, banks should group any assets used in central bank facilities with other encumbered and unencumbered assets, as appropriate.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain
(i) any significant change in the amount of encumbered and unencumbered assets from the previous disclosure; (ii) as applicable, any definition of the amounts of encumbered and/or unencumbered assets broken down by types of transaction/category; and (iii) any other relevant information necessary to understand the context of the disclosed figures. When a separate column for central bank facilities is used, banks should describe the types of assets and facilities included in this column.

	a	b	c	d
	Encumbered assets	**[Optional]** Central bank facilities	**Unencumbered assets**	**Total**
The assets on the balance sheet would be disaggregated;				

there can be as much disaggregation as desired				

Definitions

The definitions are specific to this template and are not applicable for other parts of the Basel framework.

Encumbered assets: Encumbered assets are assets that the bank is restricted or prevented from liquidating, selling, transferring or assigning due to legal, regulatory, contractual or other limitations. When the optional column on central bank facilities is used, encumbered assets exclude central bank facilities. The definition of "encumbered assets" in Template ENC is different than that under the Liquidity Coverage Ratio for on-balance sheet assets. Specifically, the definition of "encumbered assets" in Template ENC excludes the aspect of asset monetisation. For an unencumbered asset to qualify as high-quality liquid assets, the LCR requires a bank to have the ability to monetise that asset during the stress period such that the bank can meet net cash outflows.

Unencumbered assets: Unencumbered assets are assets which do not meet the definition of encumbered. When the optional column on central bank facilities is used, unencumbered assets exclude central bank facilities.

Central bank facilities: Assets in use to secure transactions, or remaining available to secure transactions, in any central bank facility, including facilities used for monetary policy, liquidity assistance or any other and ad hoc funding facilities.

Instructions

Total (in column (d)): Sum of encumbered and unencumbered assets, and central bank facilities where relevant. The scope of consolidation for the purposes of this disclosure requirement should be based on a bank's regulatory scope of consolidation, but including its securitisation exposures.

DIS35

Remuneration

The disclosures described in this chapter provide information on a bank's remuneration policy, the fixed and variable remuneration awarded during the financial year, details of any special payments made, and information on a bank's total outstanding deferred and retained remuneration.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Introduction

35.1 The disclosure requirements under this section are:

(1) Table REMA – Remuneration policy

(2) Template REM1 – Remuneration awarded during financial year

(3) Template REM2 – Special payments

(4) Template REM3 – Deferred remuneration

35.2 Table REMA provides information on a bank's remuneration policy as well as key features of the remuneration system.

35.3 Templates REM1, REM2 and REM3 provide information on a bank's fixed and variable remuneration awarded during the financial year, details of any special payments made, and information on a bank's total outstanding deferred and retained remuneration, respectively.

35.4 The disclosure requirements should be published annually. When it is not possible for the remuneration disclosures to be made at the same time as the publication of a bank's annual report, the disclosures should be made as soon as possible thereafter.

Table REMA: Remuneration policy

Purpose: Describe the bank's remuneration policy as well as key features of the remuneration system to allow meaningful assessments by users of Pillar 3 data of banks' compensation practices.

Scope of application: The table is mandatory for all banks.

Content: Qualitative information.

Frequency: Annual

Format: Flexible.

Banks must describe the main elements of their remuneration system and how they develop this system. In particular, the following elements, where relevant, should be described:

	Qualitative disclosures
(a)	Information relating to the bodies that oversee remuneration. Disclosures should include: • Name, composition and mandate of the main body overseeing remuneration. • External consultants whose advice has been sought, the body by which they were commissioned, and in what areas of the remuneration process. • A description of the scope of the bank's remuneration policy (eg by regions, business lines), including the extent to which it is applicable to foreign subsidiaries and branches. • A description of the types of employees considered as material risk-takers and as senior managers.
(b)	Information relating to the design and structure of remuneration processes. Disclosures should include: • An overview of the key features and objectives of remuneration policy. • Whether the remuneration committee reviewed the firm's remuneration policy during the past year, and if so, an overview of any changes that were made, the reasons for those changes and their impact on remuneration. • A discussion of how the bank ensures that risk and compliance employees are remunerated independently of the businesses they oversee.
(c)	Description of the ways in which current and future risks are taken into account in the remuneration processes. Disclosures should include an overview of the key risks, their measurement and how these measures affect remuneration.
(d)	Description of the ways in which the bank seeks to link performance during a performance measurement period with levels of remuneration. Disclosures should include: • An overview of main performance metrics for bank, top-level business lines and individuals. • A discussion of how amounts of individual remuneration are linked to bank-wide and individual performance.

- A discussion of the measures the bank will in general implement to adjust remuneration in the event that performance metrics are weak, including the bank's criteria for determining "weak" performance metrics.

	Description of the ways in which the bank seeks to adjust remuneration to take account of longer-term performance. Disclosures should include:
(e)	• A discussion of the bank's policy on deferral and vesting of variable remuneration and, if the fraction of variable remuneration that is deferred differs across employees or groups of employees, a description of the factors that determine the fraction and their relative importance. • A discussion of the bank's policy and criteria for adjusting deferred remuneration before vesting and (if permitted by national law) after vesting through clawback arrangements.
	Description of the different forms of variable remuneration that the bank utilises and the rationale for using these different forms. Disclosures should include:
(f)	• An overview of the forms of variable remuneration offered (ie cash, shares and share-linked instruments and other forms). • A discussion of the use of the different forms of variable remuneration and, if the mix of different forms of variable remuneration differs across employees or groups of employees), a description the factors that determine the mix and their relative importance.

Table REM1: Remuneration awarded during the financial year

Purpose: Provide quantitative information on remuneration for the financial year.

Scope of application: The template is mandatory for all banks.

Content: Quantitative information.

Frequency: Annual

Format: Flexible.

Accompanying narrative: Banks may supplement the template with a narrative commentary to explain any significant movements over the reporting period and the key drivers of such movements.

			a	b
	Remuneration amount		Senior management	Other material risk-takers
1	Fixed remuneration	Number of employees		
2		Total fixed remuneration (rows 3 + 5 + 7)		
3		Of which: cash-based		
4		Of which: deferred		
5		Of which: shares or other share-linked instruments		
6		Of which: deferred		
7		Of which: other forms		
8		Of which: deferred		
9	Variable remuneration	Number of employees		
10		Total variable remuneration (rows 11 + 13 + 15)		
11		Of which: cash-based		
12		Of which: deferred		
13		Of which: shares or other share-linked instruments		

14		Of which: deferred		
15		Of which: other forms		
16		Of which: deferred		
17	Total remuneration (rows 2 + 10)			

Definitions and instructions

Senior management and other material risk-takers categories in columns (a) and (b) must correspond to the type of employees described in Table REMA.

Other forms of remuneration in rows 7 and 15 must be described in Table REMA and, if needed, in the accompanying narrative.

Table REM2: Special payments

Purpose: Provide quantitative information on special payments for the financial year.

Scope of application: The template is mandatory for all banks.

Content: Quantitative information.

Frequency: Annual.

Format: Flexible.

Accompanying narrative: Banks may supplement the template with a narrative commentary to explain any significant movements over the reporting period and the key drivers of such movements.

Special payments	Guaranteed bonuses		Sign-on awards		Severance payments	
	Number of employees	Total amount	Number of employees	Total amount	Number of employees	Total amount
Senior management						
Other material risk-takers						

Definitions and instructions

Senior management and other material risk-takers categories in rows 1 and 2 must correspond to the type of employees described in Table REMA.

Guaranteed bonuses are payments of guaranteed bonuses during the financial year.

Sign-on awards are payments allocated to employees upon recruitment during the financial year.

Severance payments are payments allocated to employees dismissed during the financial year.

Template REM3: Deferred remuneration

Template REM3: Deferred remuneration

Purpose: Provide quantitative information on deferred and retained remuneration.

Scope of application: The template is mandatory for all banks.

Content: Quantitative information.

Frequency: Annual.

Format: Flexible.

Accompanying narrative: Banks may supplement the template with a narrative commentary to explain any significant movements over the reporting period and the key drivers of such movements.

	a	b	c	d	e
Deferred and retained remuneration	Total amount of outstanding deferred remuneration	Of which: total amount of outstanding deferred and retained remuneration exposed to ex post explicit and/or implicit adjustment	Total amount of amendment during the year due to ex post explicit adjustments	Total amount of amendment during the year due to ex post implicit adjustments	Total amount of deferred remuneration paid out in the financial year
Senior management					
Cash					
Shares					
Cash-linked instruments					

Other					
Other material risk-takers					
Cash					
Shares					
Cash-linked instruments					
Other					
Total					

Definitions

Outstanding exposed to ex post explicit adjustment: Part of the deferred and retained remuneration that is subject to direct adjustment clauses (for instance, subject to malus, clawbacks or similar reversal or downward revaluations of awards).

Outstanding exposed to ex post implicit adjustment: Part of the deferred and retained remuneration that is subject to adjustment clauses that could change the remuneration, due to the fact that they are linked to the performance of other indicators (for instance, fluctuation in the value of shares performance or performance units).

In columns (a) and (b), the amounts at reporting date (cumulated over the last years) are expected. In columns (c)-(e), movements during the financial year are expected. While columns (c) and (d) show the movements specifically related to column (b), column (e) shows payments that have affected column (a).

DIS40

Credit risk

This chapter describes disclosure requirements for credit risk.

Version effective as of 01 Jan 2023

Updated to include additional disclosure requirements related to the prudential treatment of problem assets (Table CRB-A), updated cross references and other changes to take account of changes in the credit risk standard in the December 2017 Basel III publication. Reflects revised implementation date announced on 27 March 2020.

Introduction

40.1 The scope of DIS40 includes items subject to risk-weighted assets (RWA) for credit risk as defined in RBC20.6(1), ie excluding:

(1) all positions subject to the securitisation regulatory framework, including those that are included in the banking book for regulatory purposes, which are reported in DIS43.

(2) capital requirements relating to counterparty credit risk, which are reported in DIS42.

40.2 The disclosure requirements under this section are:

General information about credit risk:

(1) Table CRA - General qualitative information about credit risk

(2) Template CR1 - Credit quality of assets

(3) Template CR2 - Changes in stock of defaulted loans and debt securities

(4) Table CRB - Additional disclosure related to the credit quality of assets

(5) Table CRB-A - Additional disclosure related to prudential treatment of problem assets

Credit risk mitigation:

(6) Table CRC - Qualitative disclosure related to credit risk mitigation techniques

(7) Template CR3 - Credit risk mitigation techniques - overview

Credit risk under standardised approach:

(8) Table CRD - Qualitative disclosure on banks' use of external credit ratings under the standardised approach for credit risk

(9) Template CR4 - Standardised approach - Credit risk exposure and credit risk mitigation effects

(10) Template CR5 - Standardised approach - Exposures by asset classes and risk weights

Credit risk under internal risk-based approaches:

(11) Table CRE - Qualitative disclosure related to internal ratings-based (IRB) models

(12) Template CR6 - IRB - Credit risk exposures by portfolio and probability of default (PD) range

(13) Template CR7 - IRB - Effect on RWA of credit derivatives used as credit risk mitigation (CRM) techniques

(14) Template CR8 - RWA flow statements of credit risk exposures under IRB

(15) Template CR9 - IRB - Backtesting of probability of default (PD) per portfolio

(16) Template CR10 - IRB (specialised lending under the slotting approach)

FAQ

FAQ1 *How should the disclosure be made in Template CR3, in an example where a loan has multiple types of credit risk mitigation and is over-collateralised (eg a loan of 100 with land collateral of 120 as well as guarantees of 50)?*

When an exposure benefits from multiple types of credit risk mitigation mechanisms, the exposure value should be allocated to each mechanism by order of priority based on the credit risk mitigation mechanism which banks would apply in the event of loss. Disclosure should be limited to the value of the exposure (ie the amount of over-collateralisation does not need to be disclosed in the table). If the bank wishes to disclose information regarding the over-collateralisation, it may do so in the accompanying narrative. Refer to example in DIS99.1.

FAQ2 *What are the values to be ascribed to collateral, guarantees and credit derivatives in Template CR3?*

Banks should disclose the amount of credit risk mitigation calculated according to the regulatory framework, including both the costs to sell and of haircut.

FAQ3 *Where should exposures to central counterparties (CCPs) be included?*

Exposures for trades, initial margins and default fund contributions are included in Template CCR8. Exposures stemming from loans to CCPs excluding initial margins and default fund contributions should be included within the credit risk framework considering the CCP as an

asset class item. These loans should be included in the exposure class where the national implementation of the Basel framework allows exposures to CCPs to be included.

FAQ4 *In Template CR7, what is the required disclosure if an exposure is only partially hedged by a credit derivative? For instance, consider a loan with nominal exposure of $100, risk weight of 150% and therefore RWA of $150. The bank buys a credit default swap with a $30 nominal amount, and the risk weight of the protection provider is 50%. Which values should be entered in columns (a) and (b)?*

*Under the IRB approach, credit derivatives are recognised as CRM techniques for the F-IRB and A-IRB. In both cases, banks can reflect the risk mitigating effect of credit derivatives on an exposure by adjusting their PD or loss-given-default (LGD). Banks should disclose in column (a), the RWA of an exposure secured by a credit derivative calculated without reflecting the risk mitigating effect of credit derivatives (in the example, banks would disclose $150). In column (b), the RWA of the same exposure calculated reflecting the risk mitigating effect of credit derivatives (in the example, banks would disclose 30*50% + 70*150% = 120) should be disclosed.*

FAQ5 *Is the "weighted average PD" in column (d) of Template CR9 to be calculated based on the formula $\sum(PD_i*EAD_i)/(\sum EAD_i)$?*

"Weighted" means exposure at default (EAD)-weighted. For this purpose, the formula above is correct since the data will be comparable to those reported in column (i).

FAQ6 *How should "defaulted obligors" be defined, for the purpose of Template CR9? For column (f) (number of obligors), please clarify how "obligors" are defined from a retail perspective. Should "end of the previous year" include only non-defaulted accounts at the beginning of the year, or both defaulted and non-defaulted accounts? Should "end of the year" include all active accounts at the end of the year? For column (g) (defaulted obligors in the year), please clarify whether it is related to accounts that defaulted during the year or from inception.*

The definition of obligors or retail obligors is the same as for other obligors; any individual person or persons, or a small or medium-sized entity. Furthermore, where banks apply the "transaction approach", each transaction shall be considered as a single obligor. A defaulted obligor is an obligor that meets the conditions set out in CRE36.69 to CRE36.76.

For column (f), the "end of the previous year" includes non-defaulted accounts at the beginning of the year of reference for disclosure. The "end of the year" includes all the non-defaulted accounts related to obligors already included in the "end of the previous year" plus all the new obligors acquired during the year of reference for disclosure which did not go into default during the year. Banks have discretion as to whether to include obligors who left during the year within the "end of the year" number.

For column (g), "defaulted obligors" includes: (i) obligors not in default at the beginning of the year who went into default during the year; and (ii) new obligors acquired during the year– through origination or purchase of loans, debt securities or off-balance sheet commitments – that were not in default, but which went into default during the year. Obligors under (ii) are also separately disclosed in column (h). The PD or PD range to be included in columns (d) and (e) is the one assigned at the beginning of the period for obligors that are not in default at the beginning of the period.

FAQ7 *What considerations can institutions reference when disclosing a model performance test (backtesting) when the test is not aligned to the year-end disclosure timetable?*

The frequency of the disclosure is not linked to the timing of the bank's backtesting. The annual disclosure frequency does not require a timetable of model backtesting that is calibrated on a calendar year basis. When the backtesting reference period is not calibrated on a calendar year basis, but on another time interval (for instance, a 12-month interval), "year" as used in columns (f), (g) and (h) of Template CR9 means "over the period used for the backtesting of a model". Banks must, however, disclose the time horizon (observation period /timetable) they use for their backtesting.

Table CRA: General qualitative information about credit risk

Purpose: Describe the main characteristics and elements of credit risk management (business model and credit risk profile, organisation and functions involved in credit risk management, risk management reporting).
Scope of application: The table is mandatory for all banks.
Content: Qualitative information.
Frequency: Annual.
Format: Flexible.
Banks must describe their risk management objectives and policies for credit risk, focusing in particular on:

(a)	How the business model translates into the components of the bank's credit risk profile
(b)	Criteria and approach used for defining credit risk management policy and for setting credit risk limits
(c)	Structure and organisation of the credit risk management and control function
(d)	Relationships between the credit risk management, risk control, compliance and internal audit functions
(e)	Scope and main content of the reporting on credit risk exposure and on the credit risk management function to the executive management and to the board of directors

Template CR1: Credit quality of assets

Purpose: Provide a comprehensive picture of the credit quality of a bank's (on- and off-balance sh assets.

Scope of application: The template is mandatory for all banks. Columns d, e and f are only applic for banks that have adopted an ECL accounting model.

Content: Carrying values (corresponding to the accounting values reported in financial statements according to the scope of regulatory consolidation).

Frequency: Semiannual.

Format: Fixed. (Jurisdictions may require a more granular breakdown of asset classes, but rows 1 to defined below are mandatory for all banks).

Accompanying narrative: Banks must include their definition of default in an accompanying narrative

		a	b	c	*d*	*e*	*f*	g
		Gross carrying values of		Allowances/ impairments	Of which ECL accounting provisions for credit losses on SA exposures		Of which ECL accounting provisions for credit losses on IRB exposures	Net value (a+b c)
		Defaulted exposures	Non-defaulted exposures		Allocated in regulatory category of Specific	Allocated in regulatory category of General		
1	Loans							
2	Debt Securities							
3	Off-balance sheet exposures							
4	***Total***							

Definitions

Gross carrying values: on- and off-balance sheet items that give rise to a credit risk exposure accord to the Basel framework. On-balance sheet items include loans and debt securities. Off-balance sh items must be measured according to the following criteria: (a) guarantees given - the maxim amount that the bank would have to pay if the guarantee were called. The amount must be gross of

credit conversion factor (CCF) or credit risk mitigation (CRM) techniques. (b) Irrevocable lo commitments - total amount that the bank has committed to lend. The amount must be gross of CCF or CRM techniques. Revocable loan commitments must not be included. The gross value is accounting value before any allowance/impairments but after considering write-offs. Banks must take into account any credit risk mitigation technique.

Write-offs for the purpose of this template are related to a direct reduction of the carrying amount wh the entity has no reasonable expectations of recovery.

Defaulted exposures: banks should use the definition of default that they also use for regulat purposes. Banks must provide this definition of default in the accompanying narrative. For a bank us the standardised approach for credit risk, the default exposures in Templates CR1 and CR2 sho correspond to exposures that are "past due for more than 90 days", as stated in CRE20.104.

Non-defaulted exposures: any exposure not meeting the above definition of default.

Accounting provisions for credit losses: total amount of provisions, made via an allowance agai impaired and not impaired exposures (may correspond to general reserves in certain jurisdictions or r be made via allowance account or direct reduction - direct write-down in some jurisdictions) accord to the applicable accounting framework. For example, when the accounting framework is IFRS "impaired exposures" are those that are considered "credit-impaired" in the meaning of IFRS 9 Apper A. When the accounting framework is US GAAP, "impaired exposures" are those exposures for wh credit losses are measured under ASC Topic 326 and for which the bank has recorded a partial write /write-down.

Banks must fill in column d to f in accordance with the categorisation of accounting provisi distinguishing those meeting the conditions to be categorised in general provisions, as defined in CAP 18 in their jurisdiction, and those that are categorised as specific provisions. This categorisation must consistent with information provided in Table CRB.

Net values: Total gross value less allowances/impairments.

Debt securities: Debt securities exclude equity investments subject to the credit risk framework. Howe banks may add a row between rows 2 and 3 for "other investment" (if needed) and explain in accompanying narrative.

Linkages across templates

Amount in [CR1:1/g] is equal to the sum [CR3:1/a] + [CR3:1/b].

Amount in [CR1:2/g] is equal to the sum [CR3:2/a] + [CR3:2/b].

Amount in [CR1:4/a] is equal to [CR2:6/a], only when (i) there is zero defaulted off-balance sh exposure or national supervisor has exercised discretion to include off-balance sheet exposures Template CR2.

Template CR2: Changes in stock of defaulted loans and debt securities

Purpose: Identify the changes in a bank's stock of defaulted exposures, the flows between non-defaulted and defaulted exposure categories and reductions in the stock of defaulted exposures due to write-offs.

Scope of application: The template is mandatory for all banks.

Content: Carrying values.

National supervisors have discretion to decide whether off-balance sheet exposures should be included.

Frequency: Semiannual.

Format: Fixed. (Jurisdictions may require additional columns to provide a further breakdown of exposures by counterparty type).

Accompanying narrative: Banks should explain the drivers of any significant changes in the amounts of defaulted exposures from the previous reporting period and any significant movement between defaulted and non-defaulted loans.

Banks should disclose in their accompanying narrative whether defaulted exposures include off-balance sheet items.

		a
1	**Defaulted loans and debt securities at end of the previous reporting period**	
2	Loans and debt securities that have defaulted since the last reporting period	
3	Returned to non-defaulted status	
4	Amounts written off	
5	Other changes	
6	**Defaulted loans and debt securities at end of the reporting period** (1+2-3-4+5)	

Definitions

Defaulted exposure: such exposures must be reported net of write-offs and gross of (ie ignoring) allowances/impairments. For a bank using the standardised approach for credit risk, the default exposures in Templates CR1 and CR2 should correspond to exposures that are "past due for more than 90 days", as stated in CRE20.104.

Loans and debt securities that have defaulted since the last reporting period: refers to any loan or debt securities that became marked as defaulted during the reporting period.

Return to non-defaulted status: refers to loans or debt securities that returned to non-default status during the reporting period.

Amounts written off: both total and partial write-offs.

Other changes: balancing items that are necessary to enable total to reconcile.

Table CRB: Additional disclosure related to the credit quality of assets

Purpose: Supplement the quantitative templates with information on the credit quality of a bank's assets.

Scope of application: The table is mandatory for all banks.

Content: Additional qualitative and quantitative information (carrying values).

Frequency: Annual.

Format: Flexible.

Banks must provide the following disclosures:

Qualitative disclosures	
(a)	The scope and definitions of "past due" and "impaired" exposures used for accounting purposes and the differences, if any, between the definition of past due and default for accounting and regulatory purposes. When the accounting framework is IFRS 9, "impaired exposures" are those that are considered "credit-impaired" in the meaning of IFRS 9 Appendix A. When the accounting framework is US GAAP, "impaired exposures" are those exposures for which credit losses are measured under ASC Topic 326 and for which the bank has recorded a partial write-off/write-down.
(b)	The extent of past-due exposures (more than 90 days) that are not considered to be impaired and the reasons for this.
(c)	Description of methods used for determining accounting provisions for credit losses. In addition, banks that have adopted an ECL accounting model must provide information on the rationale for categorisation of ECL accounting provisions in general and specific categories for standardised approach exposures.
(d)	The bank's own definition of a restructured exposure. Banks should disclose the definition of restructured exposures they use (which may be a definition from the local accounting or regulatory framework).
Quantitative disclosures	
(e)	Breakdown of exposures by geographical areas, industry and residual maturity.
(f)	Amounts of impaired exposures (according to the definition used by the bank for accounting purposes) and related accounting provisions, broken down by geographical areas and industry.
(g)	Ageing analysis of accounting past-due exposures.
(h)	Breakdown of restructured exposures between impaired and not impaired exposures.

Table CRB-A - Additional disclosure related to prudential treatment of problem assets

Purpose: To supplement the quantitative templates with additional information related to non-performing exposures and forbearance.

Scope of application: The table is mandatory for banks only when required by national supervisors at jurisdictional level.

Content: Qualitative and quantitative information (carrying values corresponding to the accounting values reported in financial statements but according to the regulatory scope of consolidation).

Frequency: Annual.

Format: Flexible.

Banks must provide the following disclosures:

	Qualitative disclosures
(a)	The bank's own definition of non-performing exposures. The bank should specify in particular if it is using the definition provided in the guidelines on prudential treatment of problem assets (hereafter in this table referred to as the "Guidelines")[1] and provide a discussion on the implementation of its definition, including the materiality threshold used to categorise exposures as past due, the exit criteria of the non-performing category (providing information on a probation period, if relevant), together with any useful information for users' understanding of this categorisation. This would include a discussion of any differences or unique processes for the categorisation of corporate and retail loans.
(b)	The bank's own definition of a forborne exposure. The bank should specify in particular if it is using the definition provided in the Guidelines and provide a discussion on the implementation of its definition, including the exit criteria of the restructured or forborne category (providing information on the probation period, if relevant), together with any useful information for users' understanding of this categorisation. This would include a discussion of any differences or unique processes for the catagorisation of corporate and retail loans.[2]
	Quantitative disclosures
(c)	Gross carrying value of total performing as well as non-performing exposures, broken down first by debt securities, loans and off-balance sheet exposures. Loans should be further broken down by corporate and retail exposures; national supervisors may require additional breakdowns of non-performing exposures, if needed, to enable an understanding of material differences in the level of risk or provision cover among different portfolios (eg retail exposures by secured by real estate/mortages, revolving exposures, small and medium-sized enterprises (SMEs), other retail). Non-performing exposures should in addition be split into (i) defaulted exposures and/or impaired exposures;[3] (ii) exposures that are not defaulted /impaired exposures but are more than 90 days past due; and (iii) other exposures where there is evidence that full repayment is unlikely without the bank's realisation of collateral (which would include exposures that are not defaulted/impaired and are not more than 90 days past due but for which payment is unlikely without the bank's realisation of collateral, even if the exposures are not past due). Value adjustments and provisions[4] for non-performing exposures should also be disclosed.

(d)	Gross carrying values of restructured/forborne exposures broken down first by debt securities, loans and off-balance sheet exposures. Loans should be further broken down by corporate and retail exposures; supervisors may require a more detailed breakdown, if needed, to enable an understanding of material differences in the level of risk among different portfolios (eg retail exposures secured by real estate/mortages, revolving exposures, SMEs, other retail). Exposures should, in addition, be split into performing and non-performing, and impaired and not impaired exposures. Value adjustments and provisions for non-performing exposures should also be disclosed.

Definitions

Gross carrying values: on- and off-balance sheet items that give rise to a credit risk exposure according to the finalised Basel framework. On-balance sheet items include loans and debt securities. Off-balance sheet items must be measured according to the following criteria:

(a) Guarantees given - the maximum amount that the bank would have to pay if the guarantee were called. The amount must be gross of any credit conversion factor (CCF) or credit risk mitigation (CRM) techniques.

(b) Irrevocable loan commitments - the total amount that the bank has committed to lend. The amount must be gross of any CCF or CRM techniques. Revocable loan commitments must not be included. The gross value is the accounting value before any allowance/impairments but after considering write-offs. Banks must not take into account any CRM technique.

Footnotes

[1] www.bis.org/bcbs/publ/d403.pdf

[2] *Banks are allowed to (i) merge row (d) of Table CRB with row (b) of Table CRB-A and (ii) merge row (h) of Table CRB with row (d) of Table CRB-A if and only if the bank uses a common definition for restructured and forborne exposures. The bank should clarify in the disclosure that they are applying a common definition for restructured and forborne exposures. In such case, the bank should also specify in the accompanying narrative that it uses a common definition for restructured exposures and forborne exposures that therefore, information disclosed regarding requirements of row (b) and row (d) of Table CRB-A have been merged with the row (d) and row (h) of Table CRB, respectively.*

[3] *When the accounting framework is IFRS 9, "impaired exposures" are those that are considered "credit-impaired" in the meaning of IFRS 9 Appendix A. When the accounting framework is US GAAP, "impaired exposures" are those exposures for which credit losses are measured under ASC Topic 326 and for which the bank has recorded a partial write-off/writedown.*

[4] *Please refer to paragraph 33 of the Guidelines, where it is stated: "these value adjustments and provisions refer to both the allowance for credit losses and direct reductions of the outstanding of an exposure to reflect a decline in the counterparty's creditworthiness". For banks not applying the Guidelines, please refer to the definition of accounting provisions included in Template CR1, which is in line with paragraph 33 of the Guidelines.*

Table CRC: Qualitative disclosure related to credit risk mitigation techniques

Purpose: Provide qualitative information on the mitigation of credit risk.	
Scope of application: The table is mandatory for all banks.	
Content: Qualitative information.	
Frequency: Annual.	
Format: Flexible	
Banks must disclose:	
(a)	Core features of policies and processes for, and an indication of the extent to which the bank makes use of, on- and off-balance sheet netting.
(b)	Core features of policies and processes for collateral evaluation and management.
(c)	Information about market or credit risk concentrations under the credit risk mitigation instruments used (ie by guarantor type, collateral and credit derivative providers). Banks should disclose a meaningful breakdown of their credit derivative providers, and set the level of granularity of this breakdown in accordance with DIS10.12. For instance, banks are not required to identify their derivative counterparties nominally if the name of the counterparty is considered to be confidential information. Instead, the credit derivative exposure can be broken down by rating class or by type of counterparty (eg banks, other financial institutions, non-financial institutions).

Template CR3: Credit risk mitigation techniques - overview

Purpose: Disclose the extent of use of credit risk mitigation techniques.

Scope of application: The template is mandatory for all banks.

Content: Carrying values. Banks must include all CRM techniques used to reduce capital requirements and disclose all secured exposures, irrespective of whether the standardised or IRB approach is used for RWA calculation.

Please refer to DIS99.1 for an illustration on how the template should be completed.

Frequency: Semiannual.

Format: Fixed. (Jurisdictions may require additional sub-rows to provide a more detailed breakdown in rows but must retain the four rows listed below.) Where banks are unable to categorise exposures secured by collateral, financial guarantees or credit derivative into "loans" and "debt securities", they can either (i) merge two corresponding cells, or (ii) divide the amount by the pro-rata weight of gross carrying values; they must explain which method they have used.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporting period and the key drivers of such changes.

		a	b	c	d	e
		Exposures unsecured: carrying amount	Exposures to be secured	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
1	Loans					
2	Debt securities					
3	**Total**					
4	Of which defaulted					

Definitions

Exposures unsecured- carrying amount: carrying amount of exposures (net of allowances /impairments) that do not benefit from a credit risk mitigation technique.

Exposures to be secured: carrying amount of exposures which have at least one credit risk mitigation mechanism (collateral, financial guarantees, credit derivatives) associated with them. The allocation of the carrying amount of multi-secured exposures to their different credit risk mitigation mechanisms is made by order of priority, starting with the credit risk mitigation mechanism expected to be called first in the event of loss, and within the limits of the carrying amount of the secured exposures.

Exposures secured by collateral: carrying amount of exposures (net of allowances/impairments) partly or totally secured by collateral. In case an exposure is secured by collateral and other credit risk mitigation mechanism(s), the carrying amount of the exposures secured by collateral is the remaining share of the exposure secured by collateral after consideration of the shares of the exposure already secured by other mitigation mechanisms expected to be called beforehand in the event of a loss, without considering overcollateralisation.

Exposures secured by financial guarantees: carrying amount of exposures (net of allowances /impairments) partly or totally secured by financial guarantees. In case an exposure is secured by financial guarantees and other credit risk mitigation mechanism, the carrying amount of the exposure secured by financial guarantees is the remaining share of the exposure secured by financial guarantees after consideration of the shares of the exposure already secured by other mitigation mechanisms expected to be called beforehand in the event of a loss, without considering overcollateralisation.

Exposures secured by credit derivatives: carrying amount of exposures (net of allowances /impairments) partly or totally secured by credit derivatives. In case an exposure is secured by credit derivatives and other credit risk mitigation mechanism(s), the carrying amount of the exposure secured by credit derivatives is the remaining share of the exposure secured by credit derivatives after consideration of the shares of the exposure already secured by other mitigation

mechanisms expected to be called beforehand in the event of a loss, without considering overcollateralisation.

Table CRD: Qualitative disclosure on banks' use of external credit ratings under the standardised approach for credit risk

Purpose: Supplement the information on a bank's use of the standardised approach with qualitative data on the use of external ratings.

Scope of application: The table is mandatory for all banks that: (a) use the credit risk standardised approach (or the simplified standardised approach); and (b) make use of external credit ratings for their RWA calculation.

In order to provide meaningful information to users, the bank may choose not to disclose the information requested in the table if the exposures and RWA amounts are negligible. It is however required to explain why it considers the information not to be meaningful to users, including a description of the portfolios concerned and the aggregate total RWA these portfolios represent.

Content: Qualitative information.

Frequency: Annual.

Format: Flexible.

A. For portfolios that are risk-weighted under the standardised approach for credit risk, banks must disclose the following information:

(a)	Names of the external credit assessment institutions (ECAIs) and export credit agencies (ECAs) used by the bank, and the reasons for any changes over the reporting period;
(b)	The asset classes for which each ECAI or ECA is used;
(c)	A description of the process used to transfer the issuer to issue credit ratings onto comparable assets in the banking book (see CRE21.12 to CRE21.14); and
(d)	The alignment of the alphanumerical scale of each agency used with risk buckets (except where the relevant supervisor publishes a standard mapping with which the bank has to comply).

Template CR4: Standardised approach - credit risk exposure and credit risk mitigation (CRM) effects

Purpose: To illustrate the effect of CRM (comprehensive and simple approach) on capital requirement calculations under the standardised approach for credit risk. RWA density provides a synthetic metric on the riskiness of each portfolio.

Scope of application: The template is mandatory for banks using the standardised approach for credit risk, regardless of whether a jurisdiction allows the use of external credit ratings for regulatory capital purposes.

Subject to supervisory approval of the immateriality of the asset class, banks that intend to adopt a phased rollout of the IRB approach may apply the standardised approach to certain asset classes. In circumstances where exposures and RWA amounts subject to the standardised approach may be considered to be negligible, and disclosure of this information to users would not provide any meaningful information, the bank may choose not to disclose the template for the exposures treated under the standardised approach. The bank must, however, explain why it considers the information not to be meaningful to users. The explanation must include a description of the exposures included in the respective portfolios and the aggregate total of RWA from such exposures.

When the framework for equity investments in funds enters into force in the jurisdiction, corresponding requirements must not be reported in this template but in Template OV1.

Content: Regulatory exposure amounts.

Frequency: Semiannual.

Format: Fixed. The columns cannot be altered. The rows reflect the asset classes as defined under the Basel framework. Jurisdictions may add or delete rows to reflect any differences in their implementation of the standardised approach, but the numbering of the prescribed rows must not be altered.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant change over the reporting period and the key drivers of such changes. Banks should describe the sequence in which CCFs, provisioning and credit risk mitigation measures are applied.

		a	b	c	d	e	f
		Exposures before CCF and CRM		**Exposures post-CCF and post-CRM**		**RWA and RWA density**	
	Asset classes	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA density
1	Sovereigns and their central banks						
2	Non-central government public sector entities						

3	Multilateral development banks						
4	Banks						
	Of which: securities firms and other financial institutions						
5	Covered bonds						
6	Corporates						
	Of which: securities firms and other financial institutions						
	Of which: specialised lending						
7	Subordinated debt, equity and other capital						
8	Retail						
9	Real estate						
	Of which: general RRE						
	Of which: IPRRE						
	Of which: general CRE						
	Of which: IPCRE						
	Of which: land acquisition, development and construction						
10	Defaulted exposures						
11	Other assets						

12	**Total**						

Definitions

Rows:

General residential real estate (General RRE): refers to regulatory residential real estate exposures that are not materially dependent on cash flows generated by the property as set out in CRE20.82 and CRE20.83, and any residential real estate exposures covered by CRE20.89(1).

Income-producing residential real estate (IPRRE): refers to regulatory residential real estate exposures that are materially dependent on cash flows generated by the property as set out in CRE20.84, and any residential real estate exposures covered by CRE20.89(2).

General commercial real estate (General CRE): refers to regulatory commercial real estate exposures that are not materially dependent on cash flows generated by the property as set out in CRE20.85 and CRE20.86, and any commercial real estate exposures covered by CRE20.89(1).

Income-producing commercial real estate (IPCRE): refers to regulatory commercial real estate exposures that are materially dependent on cash flows generated by the property as set out in CRE20.87, and any commercial real estate exposures covered by CRE20.89(2).

Land acquisition, development and construction: refers to exposures subject to the risk weights set out in CRE20.90 and CRE20.91.

Other assets: refers to assets subject to specific risk weight as set out in CRE20.110.

Columns:

Exposures before credit conversion factors (CCF) and CRM - On-balance sheet amount: Banks must disclose the regulatory exposure amount (net of specific provisions, including partial write-offs) under the regulatory scope of consolidation gross of (ie before taking into account) the effect of CRM techniques.

Exposures before CCF and CRM - Off-balance sheet amount: Banks must disclose the exposure value, gross of CCFs and the effect of CRM techniques under the regulatory scope of consolidation.

Exposures post-CCF and post-CRM: This is the amount to which the capital requirements are applied. It is a net credit equivalent amount, after CRM techniques and CCF have been applied.

RWA density: Total risk-weighted assets/exposures post-CCF and post-CRM (ie column (e) / (column (c) + column (d))), expressed as a percentage.

Linkages across templates:

Amount in [CR4:12/c] + [CR4:12/d] is equal to amount in [CR5:Exposure amounts and CCFs applied to off-balance sheet exposures, categorised based on risk bucket of converted exposures 11/d].

Template CR5: Standardised approach - exposures by asset classes and risk weights

Purpose: To present the breakdown of credit risk exposures under the standardised approach by asse riskiness attributed to the exposure according to standardised approach).

Scope of application: The template is mandatory for banks using the standardised approach.

Subject to supervisory approval of the immateriality of the asset class, banks that intend to adopt a ph approach may apply the standardised approach to certain asset classes. In circumstances where expos standardised approach may be considered to be negligible, and disclosure of this information would n users, the bank may choose not to disclose the template for the exposures treated under the standard explain why it considers the information not to be meaningful to users. The explanation must include a respective portfolios and the aggregate total of RWA from such exposures.

When the framework for equity investments in funds enters into force in the jurisdiction, correspondin template but only in Template OV1.

Content: Regulatory exposure amounts.

Frequency: Semiannual.

Format: Fixed. Jurisdictions may add rows and columns to reflect any differences in their implementat numbering of the prescribed rows must not be altered. Jurisdictions should not delete rows or column

Accompanying narrative: Banks are expected to supplement the template with a narrative commenta reporting period and the key drivers of such changes. Banks should describe the sequence in which CC measures are applied.

		0%	20%	50%	100%	150%	Other
1	Sovereigns and their central banks						

		20%	50%	100%	150%	Other
2	Non-central government public sector entities					

		0%	20%	30%	50%	100%	150%	Other
3	Multilateral development banks							

		20%	30%	40%	50%	75%	100%	150%	Other
4	Banks								

	Of which: securities firms and other financial institutions													

		10%	15%	20%	25%	35%	50%	100%
5	Covered bonds							

		20%	50%	65%	75%	80%	85%	100%	
6	Corporates								
	Of which: securities firms and other financial institutions								
	Of which: specialised lending								

		100%	150%	250%[5]	400%[5]
7	Subordinated debt, equity and other capital[6]				

		45%	75%	100%
8	Retail			

		0 %	20 %	25 %	30 %	35 %	40 %	45 %	50 %	60 %	65 %	70 %	75 %	85 %
9	Real estate													
	Of which: general RRE													

	Of which: no loan splitting applied												
	Of which: loan splitting applied (secured)												
	Of which: loan splitting applied (unsecured)												
	Of which: IPRRE												
	Of which: general CRE												
	Of which: no loan splitting applied												
	Of which: loan splitting applied (secured)												
	Of which: loan splitting applied (unsecured)												
	Of which: IPCRE												
	Of which: land acquisition, development and construction												

		50%	100%	150%	
10	Defaulted exposures				

		0%	20%	100%	1250%
11	Other assets				

Exposure amounts and CCFs applied to off-balance sheet exposures, categorised based on risk b

	Risk weight	a	b	
		On-balance sheet exposure	***Off-balance sheet exposure (pre-CCF)***	***Wei***
1	*Less than 40%*			
2	*40-70%*			
3	*75%*			
4	*85%*			
5	*90-100%*			
6	*105-130%*			
7	*150%*			
8	*250%*			
9	*400%*			
10	*1,250%*			
11	***Total exposures***			

* Weighting is based on off-balance sheet exposure (pre-CCF).

Definitions

Loan splitting: refers to the approaches set out in CRE20.83 and CRE20.86.

Total credit exposure amount (post-CCF and post-CRM): the amount used for the capital requiremer sheet amounts), therefore net of specific provisions (including partial write-offs) and after CRM techn the application of the relevant risk weights.

Defaulted exposures: correspond to the unsecured portion of any loan past due for more than 90 d borrower, as defined in CRE20.104.

Equity investments in funds: When the framework for banks' equity investments in funds enters i requirements must not be reported in this template but only in Template OV1.

Other assets: refers to assets subject to specific risk weighting as set out in CRE20.110.

Footnotes

[5] *The prohibition on the use of the IRB approach for equity exposures will be subject to a five-year linear phase-in arrangement from 1 January 2022 (please see CRE90.1 and CRE90.2). During this phase-in period, the risk weight for equity exposures will be the greater of: (i) the risk weight as calculated under the IRB approach, and (ii) the risk weight set for the linear phase-in arrangement under the standardised approach for credit risk. Alternatively, national supervisors may require banks to apply the fully phased-in standardised approach treatment from the date of implementation of this standard. Accordingly, for disclosure purposes, banks that continue to apply the IRB approach during the phase-in period should report their equity exposures in either the 250% or the 400% column, according to whether the respective equity exposures are speculative unlisted equities or all other equities.*

[6] *For disclosure purposes, banks that use the standardised approach for credit risk during the transitional period should report their equity exposures according to whether they would be classified as "other equity holdings" (250%) or "speculative unlisted equity" (400%). Risk weights disclosed for "speculative unlisted equity exposures" and "other equity holdings" should reflect the actual risk weights applied to these exposures in a particular year (please refer to the respective transitional arrangements set out in CRE90.1).*

Table CRE: Qualitative disclosure related to IRB models

Purpose: Provide additional information on IRB models used to compute RWA.

Scope of application: The table is mandatory for banks using A-IRB or F-IRB approaches for some or all of their exposures.

To provide meaningful information to users, the bank must describe the main characteristics of the models used at the group-wide level (according to the scope of regulatory consolidation) and explain how the scope of models described was determined. The commentary must include the percentage of RWA covered by the models for each of the bank's regulatory portfolios.

Content: Qualitative information.

Frequency: Annual.

Format: Flexible.

Banks must provide the following information on their use of IRB models:

(a)	Internal model development, controls and changes: role of the functions involved in the development, approval and subsequent changes of the credit risk models.
(b)	Relationships between risk management function and internal audit function and procedure to ensure the independence of the function in charge of the review of the models from the functions responsible for the development of the models.
(c)	Scope and main content of the reporting related to credit risk models.
(d)	Scope of the supervisor's acceptance of approach. The "scope of the supervisor's acceptance of approach" refers to the scope of internal models approved by the supervisors in terms of entities within the group (if applicable), portfolios and exposure classes, with a breakdown between foundation IRB (F-IRB) and advanced IRB (A-IRB), if applicable.
(e)	For each of the portfolios, the bank must indicate the part of EAD within the group (in percentage of total EAD) covered by standardised, F-IRB and A-IRB approach and the part of portfolios that are involved in a roll-out plan.
(f)	The number of key models used with respect to each portfolio, with a brief discussion of the main differences among the models within the same portfolios.
(g)	Description of the main characteristics of the approved models: (i) definitions, methods and data for estimation and validation of PD (eg how PDs are estimated for low default portfolios; if there are regulatory floors; the drivers for differences observed between PD and actual default rates at least for the last three periods); and where applicable:

(ii) LGD (eg methods to calculate downturn LGD; how LGDs are estimated for low default portfolio; the time lapse between the default event and the closure of the exposure);

(iii) credit conversion factors, including assumptions employed in the derivation of these variables;

Template CR6: IRB - Credit risk exposures by portfolio and PD range

Purpose: Provide main parameters used for the calculation of capital requirements for IRB models. The parameters is to enhance the transparency of banks' RWA calculations and the reliability of regulatory

Scope of application: The template is mandatory for banks using either the F-IRB or the A-IRB approa exposures.

Content: Columns (a) and (b) are based on accounting carrying values and columns (c) to (l) are regula scope of regulatory consolidation.

Frequency: Semiannual.

Format: Fixed. The columns, their contents and the PD scale in the rows cannot be altered, but the por set at the jurisdiction level to reflect exposure categories under local implementation of the IRB approa both F-IRB and A-IRB approaches, it must disclose one template for each approach.

Accompanying narrative: Banks are expected to supplement the template with a narrative to explain RWAs.

		a	b	c	d	e	f	g	h
	PD scale	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Aver matu
Portfolio X									
	0.00 to <0.15								
	0.15 to <0.25								
	0.25 to <0.50								
	0.50 to <0.75								
	0.75 to <2.50								
	2.50 to <10.00								

	10.00 to <100.00								
	100.00 (Default)								
	Sub-total								
Total (all portfolios)									

Definitions

Rows

Portfolio X includes the following prudential portfolios for the FIRB approach: (i) Sovereign; (ii) Ba Specialised Lending; (v) Purchased receivables, and the following prudential portfolios for the AIRB a Corporate; (iv) Corporate - Specialised Lending; (v) Retail - qualifying revolving (QRRE); (vi) Retail - Retail - SME; (viii) Other retail exposures; (ix) Purchased receivables. Information on F-IRB and A- reported in two separate templates.

Default: The data on defaulted exposures may be further broken down according to jurisdiction's d exposures.

Columns

PD scale: Exposures shall be broken down according to the PD scale used in the template instead o RWA calculation. Banks must map the PD scale they use in the RWA calculations into the PD scale prov

Original on-balance sheet gross exposure: amount of the on-balance sheet exposure gross of accou account the effect of credit risk mitigation techniques).

Off-balance sheet exposure pre conversion factor: exposure value without taking into account value ad factors and the effect of credit risk mitigation techniques.

Average CCF: EAD post-conversion factor for off-balance sheet exposure to total off-balance sheet exp

EAD post-CRM: the amount relevant for the capital requirements calculation.

Number of obligors: corresponds to the number of individual PDs in this band. Approximation (round r

Average PD: obligor grade PD weighted by EAD.

Average LGD: the obligor grade LGD weighted by EAD. The LGD must be net of any CRM effect.

Average maturity: the obligor maturity in years weighted by EAD; this parameter needs to be filled calculation.

RWA density: Total risk-weighted assets to EAD post-CRM.

EL: the expected losses as calculated according to CRE33.8 to CRE33.12 and CRE35.2 to CRE35.3.

Provisions: provisions calculated according to CRE35.4.

Template CR7: IRB – Effect on RWA of credit derivatives used as CRM techniques

Purpose: Illustrate the effect of credit derivatives on the IRB approach capital requirements' calculations. The pre-credit derivatives RWA before taking account of credit derivatives mitigation effect has been selected to assess the impact of credit derivatives on RWA. This is irrespective of how the CRM technique feeds into the RWA calculation.

Scope of application: The template is mandatory for banks using the A-IRB and/or F-IRB approaches for some or all of their exposures.

Content: Risk-weighted assets (subject to credit risk treatment).

Frequency: Semiannual.

Format: Fixed.

Columns are fixed but the portfolio breakdown in the rows will be set at jurisdiction level to reflect exposure categories required under local implementation of IRB approaches.

Accompanying narrative: Banks should supplement the template with a narrative commentary to explain the effect of credit derivatives on the bank's RWAs.

		a	b
		Pre-credit derivatives RWA	Actual RWA
1	Sovereign - F-IRB		
2	Sovereign - A-IRB		
3	Banks - F-IRB		
4	Banks - A-IRB		
5	Corporate - F-IRB		
6	Corporate - A-IRB		
7	Specialised lending - F-IRB		
8	Specialised lending - A-IRB		
9	Retail - qualifying revolving (QRRE)		
10	Retail - residential mortgage exposures		
11	Retail -SME		

12	Other retail exposures		
13	Equity - F-IRB		
14	Equity - A-IRB		
15	Purchased receivables - F-IRB		
16	Purchased receivables - A-IRB		
17	**Total**		

Pre-credit derivatives RWA: hypothetical RWA calculated assuming the absence of recognition of the credit derivative as a CRM technique.

Actual RWA: RWA calculated taking into account the CRM technique impact of the credit derivative.

Template CR8: RWA flow statements of credit risk exposures under IRB

Purpose: Present a flow statement explaining variations in the credit RWA determined under an IRB approach.

Scope of application: The template is mandatory for banks using the A-IRB and/or F-IRB approaches.

Content: Risk-weighted assets corresponding to credit risk only (counterparty credit risk excluded). Changes in RWA amounts over the reporting period for each of the key drivers should be based on a bank's reasonable estimation of the figure.

Frequency: Quarterly.

Format: Fixed. Columns and rows 1 and 9 cannot be altered. Banks may add additional rows between rows 7 and 8 to disclose additional elements that contribute significantly to RWA variations.

Accompanying narrative: Banks should supplement the template with a narrative commentary to explain any significant change over the reporting period and the key drivers of such changes.

		a
		RWA amounts
1	**RWA as at end of previous reporting period**	
2	Asset size	
3	Asset quality	
4	Model updates	
5	Methodology and policy	
6	Acquisitions and disposals	
7	Foreign exchange movements	
8	Other	
9	**RWA as at end of reporting period**	

Asset size: organic changes in book size and composition (including origination of new businesses and maturing loans) but excluding changes in book size due to acquisitions and disposal of entities.

Asset quality: changes in the assessed quality of the bank's assets due to changes in borrower risk, such as rating grade migration or similar effects.

Model updates: changes due to model implementation, changes in model scope, or any changes intended to address model weaknesses.

Methodology and policy: changes due to methodological changes in calculations driven by regulatory policy changes, including both revisions to existing regulations and new regulations.

Acquisitions and disposals: changes in book sizes due to acquisitions and disposal of entities.

Foreign exchange movements: changes driven by market movements such as foreign exchange movements.

Other: this category must be used to capture changes that cannot be attributed to any other category. Banks should add additional rows between rows 7 and 8 to disclose other material drivers of RWA movements over the reporting period.

Template CR9: IRB - Backtesting of probability of default (PD) per portfolio

Purpose: Provide backtesting data to validate the reliability of PD calculations. In particular, the template compares the PD used in IRB capital calculations with the effective default rates of bank obligors. A minimum five-year average annual default rate is required to compare the PD with a "more stable" default rate, although a bank may use a longer historical period that is consistent with its actual risk management practices.

Scope of application: The template is mandatory for banks using the A-IRB and/or F-IRB approaches. Where a bank makes use of a F-IRB approach for certain exposures and an A-IRB approach for others, it must disclose two separate sets of portfolio breakdown in separate templates.

To provide meaningful information to users on the backtesting of their internal models through this template, the bank must include in this template the key models used at the group-wide level (according to the scope of regulatory consolidation) and explain how the scope of models described was determined. The commentary must include the percentage of RWA covered by the models for which backtesting results are shown here for each of the bank's regulatory portfolios.

The models to be disclosed refer to any model, or combination of models, approved by the supervisor, for the generation of the PD used for calculating capital requirements under the IRB approach. This may include the model that is used to assign a risk rating to an obligor, and/or the model that calibrates the internal ratings to the PD scale.

Content: Modelling parameters used in IRB calculation.

Frequency: Annual.

Format: Flexible.

The portfolio breakdown in the rows will be set at jurisdiction level to reflect exposure categories required under local implementations of IRB approaches.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporting period and the key drivers of such changes. Banks may wish to supplement the template when disclosing the amount of exposure and the number of obligors whose defaulted exposures have been cured in the year.

a	b	c	d	e	f	g	h	i

Portfolio X*	PD Range	External rating equivalent	Weighted average PD	Arithmetic average PD by obligors	Number of obligors		Defaulted obligors in the year	of which: new defaulted obligors in the year	Average historical annual default rate
					End of previous year	End of the year			

* The dimension *Portfolio X* includes the following prudential portfolios for the F-IRB approach:

(i) Sovereign; (ii) Banks; (iii) Corporate; (iv) Corporate - Specialised lending; (v) Purchased receivables, and the following prudential portfolios for the A-IRB approach:

(i) Sovereign; (ii) Banks; (iii) Corporate; (iv) Corporate - Specialised Lending; (v) Retail - QRRE; (vi) Retail - Residential mortgage exposures; (vii) Retail - SME; (viii) Other retail exposures; (ix) Purchased receivables.

External rating equivalent: refers to external ratings that may, in some jurisdictions, be available for retail borrowers. This may, for instance, be the case for small or medium-sized entities (SMEs) that fit the requirements to be included in the retail portfolios which in some jurisdictions could

have an external rating, or a credit score or a range of credit scores provided by a consumer credit bureau. One column has to be filled in for each rating agency authorised for prudential purposes in the jurisdictions where the bank operates. *However, where such external ratings are not available, they need not be provided*.

Weighted average PD: the same as reported in Template CR6. These are the estimated PDs assigned by the internal model authorised under the IRB approaches. The PD values are EAD-weighted and the "weight" is the EAD at the beginning of the period.

Arithmetic average PD by obligors: PD within range by number of obligor within the range. The average PD by obligors is the simple average: Arithmetic average PD = sum of PDs of all accounts (transactions) / number of accounts.

Number of obligors: two sets of information are required: (i) the number of obligors at the end of the previous year; (ii) the number of obligors at the end of the year subject to reporting;

Defaulted obligors in the year: number of defaulted obligors during the year; *of which: new obligors defaulted in the year:* number of obligors having defaulted during the last 12-month period that were not funded at the end of the previous financial year;

Average historical annual default rate: the five-year average of the annual default rate (obligors at the beginning of each year that are defaulted during that year/total obligor hold at the beginning of the year) is a minimum. The bank may use a longer historical period that is consistent with the bank's actual risk management practices. The disclosed average historical annual default rate disclosed should be before the application of the margin of conservatism.

Template CR10: IRB (specialised lending under the slotting approach)

Purpose: To provide quantitative disclosures of banks' specialised lending exposures using the supervisory slotting approach.

Scope of application: The template is mandatory for banks using the supervisory slotting approach. The breakdown by regulatory categories included in the template is indicative, as the data included in the template are provided by banks according to applicable domestic regulation.

Content: Carrying values, exposure amounts and RWA.

Frequency: Semiannual.

Format: Flexible.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporting period and the key drivers of such changes.

Specialised lending											
Other than HVCRE											
Regulatory categories	Residual maturity	On-balance sheet amount	Off-balance sheet amount	RW	Exposure amount					RWA	Expected losses
					PF	OF	CF	IPRE	Total		
Strong	Less than 2.5 years			50%							
	Equal to or more than 2.5 years			70%							
Good	Less than 2.5 years			70%							
	Equal to or more than 2.5 years			90%							
Satisfactory				115%							
Weak				250%							

Default				-							
Total											

HVCRE							
Regulatory categories	Residual maturity	On-balance sheet amount	Off-balance sheet amount	RW	Exposure amount	RWA	Expected losses
Strong	Less than 2.5 years			70%			
	Equal to or more than 2.5 years			95%			
Good	Less than 2.5 years			95%			
	Equal to or more than 2.5 years			120%			
Satisfactory				140%			
Weak				250%			
Default				-			
Total							

Definitions

HVCRE: high-volatility commercial real estate.

On-balance sheet amount: banks must disclose the amount of exposure (net of allowances and write-offs) under the regulatory scope of consolidation.

Off-balance sheet amount: banks must disclose the exposure value without taking into account conversion factors and the effect of credit risk mitigation techniques.

Exposure amount: the amount relevant for the capital requirement's calculation, therefore after CRM techniques and CCF have been applied.

Expected losses: amount of expected losses calculated according to CRE33.8 to CRE33.12.

PF: project finance.

OF: object finance.

CF: commodities finance.

IPRRE: income-producing residential real estate.

DIS42

Counterparty credit risk

This chapter describes counterparty credit risk and credit valuation adjustment disclosure requirements.

Version effective as of 01 Jan 2023

Removes the CVA template (CCR2), which is now specified in a separate chapter (DIS51). Updated to take account of new implementation date as announced on 27 March 2020.

Introduction

42.1 DIS42 includes all exposures in the banking book and trading book that are subject to a counterparty credit risk charge, including the charges applied to exposures to central counterparties (CCPs).[1]

Footnotes

[1] *The relevant sections of the Basel framework are in CRE50 to CRE55 and MAR50.*

42.2 The disclosure requirements under DIS42 are:

(1) Table CCRA – Qualitative disclosure related to CCR

(2) Template CCR1 – Analysis of CCR exposures by approach

(3) Template CCR3 – Standardised approach – CCR exposures by regulatory portfolio and risk weights

(4) Template CCR4 – IRB – CCR exposures by portfolio and probability-of-default (PD) scale

(5) Template CCR5 – Composition of collateral for CCR exposures

(6) Template CCR6 – Credit derivatives exposures

(7) Template CCR7 – RWA flow statements of CCR exposures under the internal models method (IMM)

(8) Template CCR8 – Exposures to central counterparties

FAQ

FAQ1 *The "purpose" of Template CCR5 asks for a breakdown of all types of collateral posted or received. The content section, however, asks for collateral used. These numbers differ as certain transactions are over-collateralised (ie >100% of exposure) and therefore not all collateral would be used for risk mitigation. Should the template include all collateral posted/received or just collateral that is applied?*

The numbers reported in Template CCR5 should be the total collateral posted/received (ie not limited to the collateral that is applied/used for risk mitigation). The purpose of the template is to provide a view on the collateral posted/received rather than the value accounted for within the regulatory computation. If the bank wishes to disclose the collateral eligible for credit mitigation, it may do so using an accompanying narrative.

FAQ2 *Template CCR7 refers to an RWA flow on internal models method (IMM) exposures. Row 4 (Model updates – IMM only) and row 5 (Methodology and policy – IMM only) are specifically to include only model and methodology/policy changes relating to the IMM exposures model. Where in the template would changes to the internal-ratings based (IRB) models that result in changes in risk weights for positions under the IMM be reported?*

Template CCR7 is consistent with Template OV1, which requests a split by exposure at default (EAD) methodology and not by risk weighting methodology. Banks are recommended to add rows to report any changes relating to risk weighting methodology if they deem them useful. The row breakdown is flexible and intends to depict all the significant drivers of changes for the risk-weighted assets (RWA) under counterparty credit risk. Specific rows should be inserted when changes to the IRB model result in changes to the RWA of instruments under counterparty credit risk whose exposure value is determined based on the IMM.

Table CCRA: Qualitative disclosure related to CCR

Purpose: Describe the main characteristics of counterparty credit risk management (eg operating limits, use of guarantees and other credit risk mitigation (CRM) techniques, impacts of own credit downgrading).
Scope of application: The table is mandatory for all banks.
Content: Qualitative information.
Frequency: Annual.
Format: Flexible.
Banks must provide risk management objectives and policies related to counterparty credit risk, including:

(a)	The method used to assign the operating limits defined in terms of internal capital for counterparty credit exposures and for CCP exposures;
(b)	Policies relating to guarantees and other risk mitigants and assessments concerning counterparty risk, including exposures towards CCPs;
(c)	Policies with respect to wrong-way risk exposures;
(d)	The impact in terms of the amount of collateral that the bank would be required to provide given a credit rating downgrade.

Template CCR1: Analysis of CCR exposures by approach

Purpose: Provide a comprehensive view of the methods used to calculate counterparty credit risk regulatory requirements and the main parameters used within each method.

Scope of application: The template is mandatory for all banks.

Content: Regulatory exposures, RWA and parameters used for RWA calculations for all exposures subject to the counterparty credit risk framework (excluding CVA charges or exposures cleared through a CCP).

Frequency: Semiannual.

Format: Fixed.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporting period and the key drivers of such changes.

		a	b	c	d	e	f
		Replacement cost	Potential future exposure	Effective EPE	Alpha used for computing regulatory EAD	EAD post-CRM	RWA
1	SA-CCR (for derivatives)				1.4		
2	Internal Model Method (for derivatives and SFTs)						
3	Simple Approach for credit risk mitigation (for SFTs)						
4	Comprehensive Approach for credit risk mitigation (for SFTs)						
5	Value-at-risk (VaR) for SFTs						
6	**Total**						

Definitions

SA-CCR (for derivatives): Banks in jurisdictions which have yet to implement the SA-CCR should report in row 1 information corresponding to the Current Exposures Method and the Standardised Method

Replacement Cost (RC): For trades that are not subject to margining requirements, the RC is the loss that would occur if a counterparty were to default and was closed out of its transactions immediately. For margined trades, it is the loss that would occur if a counterparty were to default at present or at a future date, assuming that the closeout and replacement of transactions occur instantaneously. However, closeout of a trade upon a counterparty default may not be instantaneous. The replacement cost under the standardised approach for measuring counterparty credit risk exposures is described in CRE52.

Potential Future Exposure is any potential increase in exposure between the present and up to the end of the margin period of risk. The potential future exposure for the standardised approach is described in CRE50.

Effective Expected Positive Exposure (EPE) is the weighted average over time of the effective expected exposure over the first year, or, if all the contracts in the netting set mature before one year, over the time period of the longest-maturity contract in the netting set where the weights are the proportion that an individual expected exposure represents of the entire time interval (see CRE50).

EAD post-CRM: exposure at default. This refers to the amount relevant for the capital requirements calculation having applied CRM techniques, credit valuation adjustments according to CRE51.11 and specific wrong-way adjustments (see CRE53).

Template CCR3: Standardised approach - CCR exposures by regulatory portfolio and risk weights

Purpose: Provide a breakdown of counterparty credit risk exposures calculated according to the standardised approach: by portfolio (type of counterparties) and by risk weight (riskiness attributed according to standardised approach).

Scope of application: The template is mandatory for all banks using the credit risk standardised approach to compute RWA for counterparty credit risk exposures, irrespective of the CCR approach used to determine exposure at default.

If a bank deems that the information requested in this template is not meaningful to users because the exposures and RWA amounts are negligible, the bank may choose not to disclose the template. The bank is, however, required to explain in a narrative commentary why it considers the information not to be meaningful to users, including a description of the exposures in the portfolios concerned and the aggregate total of RWAs amount from such exposures.

Content: Credit exposure amounts.

Frequency: Semiannual.

Format: Fixed.

(The rows and columns may be amended at jurisdiction level to reflect different exposure categories required as a consequence of the local implementation of the standardised approach.)

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporting period and the key drivers of such changes.

	a	b	c	d	e	f	g	h	i
Risk weight*→ Regulatory portfolio*↓	0%	10%	20%	50%	75%	100%	150%	Others	Total credit exposure
Sovereigns									
Non-central government public sector entities									
Multilateral development banks									
Banks									
Securities firms									
Corporates									
Regulatory retail portfolios									
Other assets									

Total									

**The breakdown by risk weight and regulatory portfolio included in the template is for illustrative purposes. Banks may complete the template with the breakdown of asset classes according to the local implementation of the Basel framework.*

Total credit exposure: the amount relevant for the capital requirements calculation, having applied CRM techniques.

Other assets: the amount excludes exposures to CCPs, which are reported in Template CCR8.

Template CCR4: IRB – CCR exposures by portfolio and PD scale

Purpose: Provide all relevant parameters used for the calculation of counterparty credit risk capital requirements for IRB models.

Scope of application: The template is mandatory for banks using an advanced IRB (A-IRB) or foundation IRB (F-IRB) approach to compute RWA for counterparty credit risk exposures, whatever CCR approach is used to determine exposure at default. Where a bank makes use of an FIRB approach for certain exposures and an AIRB approach for others, it must disclose two separate sets of portfolio breakdown in two separate templates.

To provide meaningful information, the bank must include in this template the key models used at the group-wide level (according to the scope of regulatory consolidation) and explain how the scope of models described in this template was determined. The commentary must include the percentage of RWAs covered by the models shown here for each of the bank's regulatory portfolios.

Content: RWA and parameters used in RWA calculations for exposures subject to the counterparty credit risk framework (excluding CVA charges or exposures cleared through a CCP) and where the credit risk approach used to compute RWA is an IRB approach.

Frequency: Semiannual.

Format: Fixed. Columns and PD scales in the rows are fixed. However, the portfolio breakdown shown in the rows will be set by each jurisdiction to reflect the exposure categories required under local implementations of IRB approaches.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporting period and the key drivers of such changes.

		a	b	c	d	e	f	g
	PD scale	EAD post-CRM	average PD	Number of obligors	Average LGD	Average maturity	RWA	RWA density
Portfolio X								
	0.00 to <0.15							
	0.15 to <0.25							
	0.25 to <0.50							
	0.50 to <0.75							
	0.75 to <2.50							

	2.50 to <10.00							
	10.00 to <100.00							
	100.00 (Default)							
	Sub-total							
Total (sum of portfolios)								

Definitions

Rows

Portfolio X refers to the following prudential portfolios for the FIRB approach: (i) Sovereign; (ii) Banks; (iii) Corporate; and the following prudential portfolios for the AIRB approach: (i) Sovereign; (ii) Banks; (iii) Corporate. The information on FIRB and AIRB portfolios must be reported in separate templates.

Default: The data on defaulted exposures may be further broken down according to a jurisdiction's definitions for categories of defaulted exposures.

Columns

PD scale: Exposures shall be broken down according to the PD scale used in the template instead of the PD scale used by banks in their RWA calculation. Banks must map the PD scale they use in the RWA calculations to the PD scale provided in the template;

EAD post-CRM: exposure at default. The amount relevant for the capital requirements calculation, having applied the CCR approach and CRM techniques, but gross of accounting provisions;

Number of obligors: corresponds to the number of individual PDs in this band. Approximation (round number) is acceptable;

Average PD: obligor grade PD weighted by EAD;

Average loss-given-default (LGD): the obligor grade LGD weighted by EAD. The LGD must be net of any CRM effect;

Average maturity: the obligor maturity weighted by EAD;

RWA density: Total RWA to EAD post-CRM.

Template CCR5: Composition of collateral for CCR exposure

Purpose: Provide a breakdown of all types of collateral posted or received by banks to support or redu exposures related to derivative transactions or to SFTs, including transactions cleared through a CCP.

Scope of application: The template is mandatory for all banks.

Content: Carrying values of collateral used in derivative transactions or SFTs, whether or not the transa whether or not the collateral is posted to a CCP.

Please refer to DIS 99.2 for an illustration on how the template should be completed.

Frequency: Semiannual.

Format: Flexible (the columns cannot be altered but the rows are flexible).

Accompanying narrative: Banks are expected to supplement the template with a narrative commenta over the reporting period and the key drivers of such changes.

	a	b	c	d	e	f
	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
	Segregated	Unsegregated	Segregated	Unsegregated		
Cash - domestic currency						
Cash - other currencies						
Domestic sovereign debt						
Other sovereign debt						
Government agency debt						
Corporate bonds						
Equity securities						
Other collateral						
Total						

Definitions

Collateral used is defined as referring to both legs of the transaction. Example: a bank transfers securities to a third party, and the third party in turn posts collateral to the bank. The bank reports both legs of the transaction. The collateral received is reported in column (e), while the collateral posted by the bank is reported in column (f). The fair value of collateral received or posted must be after any haircut. This means the value of collateral received will be reduced by the haircut (ie C(1 - Hs)) and collateral posted will be increased after the haircut (ie E(1 + Hs)).

Segregated refers to collateral which is held in a bankruptcy-remote manner according to the description included in CRE54.18 to CRE54.23.

Unsegregated refers to collateral that is not held in a bankruptcy-remote manner.

Domestic sovereign debt refers to the sovereign debt of the jurisdiction of incorporation of the bank, or, when disclosures are made on a consolidated basis, the jurisdiction of incorporation of the parent company.

Domestic currency refers to items of collateral that are denominated in the bank's (consolidated) reporting currency and not the transaction currency.

Template CCR6: Credit derivatives exposures

Purpose: Illustrate the extent of a bank's exposures to credit derivative transactions broken down between derivatives bought or sold.

Scope of application: This template is mandatory for all banks.

Content: Notional derivative amounts (before any netting) and fair values.

Frequency: Semiannual.

Format: Flexible (the columns are fixed but the rows are flexible).

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporting period and the key drivers of such changes.

	a	b
	Protection bought	Protection sold
Notionals		
Single-name credit default swaps		
Index credit default swaps		
Total return swaps		
Credit options		
Other credit derivatives		
Total notionals		
Fair values		
Positive fair value (asset)		
Negative fair value (liability)		

Template CCR7: RWA flow statements of CCR exposures under Internal Model Method (IMM)

Purpose: Present a flow statement explaining changes in counterparty credit risk RWA determined under the Internal Model Method for counterparty credit risk (derivatives and SFTs).

Scope of application: The template is mandatory for all banks using the IMM for measuring exposure at default of exposures subject to the counterparty credit risk framework, irrespective of the credit risk approach used to compute RWA from exposures at default.

Content: Risk-weighted assets corresponding to counterparty credit risk (credit risk shown in Template CR8 is excluded). Changes in RWA amounts over the reporting period for each of the key drivers should be based on a bank's reasonable estimation of the figure.

Frequency: Quarterly.

Format: Fixed. Columns and rows 1 and 9 are fixed. Banks may add additional rows between rows 7 and 8 to disclose additional elements that contribute to RWA variations.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant change over the reporting period and the key drivers of such changes.

		a
		Amounts
1	**RWA as at end of previous reporting period**	
2	Asset size	
3	Credit quality of counterparties	
4	Model updates (IMM only)	
5	Methodology and policy (IMM only)	
6	Acquisitions and disposals	
7	Foreign exchange movements	
8	Other	
9	**RWA as at end of current reporting period**	

Asset size: organic changes in book size and composition (including origination of new businesses and maturing exposures) but excluding changes in book size due to acquisitions and disposal of entities.

Credit quality of counterparties: changes in the assessed quality of the bank's counterparties as measured under the credit risk framework, whatever approach the bank uses. This row also includes potential changes due to IRB models when the bank uses an IRB approach.

Model updates: changes due to model implementation, changes in model scope, or any changes intended to address model weaknesses. This row addresses only changes in the IMM model.

Methodology and policy: changes due to methodological changes in calculations driven by regulatory policy changes, such as new regulations (only in the IMM model).

Acquisitions and disposals: changes in book sizes due to acquisitions and disposal of entities.

Foreign exchange movements: changes driven by changes in FX rates.

Other: this category is intended to be used to capture changes that cannot be attributed to the above categories. Banks should add additional rows between rows 7 and 8 to disclose other material drivers of RWA movements over the reporting period.

Template CCR8: Exposures to central counterparties

Purpose: Provide a comprehensive picture of the bank's exposures to central counterparties. In particular, the template includes all types of exposures (due to operations, margins, contributions to default funds) and related capital requirements.

Scope of application: The template is mandatory for all banks.

Content: Exposures at default and risk-weighted assets corresponding to exposures to central counterparties.

Frequency: Semiannual.

Format: Fixed. Banks are requested to provide a breakdown of the exposures by central counterparties (qualifying, as defined below, or not qualifying).

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporting period and the key drivers of such changes.

		a	b
		EAD (post-CRM)	RWA
1	**Exposures to QCCPs (total)**		
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which		
3	(i) OTC derivatives		
4	(ii) Exchange-traded derivatives		
5	(iii) Securities financing transactions		
6	(iv) Netting sets where cross-product netting has been approved		
7	Segregated initial margin		
8	Non-segregated initial margin		
9	Pre-funded default fund contributions		
10	Unfunded default fund contributions		
11	**Exposures to non-QCCPs (total)**		
12	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which		

13	(i) OTC derivatives		
14	(ii) Exchange-traded derivatives		
15	(iii) Securities financing transactions		
16	(iv) Netting sets where cross-product netting has been approved		
17	Segregated initial margin		
18	Non-segregated initial margin		
19	Pre-funded default fund contributions		
20	Unfunded default fund contributions		

Definitions

Exposures to central counterparties: This includes any trades where the economic effect is equivalent to having a trade with the CCP (eg a direct clearing member acting as an agent or a principal in a client-cleared trade). These trades are described in CRE54.7 to CRE54.23.

EAD post-CRM: exposure at default. The amount relevant for the capital requirements calculation, having applied CRM techniques, credit valuation adjustments according to CRE51.11 and specific wrong-way adjustments (see CRE53).

A *qualifying central counterparty* (QCCP) is an entity that is licensed to operate as a CCP (including a licence granted by way of confirming an exemption), and is permitted by the appropriate regulator/overseer to operate as such with respect to the products offered. This is subject to the provision that the CCP is based and prudentially supervised in a jurisdiction where the relevant regulator/overseer has established, and publicly indicated, that it applies to the CCP on an ongoing basis, domestic rules and regulations that are consistent with the Committee on Payments and Market Infrastructures and International Organization of Securities Commissions' *Principles for Financial Market Infrastructures*. See CRE54 for the comprehensive definition and associated criteria.

Initial margin means a clearing member's or client's funded collateral posted to the CCP to mitigate the potential future credit exposure of the CCP to the clearing member arising from the possible future change in the value of their transactions. For the purposes of this template, initial margin does not include contributions to a CCP for mutualised loss-sharing arrangements (ie in cases where a CCP uses initial margin to mutualise losses among the clearing members, it will be treated as a default fund exposure).

Prefunded default fund contributions are prefunded clearing member contributions towards, or underwriting of, a CCP's mutualised loss-sharing arrangements.

Unfunded default fund contributions are unfunded clearing member contributions towards, or underwriting of, a CCP's mutualised loss-sharing arrangements. If a bank is not a clearing member but a client of a clearing member, it should include its exposures to unfunded default fund contributions if applicable. Otherwise, banks should leave this row empty and explain the reason in the accompanying narrative.

Segregated refers to collateral which is held in a bankruptcy-remote manner according to the description included in CRE54.18 to CRE54.23.

Unsegregated refers to collateral that is not held in a bankruptcy-remote manner.

DIS43

Securitisation

This chapter describes the disclosure requirements applying to securitisation exposures.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Introduction

43.1 The scope of DIS43:[1]

(1) covers all securitisation exposures[2] in Table SECA and in templates SEC1 and SEC2;

(2) focuses on banking book securitisation exposures subject to capital charges according to the securitisation framework in templates SEC3 and SEC4; and

(3) excludes capital charges related to securitisation positions in the trading book that are reported in DIS50.

Footnotes

[1] *Unless stated otherwise, all terms used in DIS43 are used consistently with the definitions in CRE40.*

[2] *Securitisation refers to the definition of what constitutes a securitisation under the Basel framework. Securitisation exposures correspond to securitisation exposures as defined in the Basel framework. According to this framework, securitisation exposures can include, but are not restricted to, the following: asset-backed securities, mortgage-backed securities, credit enhancements, liquidity facilities, interest rate or currency swaps, credit derivatives and tranched cover as described in CRE22. Reserve accounts, such as cash collateral accounts, recorded as an asset by the originating bank must also be treated as securitisation exposures. Securitisation exposures refer to retained or purchased exposures and not to underlying pools.*

43.2 Only securitisation exposures that the bank treats under the securitisation framework (CRE40 to CRE44) are disclosed in templates SEC3 and SEC4. For banks acting as originators, this implies that the criteria for risk transfer recognition as described in CRE40.24 to CRE40.29 are met. Conversely, all securitisation exposures, including those that do not meet the risk transfer recognition criteria, are reported in templates SEC1 and SEC2. As a result, templates SEC1 and SEC2 may include exposures that are subject to capital requirements according to both the credit risk and market risk frameworks and that are also included in other parts of the Pillar 3 report. The purpose is to provide a comprehensive view of banks' securitisation activities. There is no double-counting of capital requirements as templates SEC3 and SEC4 are limited to exposures subject to the securitisation framework.

43.3 The disclosure requirements under DIS43 are:

(1) Table SECA – Qualitative disclosure requirements related to securitisation exposures

(2) Template SEC1 – Securitisation exposures in the banking book

(3) Template SEC2 – Securitisation exposures in the trading book

(4) Template SEC3 – Securitisation exposures in the banking book and associated regulatory capital requirements – bank acting as originator or as sponsor

(5) Template SEC4 – Securitisation exposures in the banking book and associated capital requirements – bank acting as investor

FAQ

FAQ1 *Template SEC1 requires the disclosure of "carrying values". Is there a direct link between columns (d), (h) and (l) of Template SEC1 and column (e) of Template LI1?*

Reconciliation is not possible when Template SEC1 presents securitisation exposures within and outside the securitisation framework together. However, when banks choose to disclose Template SEC1 and SEC2 separately for securitisation exposures within the securitisation framework and outside that framework, the following reconciliation is possible: the sum of on-balance sheet assets and liabilities included in columns (d), (h) and (l) of Template SEC1 is equal to the amounts disclosed in column (e) of Template LI1.

FAQ2 *Should institutions disclose RWA before or after the application of the cap?*

RWA figures disclosed in Templates SEC3 and SEC4 should be before application of the cap, as it is useful for users to compare exposures and risk-weighted assets (RWA) before application of the cap. Columns (a)–(m) in Templates SEC3 and SEC4 should be reported prior to application of the cap, while columns (n)–(q) should be reported after application of the cap. RWA after application of the cap are disclosed in Template OV1.

Table SECA: Qualitative disclosure requirements related to securitisation exposures

Purpose: Provide qualitative information on a bank's strategy and risk management with respect to its securitisation activities.
Scope of application: The table is mandatory for all banks with securitisation exposures.
Content: Qualitative information.
Frequency: Annually.
Format: Flexible.

Qualitative disclosures	
(A) Banks must describe their risk management objectives and policies for securitisation activities and main features of these activities according to the framework below. If a bank holds securitisation positions reflected both in the regulatory banking book and in the regulatory trading book, the bank must describe each of the following points by distinguishing activities in each of the regulatory books.	
(a)	The bank's objectives in relation to securitisation and re-securitisation activity, including the extent to which these activities transfer credit risk of the underlying securitised exposures away from the bank to other entities, the type of risks assumed and the types of risks retained.
(b)	The bank must provide a list of: • special purpose entities (SPEs) where the bank acts as sponsor (but not as an originator such as an Asset Backed Commercial Paper (ABCP) conduit), indicating whether the bank consolidates the SPEs into its scope of regulatory consolidation. A bank would generally be considered a "*sponsor*" if it, in fact or in substance, manages or advises the programme, places securities into the market, or provides liquidity and/or credit enhancements. The programme may include, for example, ABCP conduit programmes and structured investment vehicles. • affiliated entities (i) that the bank manages or advises and (ii) that invest either in the securitisation exposures that the bank has securitised or in SPEs that the bank sponsors. • a list of entities to which the bank provides implicit support and the associated capital impact for each of them (as required in CRE40.14 and CRE40.49.
(c)	Summary of the bank's accounting policies for securitisation activities. Where relevant, banks are expected to distinguish securitisation exposures from re-securitisation exposures.
(d)	If applicable, the names of external credit assessment institution (ECAIs) used for securitisations and the types of securitisation exposure for which each agency is used.
	If applicable, describe the process for implementing the Basel internal assessment approach (IAA). The description should include:

(e)	• structure of the internal assessment process and relation between internal assessment and external ratings, including information on ECAIs as referenced in item (d) of this table. • control mechanisms for the internal assessment process including discussion of independence, accountability, and internal assessment process review. • the exposure type to which the internal assessment process is applied; and stress factors used for determining credit enhancement levels, by exposure type. For example, credit cards, home equity, auto, and securitisation exposures detailed by underlying exposure type and security type (eg residential mortgage-backed securities, commercial mortgage-backed securities, asset-backed securities, collateralised debt obligations) etc.
(f)	Banks must describe the use of internal assessment other than for SEC-IAA capital purposes.

Template SEC1: Securitisation exposures in the banking book

Purpose: Present a bank's securitisation exposures in its banking book.

Scope of application: The template is mandatory for all banks with securitisation exposures in the banking book.

Content: Carrying values. In this template, securitisation exposures include securitisation exposures even where criteria for recognition of risk transference are not met.

Frequency: Semi-annually.

Format: Flexible. Banks may in particular modify the breakdown and order proposed in rows if another breakdown (eg whether or not criteria for recognition of risk transference are met) would be more appropriate to reflect their activities. Originating and sponsoring activities may be presented together.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporting period and the key drivers of such changes.

		a	b	c	d	e	f	g	h	i	j	k	l
		Bank acts as originator				Bank acts as sponsor				Banks acts as investor			
		Traditional	Of which simple, transparent and comparable (STC)	Synthetic	Sub-total	Traditional	Of which STC	Synthetic	Sub-total	Traditional	Of which STC	Synthetic	Sub-total
1	Retail (total) - of which												
2	residential mortgage												
3	credit card												
4	other retail exposures												
5	re-securitisation												
6	Wholesale (total) - of which												
7	loans to corporates												

8	commercial mortgage												
9	lease and receivables												
10	other wholesale												
11	re-securitisation												

Definitions

(i) When the "*bank acts as originator*" the securitisation exposures are the retained positions, even where not eligible for the securitisation framework due to the absence of significant and effective risk transfer (which may be presented separately).

(ii) When "*the bank acts as sponsor*", the securitisation exposures include exposures to commercial paper conduits to which the bank provides programme-wide enhancements, liquidity and other facilities. Where the bank acts both as originator and sponsor, it must avoid double-counting. In this regard, the bank can merge the two columns of "bank acts as originator" and "bank acts as sponsor" and use "bank acts as originator/sponsor" columns.

(iii) Securitisation exposures when "*the bank acts as an investor*" are the investment positions purchased in third-party deals.

*Synthetic transaction*s: if the bank has purchased protection it must report the net exposure amounts to which it is exposed under columns originator/sponsor (ie the amount that is not secured). If the bank has sold protection, the exposure amount of the credit protection must be reported in the "investor" column.

Re-securitisation: all securitisation exposures related to re-securitisation must be completed in rows "re-securitisation", and not in the preceding rows (by type of underlying asset) which contain only securitisation exposures other than re-securitisation.

Template SEC2: Securitisation exposures in the trading book

Purpose: Present a bank's securitisation exposures in its trading book.

Scope of application: The template is mandatory for all banks with securitisation exposures in the trading book. In this template, securitisation exposures include securitisation exposures even where criteria for recognition of risk transference are not met.

Content: Carrying values.

Frequency: Semi-annually.

Format: Flexible. Banks may in particular modify the breakdown and order proposed in rows if another breakdown (eg whether or not criteria for recognition of risk transference are met) would be more appropriate to reflect their activities. Originating and sponsoring activities may be presented together.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporting period and the key drivers of such changes.

		a	b	c	d	e	f	g	h	i	j	k	l
		Bank acts as originator				Bank acts as sponsor				Banks acts as investor			
		Traditional	Of which STC	Synthetic	Sub-total	Traditional	Of which STC	Synthetic	Sub-total	Traditional	Of which STC	Synthetic	Sub-total
1	Retail (total) - of which												
2	residential mortgage												
3	credit card												

4	other retail exposures												
5	re-securitisation												
6	Wholesale (total) - of which												
7	loans to corporates												
8	commercial mortgage												
9	lease and receivables												
10	other wholesale												
11	re-securitisation												

Definitions

(i) When the "*bank acts as originator*" the securitisation exposures are the retained positions, even where not eligible to the securitisation framework due to absence of significant and effective risk transfer (which may be presented separately).

(ii) When "*the bank acts as sponsor*", the securitisation exposures include exposures to commercial pa programme-wide enhancements, liquidity and other facilities. Where the bank acts both as origina counting. In this regard, the bank can merge two columns of "bank acts as originator" and "bank originator/sponsor" columns.

(iii) Securitisation exposures when "*the bank acts as an investor*" are the investment positions purchase

Synthetic transactions: if the bank has purchased protection it must report the net exposure amoun originator/sponsor (ie the amount that is not secured). If the bank has sold protection, the exposure reported in the "investor" column.

Re-securitisation: all securitisation exposures related to re-securitisation must be completed in r preceding rows (by type of underlying asset) which contain only securitisation exposures other than re

Template SEC3: Securitisation exposures in the banking book and associated regulatory capital requirements - bank acting as originator or as sponsor

Purpose: Present securitisation exposures in the banking book when the bank acts as originator or sponsor and the associated capital requirements.

Scope of application: The template is mandatory for all banks with securitisation exposures as sponsor or originator.

Content: Exposure amounts, risk-weighted assets and capital requirements. This template contains originator or sponsor exposures that are treated under t framework.

Frequency: Semiannual.

Format: Fixed. The format is fixed if consistent with locally applicable regulations. The breakdown of columns (f) to (h), (j) to (l) and (n) to (p) may be adapte level where necessary.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporti key drivers of such changes.

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
		Exposure values (by risk weight bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital ch	
		≤20%	>20% to 50%	>50% to 100%	>100% to <1250% RW	1250%	SEC-IRBA	SEC-ERBA and SEC-IAA	SEC-SA	1250%	SEC-IRBA	SEC-ERBA and SEC-IAA	SEC-SA	1250%	SEC-IRBA	SEC-ERBA a SEC-IA
1	**Total exposures**															
2	Traditional securitisation															
3																

	Of which securitisation																
4	Of which retail underlying																
5	Of which STC																
6	Of which wholesale																
7	Of which STC																
8	Of which re-securitisation																
9	Synthetic securitisation																
10	Of which securitisation																
11	Of which retail underlying																
12	Of which wholesale																
13	Of which re-securitisation																

Definitions

Columns (a) to (e) are defined in relation to regulatory risk weights.

Columns (f) to (q) correspond to regulatory approach used. "1250%" covers securitisation exposures t
applied.

Capital charge after cap will refer to capital charge after application of the cap as described in CRE40.5

Template SEC4: Securitisation exposures in the banking book and associated capital requirements - bank acting as investor

Purpose: Present securitisation exposures in the banking book where the bank acts as investor and the associated capital requirements.

Scope of application: The template is mandatory for all banks having securitisation exposures as investor.

Content: Exposure amounts, risk-weighted assets and capital requirements. This template contains investor exposures that are treated under the securitisat

Frequency: Semiannual.

Format: Fixed. The format is fixed if consistent with locally applicable regulations. The breakdown of columns (f) to (h), (j) to (l) and (n) to (p) may be adapte level where necessary.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporti key drivers of such changes.

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
		Exposure values (by risk weight bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital ch	
		≤20%	>20% to 50%	>50% to 100%	>100% to <1250%	1250%	SEC-IRBA	SEC-ERBA and SEC-IAA	SEC-SA	1250%	SEC-IRBA	SEC-ERBA and SEC-IAA	SEC-SA	1250%	SEC-IRBA	SEC-ERBA a SEC-IA
1	**Total exposures**															
2	Traditional securitisation															
3	Of which securitisation															
4																

	Of which retail underlying																
5	Of which STC																
6	Of which wholesale																
7	Of which STC																
8	Of which re-securitisation																
9	Synthetic securitisation																
10	Of which securitisation																
11	Of which retail underlying																
12	Of which wholesale																
13	Of which re-securitisation																

Definitions

Columns (a) to (e) are defined in relation to regulatory risk weights.

Columns (f) to (q) correspond to regulatory approach used. "1250%" covers securitisation exposures to which none of the approaches laid out in CRE40.42 applied

Capital charge after cap will refer to capital charge after application of the cap as described in CRE40.50 to CRE40.55.

DIS45

Sovereign exposures

This chapter describes disclosure requirements for sovereign exposures.

Version effective as of 01 Jan 2023

First version in the consolidated Basel Framework.

Introduction

45.1 This chapter sets out disclosure requirements for sovereign exposures. Implementation of the templates set out in this chapter is only mandatory when required by national supervisors at a jurisdictional level.

45.2 The definitions used throughout the templates are consistent with CRE20, MAR22 and MAR40.

45.3 The disclosure requirements under this section are:

(1) Template SOV1: Exposures to sovereign entities – country

(2) Template SOV2: Exposures to sovereign entities – currency denomination breakdown

(3) Template SOV3: Exposures to sovereign entities – accounting classification breakdown

Template SOV1: Exposures to sovereign entities - country

Purpose: To decompose banks' sovereign exposures and risk-weighted assets by significant jurisdictions (ie those jurisdictions to which a bank has material sovereign exposures).

Scope of application: The template is mandatory for all banks only when required by national supervisors at a jurisdictional level.

Content: Regulatory exposure amounts.

Frequency: Semiannual.

Format: Fixed. (The columns cannot be altered; the rows will vary based on each bank's country breakdown.)

Accompanying narrative: Banks are expected to supplement the template with a narrative to explain any significant changes in sovereign exposures to different countries. Banks may also provide further details on short positions that provide hedging benefits against trading book sovereign exposures where these benefits are not recognised in the calculations used for column b (ie they are not recognised in the net jump-to-default (JTD) calculation set out in MAR22.19 to MAR22.21, or, for banks subject to the simplified standardised approach for market risk, the net long position calculation set out in MAR40). For example, this could include information on short positions that are not fully recognised due to maturity mismatches, or any index or proxy single-name CDS hedges. In addition, banks may provide information on exposures that are the result of national requirements or other regulatory requirements.

Soveriegns and their central banks

		a	b	c
		Banking book sovereign exposures (after CCF and CRM)	**Trading book sovereign exposures**	**Risk-weighted assets**
	Significant jurisdiction* where the counterparties are located (in descending order of total exposure value)	Amount (including on- and off- balance sheet)	Amount	Amount
1	Total			
2	Jurisdiction 1			
2a	*of which: denominated in domestic currency*			
3	Jurisdiction 2			
3a				

	of which: denominated in domestic currency			
4	...			

***** Banks shall provide data for their exposures to each significant jurisdiction separately, but have the flexibility to provide data by region for their exposures to other jurisdictions.

Multilateral development banks (MDBs) and non-central government public sector entities (PSEs), when exposures to these PSEs are treated as exposures to the sovereigns in whose jurisdiction the PSEs are established

[idem]

Definitions

Banks should disclose in accordance with the asset classes as defined under the credit risk framework (see CRE20.7 to CRE20.15).

Columns

(a) Banking book sovereign exposures (after CCF and CRM): Banks should provide the total value of all sovereign exposures in the banking book (see credit risk framework), after CCF and CRM, including both on- and off-balance sheet exposures. This should include exposures with a zero risk weight.

(b) Trading book sovereign exposures: Banks should provide the exposure value for their entire trading book portfolio that results in a loss in the case of a default (ie long position as defined in MAR22.10), without applying the applicable risk weights (see market risk framework). Therefore, banks are required to provide exposure value even when they apply a zero risk weight to claims on sovereigns per MAR22.7. All banks should report the net long JTD risk positions for each sovereign as calculated per MAR22.19 to MAR22.21. As an exception to this, any bank that is subject to the simplified standardised approach for market risk per MAR40 should report the net long position calculated for specific risk, recognising any full offsetting allowances per MAR40.16, but without applying any partial offsetting allowances per MAR40.17 or MAR40.18.

(c) Risk-weighted assets: Banks should report total RWAs including both banking book and trading book exposures. For trading book exposures, banks (including those that use the internal models approach for market risk) should report 12.5 times the sum of the risk-weighted net long JTDs. As an exception to this, any bank that is subject to the simplified standardised approach for market risk should apply 12.5 times the percentage capital requirements per MAR40.6 Table 1 to the position reported in column b. Column c, RWA, must include counterparty credit risk as defined in CRE50 and CRE51.

Rows

Banks should provide a jurisdiction breakdown of all jurisdictions to which they have a material exposure. If total exposures across all MDBs are material, then banks should include a combined row for all MDBs, without the currency breakdown. Information about individual MDBs is not expected regardless of materiality. Exposures to PSEs from each jurisdiction should be reported in a separate row.

(1) Total: This row should include the total exposures to all jurisdictions, whether or not they are included in the jurisdiction breakdown. This row may therefore not be equal to the sum of the jurisdiction breakdown.

Linkages across templates

Amount in [SOV1:1/a] is equal to [SOV2:1/a]

Amount in [SOV1:1/b] is equal to [SOV2:1/b]

Amount in [SOV1:1/c] is equal to [SOV2:1/c]

Template SOV2: Exposures to sovereign entities - currency denomination breakdown

Purpose: To decompose banks' sovereign exposures and risk-weighted assets by currency denomination for those jurisdictions to which banks have material sovereign exposure.

Scope of application: The template is mandatory for all banks only when required by national supervisors at a jurisdictional level.

Content: Regulatory exposure amounts.

Frequency: Semiannual.

Format: Fixed. (The columns cannot be altered; the rows will vary based on each bank's currency breakdown.)

Accompanying narrative: Banks are expected to supplement the template with a narrative to explain any significant changes in currency denomination of sovereign exposures across countries. Banks may also provide further details on short positions that provide hedging benefits against trading book sovereign exposures where these benefits are not recognised in the calculations used for column b (ie they are not recognised in the net JTD calculation set out in MAR22.19 to MAR22.21, or, for banks subject to the simplified standardised approach for market risk, the net long position calculation set out in MAR40). For example, this could include information on short positions that are not fully recognised due to maturity mismatches, or any index or proxy single-name CDS hedges. In addition, banks may provide information on exposures that are the result of national requirements or other regulatory requirements.

Sovereigns and their central banks

		a	b	c
		Banking book sovereign exposures (after CCF and CRM)	**Trading book sovereign exposures**	**Risk-weighted assets**
	Significant currency denomination* (in descending order of exposure value)	Amount (including on- and off-balance sheet)	Amount	Amount
1	Total			
2	Currency 1			
3	Currency 2			
	...			

***** Banks need to provide currency breakdown data for aggregate exposures to significant jurisdictions, but have the flexibility to provide data by region for their exposures to other jurisdictions.

MDBs and non-central government PSEs, when exposures to these PSEs are treated as exposures to the sovereigns in whose jurisdiction the PSEs are established

[idem]

Definitions

Banks should disclose in accordance with the asset classes as defined under the credit risk framework (see CRE20.7 to CRE20.15).

Columns

(a) Banking book sovereign exposures (after CCF and CRM): Banks should provide the total value of all sovereign exposures in the banking book, after CCF and CRM, including both on- and off-balance sheet exposures (see credit risk framework). This should include exposures with a zero risk weight.

(b) Trading book sovereign exposures: Banks should provide the exposure value for their entire trading book portfolio that results in a loss in the case of a default (ie long position as defined in MAR22.10), without applying the applicable risk weights (see market risk framework). Therefore, banks are required to provide exposure value even when they apply a zero risk weight to claims on sovereigns per MAR22.7. All banks should report the net long JTD risk positions for each sovereign as calculated per MAR22.19 to MAR22.21. As an exception to this, any bank that is subject to the simplified standardised approach for market risk per MAR40 should report the net long position calculated for specific risk, recognising any full offsetting allowances per MAR40.16, but without applying any partial offsetting allowances per MAR40.17 or MAR40.18.

(c) Risk-weighted assets: Banks should report total RWAs including both banking book and trading book exposures. For trading book exposures, banks (including those that use the internal models approach for market risk) should report 12.5 times the sum of the risk-weighted net long JTDs. As an exception to this, any bank that is subject to the simplified standardised approach for market risk should apply 12.5 times the percentage capital requirements per MAR40.6 Table 1 to the position reported in column b. Column c, RWA, must include counterparty credit risk as defined in CRE50 and CRE51.

Rows

Banks should provide a currency breakdown of significant currencies for those jurisdictions to which they have a material sovereign exposure. If total exposures across all MDBs are material, then banks should provide currency breakdown data for such exposures. Information about individual MDBs is not expected regardless of materiality. Similarly, banks should provide currency breakdown data for exposures to PSEs. Currency breakdown data for exposures to PSEs in each jurisdiction is not required.

(1) Total: This row should include the total exposures to all currencies, whether or not they are included in the currency breakdown. This row may therefore not be equal to the sum of the exposures to individual currencies included in the currency breakdown.

Linkages across templates

Amount in [SOV2:1/a] is equal to [SOV1:1/a]

Amount in [SOV2:1/b] is equal to [SOV1:1/b]

Amount in [SOV2:1/c] is equal to [SOV1:1/c]

Template SOV3: Exposures to sovereign entities - accounting classification breakdown

Purpose: To decompose banks' sovereign exposures by accounting classification.

Scope of application: The template is mandatory for all banks only when required by national superv

Content: Carrying value (under regulatory scope of consolidation).

Frequency: Semiannual.

Format: Fixed. (The columns and rows cannot be altered.)

Accompanying narrative: Banks are expected to supplement the template with a narrative to explain template with a narrative commentary to explain any material concentration of exposures to sovereigr indicating the jurisdictions of the sovereign exposures and the amounts within the relevant maturity b

Sovereigns and their central banks

		a	b	c	d	e	f	g	h
		Debt instruments / loans and receivables			**Total exposures for debt instruments / loa and receivables**				
		Fair value through profit and loss (FVTPL)	Fair value through other comprehensive income (FVTOCI)	Amortised cost (AC)	Maturity buckets				
					< 12 months	12 months to < 2 years	2 years to < 5 years	5 years and more	No maturity
1	**Gross value**								
2	**Net value**								

MDBs and non-central governments PSEs, when exposures to these PSEs are treated as exposur

[idem]

Columns

(a)Debt instruments – fair value through profit and loss: Banks must disclose the carrying value of debt

- Instruments held for trading.

- Instruments that are held within a business model whose objective is achieved by both collectin
- When the entity has exercised the option to designate instruments at FVTPL that would otherwi recognition inconsistency (referred to as an "accounting mismatch").

(b) Debt instruments – fair value through other comprehensive income: Banks must disclose the carrying is achieved by both collecting contractual cash flows and selling assets and that qualify for the SPPI te

(c) Debt instruments / loans and receivables – amortised cost: Banks must disclose the carrying value of are held within a business model whose objective is to collect contractual cash flows and that qualify f

(d) – (i) Total exposures for debt instruments / loans and receivables: Banks should disclose the amount date of maturity and the reporting reference date. When the reporting reference date is after the cont allocated to the [< 12 months] bucket and therefore reported in column (d).

- Callable instruments should be disclosed according to the contractual date of maturity.
- Perpetual bonds and other exposures without defined maturity should be reported in the "no m

(j) – (n) Direct sovereign exposures in derivatives: In the notional value column banks should disclose th notionals at column (j) only or notionals by positive or negative fair value at column (k) and column (m

(o) – (r) Total exposures in derivatives (on-balance sheet): Banks should disclose the amount according t maturity and the reporting reference date. When the reporting reference date is after the contractual d allocated to the [< 12 months] bucket and therefore reported in column (o). The "No maturity" bucket

Rows

If total exposures across all MDBs are material, then banks should provide accounting classification bre provide accounting classification breakdown data for exposures to PSEs. Accounting classification brea

(2) Net value: Total gross value less allowances. Allowances include expected credit losses/loss allowan

DIS50

Market risk

This chapter describes disclosure requirements for market risk.

Version effective as of 01 Jan 2023

Reflects change in underlying market risk capital requirements published in January 2019. Updated to take account of new implementation date as announced on 27 March 2020 and the changes announced on 11 November 2021.

Introduction

50.1 The market risk section includes the market risk capital requirements calculated for trading book and banking book exposures that are subject to market risk capital requirements in MAR10 to MAR40. It also includes capital requirements for securitisation positions held in the trading book. However, it excludes the counterparty credit risk capital requirements that apply to the same exposures, which are reported in DIS42.

50.2 The disclosure requirements under this section are:

General information about market risk:

(1) Table MRA - General qualitative disclosure requirements related to market risk

Market risk under the standardised approach:

(2) Template MR1 - Market risk under the standardised approach

Market risk under the internal models approach (IMA):

(3) Table MRB - Qualitative disclosures for banks using the IMA

(4) Template MR2 - Market risk for banks using the IMA

Market risk under the simplified standardised approach (SSA):

(5) Template MR3 – Market risk under the simplified standardised approach

Table MRA: General qualitative disclosure requirements related to market risk

Purpose: Provide a description of the risk management objectives and policies for market risk as defined in MAR11.1.

Scope of application: The table is mandatory for all banks that are subject to the market risk framework.

Content: Qualitative information.

Frequency: Annual.

Format: Flexible.

Banks must describe their risk management objectives and policies for market risk according to the framework as follows:

(a)	Strategies and processes of the bank, which must include an explanation and/or a description of:
	• The bank's strategic objectives in undertaking trading activities, as well as the processes implemented to identify, measure, monitor and control the bank's market risks, including policies for hedging risk and the strategies/processes for monitoring the continuing effectiveness of hedges.
	• Policies for determining whether a position is designated as trading, including the definition of stale positions and the risk management policies for monitoring those positions. In addition, banks should describe cases where instruments are assigned to the trading or banking book contrary to the general presumptions of their instrument category and the market and gross fair value of such cases, as well as cases where instruments have been moved from one book to the other since the last reporting period, including the gross fair value of such cases and the reason for the move.
	• Description of internal risk transfer activities, including the types of internal risk transfer desk (RBC25).
(b)	The structure and organisation of the market risk management function, including a description of the market risk governance structure established to implement the strategies and processes of the bank discussed in row (a) above.
(c)	The scope and nature of risk reporting and/or measurement systems.

Template MR1: Market risk under the standardised approach

Purpose: Provide the components of the capital requirements under the standardised approach for market risk.

Scope of application: The template is mandatory for banks having part or all of their market risk capital requirements measured according to the standardised approach. For banks that use the internal models approach (IMA), the standardised approach capital requirement in this template must be calculated based on the portfolios in trading desks that do not use the IMA (ie trading desks that are not deemed eligible to use the IMA per the terms of MAR30.4).

Content: Capital requirements (as defined in MAR20 to MAR23 of the market risk framework).

Frequency: Semiannual.

Format: Fixed. Additional rows can be added for the breakdown of other risks.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant change over the reporting period and the key drivers of such changes. In particular, the narrative should inform about changes in the scope of application, including changes due to trading desks for which capital requirements are calculated using the standardised approach.

		a
		Capital requirement in standardised approach
1	General interest rate risk	
2	Equity risk	
3	Commodity risk	
4	Foreign exchange risk	
5	Credit spread risk - non-securitisations	
6	Credit spread risk - securitisations (non-correlation trading portfolio)	
7	Credit spread risk - securitisation (correlation trading portfolio)	
8	Default risk - non-securitisations	
9	Default risk - securitisations (non-correlation trading portfolio)	
10	Default risk - securitisations (correlation trading portfolio)	
11	Residual risk add-on	

12	**Total**	

Linkages across templates

[MR1 12/a] is equal to [OV1 21/c]

Table MRB: Qualitative disclosures for banks using the IMA

Purpose: Provide the scope, main characteristics and key modelling choices of the different models used for the capital requirement computation of market risks using the IMA.

Scope of application: The table is mandatory for all banks using the IMA to calculate the market risk capital requirements. To provide meaningful information to users on a bank's use of internal models, the bank must describe the main characteristics of the models used at the group-wide level (according to the scope of regulatory consolidation) and explain the extent to which they represent all the models used at the group-wide level. The commentary must include the percentage of capital requirements covered by the models described for each of the regulatory models (expected shortfall (ES), default risk capital (DRC) requirement and stressed Expected Shortfall (SES) for non-modellable risk factors (NMRFs)).

Content: Qualitative information.

Frequency: Annual.

Format: Flexible.

(A) Banks must provide a general description of the trading desk structure (as defined in MAR12) and types of instruments included in the IMA trading desks.

(B) For ES models, banks must provide the following information:

(a)	A description of trading desks covered by the ES models. Where applicable, banks must also describe the main trading desks not included in ES regulatory calculations (due to lack of historical data or model constraints) and treated under other measures (such as specific treatments allowed in some jurisdictions).
(b)	The soundness criteria on which the internal capital adequacy assessment is based (eg forward-looking stress testing) and a description of the methodologies used to achieve a capital adequacy assessment that is consistent with the soundness standards.
(c)	A general description of the ES model(s). For example, banks may describe whether the model(s) is (are) based on historical simulation, Monte Carlo simulations or other appropriate analytical methods, and the observation period for ES based on stressed observations ($ES_{R,S}$).
(d)	The frequency by which model data is updated.
(e)	A description of the ES calculation based on current and stressed observations. For example, banks should describe the reduced set of risk factors used to calibrate the period of stress, the share of the variations in the full ES that is explained by the reduced set of risk factors, and the observation period used to identify the most stressful 12 months.

(C) SES

(a)	A general description of each methodology used to achieve a capital assessment that for categories of NMRFs is consistent with the required soundness standard.

(D) Banks using internal models to determine the DRC must provide the following information:

(a)	A general description of the methodology: Information about the characteristics and scope of the value-at-risk (VaR) and whether different models are used for different exposure classes. For example, banks may describe the range of probability of default (PD) by obligors on the different types of positions, the approaches used to correct market-implied PDs as applicable, the treatment of netting, basis risk between long and short exposures of different obligors, mismatch between a position and its hedge and concentrations that can arise within and across product classes during stressed conditions.
(b)	The methodology used to achieve a capital assessment that is consistent with both the required soundness standard and MAR33.18 to MAR33.39.
(E) Validation of models and modelling processes:	
(a)	The approaches used in the validation of the models and modelling processes, describing general approaches used and the types of assumptions and benchmarks on which they rely.

Template MR2: Market risk for banks using the IMA

Purpose: Provide the components of the capital requirement under the IMA for market risk.

Scope of application: The template is mandatory for banks using the IMA for part or all of their market risk for regulatory capital calculations.

Content: Capital requirement calculation (as defined in MAR33) at the group-wide level (according to the scope of regulatory consolidation).

Frequency: Quarterly.

Format: Fixed.

Accompanying narrative: Banks must report the components of their total capital requirement that are included for their most recent measure and the components that are included for their average of the previous 60 days for ES, IMCC and SES, and 12 weeks for DRC. Banks must also provide a comparison of VaR estimates with actual gains/losses experienced by the bank, with analysis of important "outliers" in backtest results. Banks are also expected to include the corresponding figures at the previous quarter in this template and explain any significant changes in the current figures in the narrative section.

			a	b	c	d	e	f	g
			At the current quarter					At the previous quarter	
			Risk measure: for previous 60 days / 12 weeks:				Number of backtesting exceptions	Risk measure: for previous 60 days / 12 weeks	
			Most recent	Average	High	Low	VaR measure 99.0%	Most recent	Average
1	Unconstrained expected shortfall								
2	ES for the regulatory risk classes	General interest rate risk							
3		Equity risk							
4		Commodity risk							
5		Foreign exchange risk							
6		Credit spread risk							
7	Constrained expected shortfall								

8	IMCC (0.5 *Unconstrained ES+0. 5*constrained risk class ES)							
9	Capital requirement for non-modellable risk factors; SES							
10	Default risk capital requirement							
11	Capital surcharge for amber trading desks							
12	Capital requirements for green and amber trading desks (including capital surcharge)							
13	Total SA Capital requirements for trading desks ineligible to use the IMA as reported in MR1 (C_U)							
14	Difference in capital requirements under the IMA and SA for green and amber trading desks							
15	SA capital requirement for all trading desks (including those subject to IMA)							
16	Total market risk capital requirement: min (12+13; 15)+max(0,14)							

Definitions and instructions

Row number	Explanation
1	*Unconstrained expected shortfall*: Expected shortfall (ES) as defined in MAR33.1 to MAR33.12, calculated without supervisory constraints on cross-risk factor correlations.
7	*Constrained expected shortfall*: ES as defined in MAR33.1 to MAR33.12, calculated in accordance with MAR33.14. The constrained ES disclosed should be the sum of partial expected shortfall capital requirements (ie all other risk factors should be held constant)

	for the range of broad regulatory risk factor classes (interest rate risk, equity risk, foreign exchange risk, commodity risk and credit spread risk).
9	*Capital requirement for non-modellable risk factors*: aggregate regulatory capital measure calculated in accordance with MAR33.16 and MAR33.17, for risk factors in model-eligible trading desks that are deemed non-modellable in accordance with MAR30.4.
10	*Default risk capital (DRC) requirement*: in accordance with MAR33.18, measure of the default risk of trading book positions, except those subject to standardised capital requirements. This covers, inter alia, sovereign exposures (including those denominated in the sovereign's domestic currency), equity positions and defaulted debt positions.
11	*Capital surcharge for amber trading desks*: capital surcharge for eligible trading desks that is in the P&L attribution test "amber zone", calculated in accordance with MAR33.45.
12	*Subtotal for green and amber trading desks*: (C_A+DRC) + Capital surcharge, in accordance with MAR33.41 to MAR33.43; MAR33.22; and MAR33.45. Row 12= max[8/a+9/a; multiplier*8/b+9/b]+max[10/a; 10/b]+11.
13	*Total SA capital requirements for trading desks ineligible to use the IMA (C_U)*: standardised approach (SA) capital requirements for trading desks that are either out of scope for model approval or that have been deemed ineligible to use the IMA, corresponding to the total capital requirement under the SA as reported in row 12 of Template MR1.
14	*Difference in capital requirements under the IMA and SA for green and amber trading desks*: capital requirements for green and amber trading desks under the IMA ($IMA_{G,A}$) – capital requirements for green and amber trading desks under SA ($SA_{G,A}$) in accordance with MAR33.45).
15	*SA capital requirement for all trading desks (including those subject to the IMA)*: the most recent standardised approach capital requirement for all instruments across all trading desks, regardless of whether those trading desks are eligible for the IMA, as set out in MAR33.43 and MAR11.8(1).
16	*Total market risk capital requirement*: the total capital requirement is calculated as set out in MAR33.43.

Linkages across templates

[MR2:16 minus MR2:13] is equal to [OV1 22/c]

[MR2:16 minus MR2:13] x 12.5 is equal to [CMS1 5/a] (The linkage to "Template CMS1: Comparison of modelled and standardised RWA at risk level" will not hold if a bank using the standardised approach for market risk also uses SEC-IRBA and/or SEC-IAA when determining the default risk charge component for securitisations held in the trading book.)

[MR2:13] x 12.5 is equal to [CMS1 5/b] (The linkage to "Template CMS1: Comparison of modelled and standardised RWA at risk level" will not hold if a bank using the standardised approach for market risk also uses SEC-IRBA and/or SEC-IAA when determining the default risk charge component for securitisations held in the trading book.)

[MR2:16] x 12.5 is equal to [CMS1 5/c]

[MR2:15] x 12.5 is equal to [CMS1 5/d] (The linkage to "Template CMS1: Comparison of modelled and standardised RWA at risk level" will not hold if an AI using the standardised approach for market risk also uses SEC-IRBA and/or SEC-IAA when determining the default risk charge component for securitisations held in the trading book.)

Template MR3: Market risk under the simplified standardised approach

Purpose: Provide the components of the capital requirement under the simplified standardised approach for market risk.

Scope of application: The template is mandatory for banks that use the simplified standardised approach to determine market risk capital requirements.

Content: Capital requirement (as defined in MAR40 of the market risk framework).

Frequency: Semiannual.

Format: Fixed. Additional rows can be added for the breakdown of other risks.

Accompanying narrative:

		a	b	c	d
		Outright products	Options		
			Simplified approach	Delta-plus method	Scenario approach
1	Interest rate risk				
2	Equity risk				
3	Commodity risk				
4	Foreign exchange risk				
5	Securitisation				
6	**Total**				

Definitions and instructions

	Explanation
5	*Securitisation*: specific capital requirement under MAR40.14.
a	*Outright products*: positions in products that are not optional. This includes the capital requirement under MAR40.3 to MAR40.40 (interest rate risk); the capital requirement under MAR40.41 to MAR40.52 (equity risk); the capital requirement under MAR40.63 to MAR40.73 (commodities risk); and the capital requirement under MAR40.53 to MAR40.62 (FX risk).
b	*Options under the simplified approach*: capital requirements for option risks (non-delta risks) under MAR40.76 from debt instruments, equity instruments, commodities instruments and foreign exchange instruments.
c	*Options under the delta-plus method*: capital requirements for option risks (non-delta risks) under MAR40.77 to MAR40.80 from debt instruments, equity instruments, commodities instruments and foreign exchange instruments.

d *Options under the scenario approach*: capital requirements for option risks (non-delta risks) under MAR40.81 to MAR40.86 from debt instruments, equity instruments, commodities instruments and foreign exchange instruments.

DIS51

Credit valuation adjustment risk

This chapter describes disclosure requirements for CVA risk.

Version effective as of 01 Jan 2023

First version in the format of the consolidated framework. Updated to take account of new implementation date as announced on 27 March 2020.

Introduction

51.1 The disclosure requirements under this section are:

General information about CVA risk:

(1) Table CVAA - General qualitative disclosure requirements related to CVA

CVA risk under the basic approach (BA-CVA):

(2) Template CVA1 - The reduced basic approach for CVA (BA-CVA)

(3) Template CVA2 - The full basic approach for CVA (BA-CVA)

CVA risk under the standardised approach (SA-CVA):

(4) Table CVAB - Qualitative disclosures for banks using the SA-CVA

(5) Template CVA3 - The standardised approach for CVA (SA-CVA)

(6) Template CVA4 - RWA flow statements of CVA risk exposures under SA-CVA

Table CVAA: General qualitative disclosure requirements related to CVA

Purpose: To provide a description of the risk management objectives and policies for CVA risk.
Scope of application: The table is mandatory for all banks that are subject to CVA capital requirements, including banks which are qualified and have elected to set its capital requirement for CVA at 100% of its counterparty credit risk charge.
Content: Qualitative information.
Frequency: Annual.
Format: Flexible.
Banks must describe their risk management objectives and policies for CVA risk as follows:

(a)	An explanation and/or a description of the bank's processes implemented to identify, measure, monitor and control the bank's CVA risks, including policies for hedging CVA risk and the processes for monitoring the continuing effectiveness of hedges.
(b)	Whether the bank is eligible and has chosen to set its capital requirement for CVA at 100% of the bank's capital requirement for counterparty credit risk as applicable under MAR40.

Template CVA1: The reduced basic approach for CVA (BA-CVA)

Purpose: To provide the components used for the computation of RWA under the reduced BA-CVA for CVA risk.

Scope of application: The template is mandatory for banks having part or all of their RWA for CVA risk measured according to the reduced BA-CVA. The template should be completed with only the amounts obtained from the netting sets which are under the reduced BA-CVA.

Content: RWA.

Frequency: Semiannual.

Format: Fixed.

Accompanying narrative: Banks must describe the types of hedge they use even if they are not taken into account under the reduced BA-CVA.

		a	b
		Components	BA-CVA RWA
1	Aggregation of systematic components of CVA risk		
2	Aggregation of idiosyncratic components of CVA risk		
3	**Total**		

Definitions and instructions

Row number	Explanation
1	*Aggregation of systematic components of CVA risk:* RWA under perfect correlation assumption ($\sum_c SCVA_c$) as per MAR50.14.
2	*Aggregation of idiosyncratic components of CVA risk:* RWA under zero correlation assumption ($sqrt(\sum_c SCVA_c^2)$) as per MAR50.14.
3	*Total:* $K_{reduced}$ as per MAR50.14 multiplied by 12.5.

Linkages across templates

[CVA1:3/b] is equal to [OV1:10/a] if the bank only uses the reduced BA-CVA for all CVA risk exposures.

Template CVA2: The full basic approach for CVA (BA-CVA)

Purpose: To provide the components used for the computation of RWA under the full BA-CVA for CVA risk.

Scope of application: The template is mandatory for banks having part or all of their RWA for CVA risk measured according to the full version of the BA-CVA. The template should be fulfilled with only the amounts obtained from the netting sets which are under the full BA-CVA.

Content: RWA.

Frequency: Semiannual.

Format: Fixed. Additional rows can be inserted for the breakdown of other risks.

		a
		BA-CVA RWA
1	K Reduced	
2	K Hedged	
3	**Total**	

Definitions and instructions

Row number	Explanation
1	*K Reduced:* $K_{reduced}$ as per MAR50.14.
2	*K Hedged:* K_{hedged} as per MAR50.21.
3	*Total:* K_{full} as per MAR50.20 multiplied by 12.5.

Linkages across templates

[CVA2:3/a] is equal to [OV1:10/a] if the bank only uses the full BA-CVA for all CVA risk exposures.

Table CVAB: Qualitative disclosures for banks using the SA-CVA

Purpose: To provide the main characteristics of the bank's CVA risk management framework.
Scope of application: The table is mandatory for all banks using the SA-CVA to calculate their RWA for CVA risk.
Content: Qualitative information.
Frequency: Annual.
Format: Flexible.
Banks must provide the following information on their CVA risk management framework:

(a)	A description of the bank's CVA risk management framework.
(b)	A description of how senior management is involved in the CVA risk management framework.
(c)	An overview of the governance of the CVA risk management framework (eg documentation, independent control unit, independent review, independence of the data acquisition from the lines of business).

Template CVA3: The standardised approach for CVA (SA-CVA)

Purpose: To provide the components used for the computation of RWA under the SA-CVA for CVA risk.

Scope of application: The template is mandatory for banks having part or all of their RWA for CVA risk measured according to the SA-CVA.

Content: RWA.

Frequency: Semiannual.

Format: Fixed. Additional rows can be inserted for the breakdown of other risks.

		a	b
		SA-CVA RWA	Number of counterparties
1	Interest rate risk		
2	Foreign exchange risk		
3	Reference credit spread risk		
4	Equity risk		
5	Commodity risk		
6	Counterparty credit spread risk		
7	**Total (sum of rows 1 to 6)**		

Linkages across templates

[CVA3:7/a] is equal to [OV1:10/a] if the bank only uses the SA-CVA for all CVA risk exposures.

Template CVA4: RWA flow statements of CVA risk exposures under SA-CVA

Purpose: Flow statement explaining variations in RWA for CVA risk determined under the SA-CVA.

Scope of application: The template is mandatory for banks using the SA-CVA.

Content: RWA for CVA risk. Changes in RWA amounts over the reporting period for each of the key drivers should be based on a bank's reasonable estimation of the figure.

Frequency: Quarterly.

Format: Fixed.

Accompanying narrative: Banks are expected to supplement the template with a narrative commentary to explain any significant changes over the reporting period and the key drivers of such changes. Factors behind changes could include movements in risk levels, scope changes (eg movement of netting sets between SA-CVA and BA-CVA), acquisition and disposal of business /product lines or entities or foreign currency translation movements.

		a
1	**Total RWA for CVA at previous quarter-end**	
2	**Total RWA for CVA at end of reporting period**	

Linkages across templates

[CVA4:1/a] is equal to [OV1:10/b]

[CVA4:2/a] is equal to [OV1:10/a]

DIS60

Operational risk

This chapter describes disclosure requirements for operational risk.

Version effective as of 01 Jan 2023

Updated to take account of the new standardised approach to operational risk introduced in the December 2017 Basel III publication. Updated to take account of new implementation date as announced on 27 March 2020.

Introduction

60.1 The disclosure requirements under this section are:

(1) Table ORA – General qualitative information on a bank's operational risk framework

(2) Template OR1 – Historical losses

(3) Template OR2 – Business indicator and subcomponents

(4) Template OR3 – Minimum required operational risk capital

Table ORA: General qualitative information on a bank's operational risk framework

Purpose: To describe the main characteristics and elements of a bank's operational risk management framework.
Scope of application: The table is mandatory for all banks.
Content: Qualitative information.
Frequency: Annual.
Format: Flexible.
Banks must describe:
(a) Their policies, frameworks and guidelines for the management of operational risk.
(b) The structure and organisation of their operational risk management and control function.
(c) Their operational risk measurement system (ie the systems and data used to measure operational risk in order to estimate the operational risk capital charge).
(d) The scope and main context of their reporting framework on operational risk to executive management and to the board of directors.
(e) The risk mitigation and risk transfer used in the management of operational risk. This includes mitigation by policy (such as the policies on risk culture, risk appetite, and outsourcing), by divesting from high-risk businesses, and by the establishment of controls. The remaining exposure can then be absorbed by the bank or transferred. For instance, the impact of operational losses can be mitigated with insurance.

Template OR1: Historical losses

Purpose: To disclose aggregate operational losses incurred over the past 10 years, based on the accounting date of the incurred losses. This disclosure informs the operational risk capital calculation. The general principle on retrospective disclosure set out in DIS10.6 does not apply for this template. From the implementation date of the template onwards, disclosure of all prior periods is required, unless firms have been permitted by their supervisor to use fewer years in their capital calculation on a transitional basis.

Scope of application: The table is mandatory for: (i) all banks that are in the second or third business indicator (BI) bucket, regardless of whether their supervisor has exercised the national discretion to set the internal loss multiplier (ILM) equal to one; and (ii) all banks in the first BI bucket which have received supervisory approval to include internal loss data to calculate their operational risk capital requirements.

Content: Quantitative information.

Frequency: Annual.

Format: Fixed. National supervisors may prescribe further guidance regarding the disclosure of the total number of exclusions in rows 4 and 9.

Accompanying narrative: Banks are expected to supplement the template with narrative commentary explaining the rationale in aggregate, for new loss exclusions since the previous disclosure. Banks should disclose any other material information, in aggregate, that would help inform users as to its historical losses or its recoveries, with the exception of confidential and proprietary information, including information about legal reserves.

		a	b	c	d	e	f	g	h	i	j	k
		T	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	Ten-year average
Using €20,000 threshold												
1	Total amount of operational losses net of recoveries (no exclusions)											
2	Total number of operational risk losses											
3	Total amount of excluded operational risk losses											
4	Total number of exclusions											

5	Total amount of operational losses net of recoveries and net of excluded losses													
Using €100,000 threshold														
6	Total amount of operational losses net of recoveries (no exclusions)													
7	Total number of operational risk losses													
8	Total amount of excluded operational risk losses													
9	Total number of exclusions													
10	Total amount of operational losses net of recoveries and net of excluded losses													
Details of operational risk capital calculation														
11	Are losses used to calculate the ILM (yes /no)?													
12	If "no" in row 11, is the exclusion of internal loss data due to non-compliance with the minimum loss data standards (yes/no)?													
13	Loss event threshold: €20,000 or €100,000 for the operational risk capital calculation if applicable													

Definitions

Row 1: Based on a loss event threshold of €20,000, the total loss amount net of recoveries resulting from loss events above the loss event threshold for each of the last 10 reporting periods. Losses excluded from the operational risk capital calculation must still be included in this row.

Row 2: Based on a loss event threshold of €20,000, the total number of operational risk losses.

Row 3: Based on a loss event threshold of €20,000, the total net loss amounts above the loss threshold excluded (eg due to divestitures) for each of the last 10 reporting periods.

Row 4: Based on a loss event threshold of €20,000, the total number of exclusions.

Row 5: Based on a loss event threshold of €20,000, the total amount or operational risk losses net of recoveries and excluded losses.

Row 6: Based on a loss event threshold of €100,000, the total loss amount net of recoveries resulting from loss events above the loss event threshold for each of the last 10 reporting periods. Losses excluded from the operational risk capital calculation must still be included in this row.

Row 7: Based on a loss event threshold of €100,000, the total net loss amounts above the loss threshold excluded (eg due to divestitures) for each of the last 10 reporting periods.

Row 8: Based on a loss event threshold of €100,000, the total number of operational risk losses.

Row 9: Based on a loss event threshold of €100,000, the total number of exclusions.

Row 10: Based on a loss event threshold of €100,000, the total amount or operational risk losses net of recoveries and excluded losses.

Row 11: Indicate whether the bank uses operational risk losses to calculate the ILM. Banks using ILM=1 due to national discretion should answer no.

Row 12: Indicate whether internal loss data are not used in the ILM calculation due to non-compliance with the minimum loss data standards as referred to by OPE25.12 and OPE25.13. The application of any resulting multipliers must be disclosed in row 2 of Template OR3 and accompanied by a narrative.

Row 13: The loss event threshold used in the actual operational risk capital calculation (ie €20,000 or €100,000) if applicable.

Columns: For rows 1 to 10, T denotes the end of the annual reporting period, T-1 the previous year-end, etc. Column (k) refers to the average annual losses net of recoveries and excluded losses over 10 years.

Notes:

Loss amounts and the associated recoveries should be reported in the year in which they were recorded in financial statements.

Template OR2: Business Indicator and subcomponents

Purpose: To disclose the business indicator (BI) and its subcomponents, which inform the operational risk capital calculation. The general principle on retrospective disclosure set out in DIS10.6 does not apply for this template. From the implementation date of this template onwards, disclosure of all prior periods is required.

Scope of application: The table is mandatory for all banks.

Content: Quantitative information.

Frequency: Annual.

Format: Fixed.

Accompanying narrative: Banks are expected to supplement the template with narrative commentary to explain any significant changes over the reporting period and the key drivers of such changes. Additional narrative is required for those banks that have received supervisory approval to exclude divested activities from the calculation of the BI.

		a	b	c
	BI and its subcomponents	T	T-1	T-2
1	Interest, lease and dividend component			
1a	Interest and lease income			
1b	Interest and lease expense			
1c	Interest earning assets			
1d	Dividend income			
2	Services component			
2a	Fee and commission income			
2b	Fee and commission expense			
2c	Other operating income			
2d	Other operating expense			
3	Financial component			
3a	Net P&L on the trading book			
3b	Net P&L on the banking book			
4	BI			

5	Business indicator component (BIC)			

Disclosure on the BI:

		a
6a	BI gross of excluded divested activities	
6b	Reduction in BI due to excluded divested activities	

Definitions

Row 1: The interest, leases and dividend component (ILDC) = Min [Abs (Interest income - Interest expense); 2.25%* Interest-earning assets] + Dividend income. In the formula, all the terms are calculated as the average over three years: T, T-1 and T-2.

The interest-earning assets (balance sheet item) are the total gross outstanding loans, advances, interest-bearing securities (including government bonds) and lease assets measured at the end of each financial year.

Row 1a: Interest income from all financial assets and other interest income (includes interest income from financial and operating leases and profits from leased assets).

Row 1b: Interest expenses from all financial liabilities and other interest expenses (includes interest expense from financial and operating leases, losses, depreciation and impairment of operating leased assets).

Row 1c: Total gross outstanding loans, advances, interest-bearing securities (including government bonds) and lease assets measured at the end of each financial year.

Row 1d: Dividend income from investments in stocks and funds not consolidated in the bank's financial statements, including dividend income from non-consolidated subsidiaries, associates and joint ventures.

Row 2: Service component (SC) = Max (Fee and commission income; Fee and commission expense) + Max (Other operating income; Other operating expense). In the formula, all the terms are calculated as the average over three years: T, T-1 and T-2.

Row 2a: Income received from providing advice and services. Includes income received by the bank as an outsourcer of financial services.

Row 2b: Expenses paid for receiving advice and services. Includes outsourcing fees paid by the bank for the supply of financial services, but not outsourcing fees paid for the supply of non-financial services (eg logistical, IT, human resources).

Row 2c: Income from ordinary banking operations not included in other BI items but of a similar nature (income from operating leases should be excluded).

Row 2d: Expenses and losses from ordinary banking operations not included in other BI items but of a similar nature and from operational loss events (expenses from operating leases should be excluded).

Row 3: Financial component (FC) = Abs (Net P&L Trading Book) + Abs (Net P&L Banking Book). In the formula, all the terms are calculated as the average over three years: T, T-1 and T-2.

Row 3a: This comprises (i) net profit/loss on trading assets and trading liabilities (derivatives, debt securities, equity securities, loans and advances, short positions, other assets and liabilities); (ii) net profit/loss from hedge accounting; and (iii) net profit/loss from exchange differences.

Row 3b: This comprises (i) net profit/loss on financial assets and liabilities measured at fair value through profit and loss; (ii) realised gains/losses on financial assets and liabilities not measured at fair value through profit and loss (loans and advances, assets available for sale, assets held to maturity, financial liabilities measured at amortised cost); (iii) net profit/loss from hedge accounting; and (iv) net profit/loss from exchange differences.

Row 4: The BI is the sum of the three components: ILDC, SC and FC.

Row 5: The BIC is calculated by multiplying the BI by a set of regulatory determined marginal coefficients (αi). The marginal coefficients increase with the size of the BI: 12% for BI ≤ €1bn; 15% for €1bn < BI ≤ €30bn; and 18% for BI > €30bn.

Disclosure on BI should be reported by banks that have received supervisory approval to excluded divested activities from the calculation of the BI.

Row 6a: The BI reported in this row includes divested activities.

Row 6b: Difference between BI gross of divested activities (row 6a) and BI net of divested activities (row 4).

Columns: T denotes the end of the annual reporting period, T-1 the previous year-end, etc.

Linkages across templates

[OR2:5/a] is equal to [OR3:1/a]

Template OR3: Minimum required operational risk capital

Purpose: To disclose operational risk regulatory capital requirements.

Scope of application: The table is mandatory for all banks.

Content: Quantitative information.

Frequency: Annual.

Format: Fixed.

		a
1	Business indicator component (BIC)	
2	Internal loss multiplier (ILM)	
3	Minimum required operational risk capital (ORC)	
4	Operational risk RWA	

Definitions

Row 1: The BIC used for calculating minimum regulatory capital requirements for operational risk.

Row 2: The ILM used for calculating minimum regulatory capital requirements for operational risk. Where national jurisdictions choose to exclude losses from the operational risk calculation, the ILM is set equal to one.

Row 3: Minimum Pillar 1 operational risk capital requirements. For banks using operational risk losses to calculate the ILM, this should correspond to the BIC times the ILM. For banks not using operational risk losses to calculate the ILM, this corresponds to the BIC.

Row 4: Converts the minimum Pillar 1 operational risk capital requirement into RWA.

DIS70

Interest rate risk in the banking book

This chapter describes disclosure requirements for interest rate risk in the banking book.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Introduction

70.1 The disclosure requirements set out in this chapter are:

(1) Table IRRBBA – Interest rate risk in the banking book (IRRBB) risk management objective and policies

(2) Template IRRBB1 – Quantitative information on IRRBB

70.2 Table IRRBBA provides information on a bank's IRRBB risk management objective and policy. Template IRRBB1 provides quantitative IRRBB information, including the impact of interest rate shocks on their change in economic value of equity and net interest income, computed based on a set of prescribed interest rate shock scenarios.

70.3 Banks must disclose the measured changes in economic value of equity (ΔEVE) and changes in net interest income (ΔNII) under the prescribed interest rate shock scenarios set out in SRP31. In disclosing Table IRRBBA and Template IRRBB1, banks should use their own internal measurement system (IMS) to calculate the IRRBB exposure values, unless instructed by their national supervisor. SRP31 provides a standardised framework that banks may adopt as their IMS. In addition to quantitative disclosure, banks should provide sufficient qualitative information and supporting detail to enable the market and wider public to:

(1) Monitor the sensitivity of the bank's economic value and earnings to changes in interest rates;

(2) Understand the primary assumptions underlying the measurement produced by the bank's IMS; and

(3) Have an insight into the bank's overall IRRBB objective and IRRBB management.

70.4 For the disclosure of ΔEVE:

(1) Banks should exclude their own equity from the computation of the exposure level;

(2) Banks should include all cash flows from all interest rate-sensitive assets, liabilities and off-balance sheet items in the banking book in the computation of their exposure.[1] Banks should disclose whether they have excluded or included commercial margins and other spread components in their cash flows;

(3) Cash flows should be discounted using either a risk-free rate or a risk-free rate including commercial margins and other spread components (only if the bank has included commercial margins and other spread components in its cash flows).[2] Banks should disclose whether they have discounted their cash flows using a risk-free rate or a risk-free rate including commercial margins and other spread components; and

(4) ΔEVE should be computed with the assumption of a run-off balance sheet, where existing banking book positions amortise and are not replaced by any new business.

Footnotes

[1] *Interest rate-sensitive assets are assets which are not deducted from Common Equity Tier 1 capital and which exclude (i) fixed assets such as real estate or intangible assets as well as (ii) equity exposures in the banking book.*

[2] *The discounting factors must be representative of a risk-free zero coupon rate. An example of an acceptable yield curve is a secured interest rate swap curve.*

70.5 For the disclosure of ΔNII:

(1) Banks should include expected cash flows (including commercial margins and other spread components) arising from all interest rate-sensitive assets, liabilities and off-balance sheet items in the banking book;

(2) ΔNII should be computed assuming a constant balance sheet, where maturing or repricing cash flows are replaced by new cash flows with identical features with regard to the amount, repricing period and spread components.

(3) ΔNII should be disclosed as the difference in future interest income over a rolling 12-month period.

70.6 In addition to the required disclosures in Table IRRBBA and Template IRRBB1, banks are encouraged to make voluntary disclosures of information on internal measures of IRRBB that would assist the market in interpreting the mandatory disclosure numbers.

Table IRRBBA - IRRBB risk management objectives and policies

Purpose: Provide a description of the risk management objectives and policies concerning IRRBB.

Scope of application: Mandatory for all banks within the scope of application set out in SRP31.

Content: Qualitative and quantitative information. Quantitative information is based on the daily or monthly average of the year or on the data as at the reporting date.

Frequency: Annual.

Format: Flexible.

Qualitative disclosure	
a	A description of how the bank defines IRRBB for purposes of risk control and measurement.
b	A description of the bank's overall IRRBB management and mitigation strategies. Examples are: monitoring of economic value of equity (EVE) and net interest income (NII) in relation to established limits, hedging practices, conduct of stress testing, outcome analysis, the role of independent audit, the role and practices of the asset and liability management committee, the bank's practices to ensure appropriate model validation, and timely updates in response to changing market conditions.
c	The periodicity of the calculation of the bank's IRRBB measures, and a description of the specific measures that the bank uses to gauge its sensitivity to IRRBB.
d	A description of the interest rate shock and stress scenarios that the bank uses to estimate changes in the economic value and in earnings.
e	Where significant modelling assumptions used in the bank's internal measurement systems (IMS) (ie the EVE metric generated by the bank for purposes other than disclosure, eg for internal assessment of capital adequacy) are different from the modelling assumptions prescribed for the disclosure in Template IRRBB1, the bank should provide a description of those assumptions and their directional implications and explain its rationale for making those assumptions (eg historical data, published research, management judgment and analysis).
f	A high-level description of how the bank hedges its IRRBB, as well as the associated accounting treatment.
g	A high-level description of key modelling and parametric assumptions used in calculating ΔEVE and ΔNII in Template IRRBB1, which includes: • For ΔEVE, whether commercial margins and other spread components have been included in the cash flows used in the computation and discount rate used. • How the average repricing maturity of non-maturity deposits has been determined (including any unique product characteristics that affect assessment of repricing behaviour). • The methodology used to estimate the prepayment rates of customer loans, and/or the early withdrawal rates for time deposits, and other significant assumptions.

	• Any other assumptions (including for instruments with behavioural optionalities that have been excluded) that have a material impact on the disclosed ΔEVE and ΔNII in Template IRRBB1, including an explanation of why these are material. • Any methods of aggregation across currencies and any significant interest rate correlations between different currencies.
h	(Optional) Any other information which the bank wishes to disclose regarding its interpretation of the significance and sensitivity of the IRRBB measures disclosed and/or an explanation of any significant variations in the level of the reported IRRBB since previous disclosures.
Quantitative disclosures	
1	Average repricing maturity assigned to non-maturity deposits (NMDs).
2	Longest repricing maturity assigned to NMDs.

Template IRRBB1 - Quantitative information on IRRBB

Purpose: Provide information on the bank's changes in economic value of equity and net interest income under each of the prescribed interest rate shock scenarios.

Scope of application: Mandatory for all banks within the scope of application set out in SRP31.

Content: Quantitative information.

Frequency: Annual

Format: Fixed.

Accompanying narrative: Commentary on the significance of the reported values and an explanation of any material changes since the previous reporting period.

In reporting currency	**ΔEVE**		**ΔNII**	
Period	**T**	**T-1**	**T**	**T-1**
Parallel up				
Parallel down				
Steepener				
Flattener				
Short rate up				
Short rate down				
Maximum				
Period	**T**		**T-1**	
Tier 1 capital				

Definitions

For each of the supervisory prescribed interest rate shock scenarios, the bank must report for the current period and for the previous period:

(i) the change in the economic value of equity based on its IMS, using a run-off balance sheet and an instantaneous shock or based on the result of the standardised framework SRP31 if the bank has chosen to adopt the framework or has been mandated by its supervisor to follow the framework; and

(ii) the change in projected NII over a forward-looking rolling 12-month period compared with the bank's own best estimate 12-month projections, using a constant balance sheet assumption and an instantaneous shock.

DIS75

Macroprudential supervisory measures

This chapter describes disclosures accompanying the assessment methodology for G-SIBs and the countercyclical capital buffer.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Introduction

75.1 The disclosure requirements set out in this chapter are:

(1) Template GSIB1 – Disclosure of global systemically important bank (G-SIB) indicators

(2) Template CCyB1 – Geographical distribution of credit exposures used in the calculation of the bank-specific countercyclical capital buffer requirement

75.2 Template GSIB1 provides users of Pillar 3 data with details of the indicators used to assess how a G-SIB has been determined. National authorities retain the discretion to require G-SIBs to report a more detailed breakdown of the assessment indicators on the Committee's data hub using the existing template. Those banks that are required by their national authorities to disclose the full breakdown of their indicators, or choose to do so, should include the web link or other relevant reference in their Pillar 3 report to facilitate users' access to this information.

75.3 Template CCyB1 provides details of the calculation of a bank's countercyclical capital buffer, including details of the geographical breakdown of the bank's private sector credit exposures.

Template GSIB1 - Disclosure of G-SIB indicators

Purpose: Provide an overview of the indicators that feed into the Committee's methodology for assessing the systemic importance of global banks.

Scope of application: The template is mandatory for banks which in the previous year have either been classified as G-SIBs, have a leverage ratio exposure measure exceeding EUR 200 billion or were included in the assessment sample by the relevant authority based on supervisory judgment (see SCO40).

For G-SIB assessment purposes, the applicable leverage ratio exposure measure definition is contained in the LEV.

For application of this threshold, banks should use the applicable exchange rate information provided on the Basel Committee website at www.bis.org/bcbs/gsib/ . The disclosure itself is made in the bank's own currency.

Content: At least the 12 indicators used in the assessment methodology of the G-SIB framework (see SCO40).

Frequency: Annual. National authorities may allow banks whose financial year ends on 30 June to report indicator values based on their position as at 31 December (ie interim rather than financial year-end data).

Or in circumstances when banks are required to restate figures to reflect final data submitted to the Committee. This template must also be included in the bank's financial year-end Pillar 3 report. Restatements are only necessary if considered so by the national authority or on voluntary basis.

Format: Flexible. The information disclosed must be fully consistent with the data submitted to the relevant supervisory authorities for subsequent remittance to the Committee in the context of its annual data collection exercise for the assessment and identification of G-SIBs.

Where jurisdictions require banks (or banks voluntarily choose) to disclose the full breakdown of the indicators, such disclosure must take place using the template and related instructions that sample banks use to report their data to the Committee's data hub or as required by their local jurisdiction. The template format and its reporting instructions are available on the Basel Committee website (see www.bis.org/bcbs/gsib/reporting_instructions.htm).

Accompanying narrative: Banks should indicate the annual reference date of the information reported as well as the date of first public disclosure. Banks should include a web link to the disclosure of the previous G-SIB assessment exercise.

Banks may supplement the template with a narrative commentary to explain any relevant qualitative characteristic deemed necessary for understanding the quantitative data. This information may include explanations about the use of estimates with a short explanation as regards the method used, mergers or modifications of the legal structure of the entity subjected to the reported data, the bucket to which the bank was allocated and changes in higher loss absorbency requirements, or reference to the Basel Committee website for data on denominators, cutoff scores and buckets.

Regardless of whether Template GSIB1 is included in the annual Pillar 3 report, a bank's annual Pillar 3 report as well as all the interim Pillar 3 reports should include a reference to the website where current and previous disclosures of Template GSIB1 can be found.

	Category	Individual indicator	Values
1	Cross-jurisdictional activity	Cross-jurisdictional claims	
2		Cross-jurisdictional liabilities	
3	Size	Total exposures	
4	Interconnectedness	Intra-financial system assets	
5		Intra-financial system liabilities	
6		Securities outstanding	
7	Substitutability/ Financial institution infrastructure	Assets under custody	
8		Payment activity	
9		Underwritten transactions in debt and equity markets	
10	Complexity	Notional amount of over-the-counter derivatives	
11		Level 3 assets	
12		Trading and available for sale securities	

Definitions and instructions

The template must be completed according to the instructions and definitions for the corresponding rows in force at the disclosure's reference date, which is based on the Committee's G-SIB identification exercise.

Template CCyB1 - Geographical distribution of credit exposures used in the calculation of the bank-specific countercyclical capital buffer requirement

Purpose: Provide an overview of the geographical distribution of private sector credit exposures relevant for the calculation of the bank's countercyclical capital buffer.

Scope of application: The template is mandatory for all banks subject to a countercyclical capital buffer requirement based on the jurisdictions in which they have private sector credit exposures subject to a countercyclical capital buffer requirement compliant with the Basel standards. Only banks with exposures to jurisdictions in which the countercyclical capital buffer rate is higher than zero should disclose this template.

Content: Private sector credit exposures and other relevant inputs necessary for the computation of the bank-specific countercyclical capital buffer rate.

Frequency: Semiannual.

Format: Flexible. Columns and rows might be added or removed to fit with the domestic implementation of the countercyclical capital buffer and thereby provide information on any variables necessary for its computation. A column or a row may be removed if the information is not relevant to the domestic implementation of the countercyclical capital buffer framework.

Accompanying narrative: For the purposes of the countercyclical capital buffer, banks should use, where possible, exposures on an "ultimate risk" basis. They should disclose the methodology of geographical allocation used, and explain the jurisdictions or types of exposures for which the ultimate risk method is not used as a basis for allocation. The allocation of exposures to jurisdictions should be made taking into consideration the clarifications provided by RBC30. Information about the drivers for changes in the exposure amounts and the applicable jurisdiction-specific rates should be summarised.

	a	b	c	d	e
Geographical breakdown	Countercyclical capital buffer rate	Exposure values and/or risk-weighted assets (RWA) used in the computation of the countercyclical capital buffer		Bank-specific countercyclical capital buffer rate	Countercyclical capital buffer amount
		Exposure values	RWA		
(Home) Country 1					
Country 2					
Country 3					
Country N					
Sum					

Total					

Definitions and instructions

Unless otherwise provided for in the domestic implementation of the countercyclical capital buffer framework, private sector credit exposures relevant for the calculation of the countercyclical capital buffer (relevant private sector credit exposures) refer to exposures to private sector counterparties which attract a credit risk capital charge in the banking book, and the risk-weighted equivalent trading book capital charges for specific risk, the incremental risk charge and securitisation. Interbank exposures and exposures to the public sector are excluded, but non-bank financial sector exposures are included.

Country: Country in which the bank has relevant private sector credit exposures, and which has set a countercyclical capital buffer rate greater than zero that was applicable during the reporting period covered by the template.

Sum: Sum of private sector credit exposures or RWA for private sector credit exposures, respectively, in jurisdictions with a non-zero countercyclical capital buffer rate.

Total: Total of private sector credit exposures or RWA for private sector credit exposures, respectively, across all jurisdictions to which the bank is exposed, including jurisdictions with no countercyclical capital buffer rate or with a countercyclical capital buffer rate set at zero, and value of the bank-specific countercyclical capital buffer rate and resulting countercyclical capital buffer amount.

Countercyclical capital buffer rate: Countercyclical capital buffer rate set by the relevant national authority in the country in question and in force during the period covered by the template or, where applicable, the higher countercyclical capital buffer rate set for the country in question by the home authority of the bank. Countercyclical capital buffer rates that were set by the relevant national authority, but are not yet applicable in the country in question at the disclosure reference date (pre-announced rates) must not be reported.

Total exposure value: If applicable, total private sector credit exposures across all jurisdictions to which the bank is exposed, including jurisdictions with no countercyclical capital buffer rate or with a countercyclical capital buffer rate set at zero.

Total RWA: If applicable, total value of RWA for relevant private sector credit exposures, across all jurisdictions to which the bank is exposed, including jurisdictions with no countercyclical capital buffer rate or with a countercyclical capital buffer rate set at zero.

Bank-specific countercyclical capital buffer rate: Countercyclical capital buffer that varies between zero and 2.5% or, where appropriate, above 2.5% of total RWA calculated in accordance with RBC30.9 to RBC30.15 as a weighted average of the countercyclical capital buffer rates that are being applied in jurisdictions where the relevant credit exposures of the bank are located and reported in rows 1 to N. This figure (ie the bank-specific countercyclical capital buffer rate) may not be deduced from the figures reported in this template as private sector credit exposures in jurisdictions that do not have a countercyclical capital buffer rate, which form part of the equation for calculating the figure, are not required to be reported in this template.

Countercyclical capital buffer amount: Amount of Common Equity Tier 1 capital held to meet the countercyclical capital buffer requirement determined in accordance with RBC30.9 to RBC30.15.

Linkages across templates

[CCyB1:Total/d] is equal to [KM1:9/a] for the semiannual disclosure of KM1, and [KM1:9/b] for the quarterly disclosure of KM1

[CCyB1:Total/d] is equal to [CC1:66/a] (for all banks) or [TLAC1:30/a] (for G-SIBs)

DIS80

Leverage ratio

This chapter describes disclosure requirements for the leverage ratio.

Version effective as of 01 Jan 2023

Updated to take account of the revised leverage ratio exposure definition that was introduced in the December 2017 Basel III publication. Updated to take account of new implementation date as announced on 27 March 2020.

Introduction

80.1 The disclosure requirements set out in this chapter are:

(1) Template LR1 - Summary comparison of accounting assets vs leverage ratio exposure measure

(2) Template LR2 - Leverage ratio common disclosure template

80.2 Template LR1 provides a reconciliation of a bank's total assets as published in its financial statements to the leverage ratio exposure measure, and Template LR2 provides a breakdown of the components of the leverage ratio exposure measure.

Template LR1 - Summary comparison of accounting assets vs leverage ratio exposure measure

Purpose: To reconcile the total assets in the published financial statements with the leverage ratio exposure measure.

Scope of application: The table is mandatory for all banks.

Content: Quantitative information. The leverage ratio standard of the Basel framework (LEV) follows the same scope of regulatory consolidation as used for the risk-based capital requirements standard (RBC). Disclosures should be reported on a quarter-end basis. However, banks may, subject to approval from or due to requirements specified by their national supervisor, use more frequent calculations (eg daily or monthly averaging). Banks are required to include the basis for their disclosures (eg quarter-end, daily averaging or monthly averaging, or a combination thereof).

Frequency: Quarterly.

Format: Fixed.

Accompanying narrative: Banks are required to disclose and detail the source of material differences between their total balance sheet assets, as reported in their financial statements, and their leverage ratio exposure measure.

		a
1	Total consolidated assets as per published financial statements	
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	
3	Adjustment for securitised exposures that meet the operational requirements for the recognition of risk transference	
4	Adjustments for temporary exemption of central bank reserves (if applicable)	
5	Adjustment for fiduciary assets recognised on the balance sheet pursuant to the operative accounting framework but excluded from the leverage ratio exposure measure	
6	Adjustments for regular-way purchases and sales of financial assets subject to trade date accounting	
7	Adjustments for eligible cash pooling transactions	
8	Adjustments for derivative financial instruments	
9	Adjustment for securities financing transactions (ie repurchase agreements and similar secured lending)	

10	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	
11	Adjustments for prudent valuation adjustments and specific and general provisions which have reduced Tier 1 capital	
12	Other adjustments	
13	**Leverage ratio exposure measure**	

Definitions and instructions

Row number	Explanation
1	The bank's total consolidated assets as per published financial statements.
2	Where a banking, financial, insurance or commercial entity is outside the regulatory scope of consolidation, only the amount of the investment in the capital of that entity (ie only the carrying value of the investment, as opposed to the underlying assets and other exposures of the investee) shall be included in the leverage ratio exposure measure. However, investments in those entities that are deducted from the bank's CET1 capital or from Additional Tier 1 capital in accordance with CAP30.29 to CAP30.34 may also be deducted from the leverage ratio exposure measure. As these adjustments reduce the total leverage ratio exposure measure, they shall be reported as a negative amount.
3	This row shows the reduction of the leverage ratio exposure measure due to the exclusion of securitised exposures that meet the operational requirements for the recognition of risk transference according CRE40.24. As these adjustments reduce the total leverage ratio exposure measure, they shall be reported as a negative amount.
4	Adjustments related to the temporary exclusion of central bank reserves from the leverage ratio exposure measure, if enacted by the supervisor to facilitate the implementation of monetary policies as per LEV30.7. As these adjustments reduce the total leverage ratio exposure measure, they shall be reported as a negative amount.
5	This row shows the reduction of the consolidated assets for fiduciary assets that are recognised on the bank's balance sheet pursuant to the operative accounting framework and which meet the de-recognition criteria of IAS 39 / IFRS 9 or the IFRS 10 de-consolidation criteria. As these adjustments reduce the total leverage ratio exposure measure, they shall be reported as a negative amount.
6	Adjustments for regular-way purchases and sales of financial assets subject to trade date accounting. The adjustment reflects (i) the reverse-out of any offsetting between cash receivables for unsettled sales and cash payables for unsettled purchases of financial assets that may be recognised under the applicable accounting framework, and (ii) the offset between those cash receivables and cash payables that are eligible

	per the criteria specified in LEV30.10 and LEV30.11. If this adjustment leads to an increase in exposure, it shall be reported as a positive amount. If this adjustment leads to a decrease in exposure, it shall be reported as a negative amount.
7	Adjustments for eligible cash-pooling transactions. The adjustment is the difference between the accounting value of cash-pooling transactions and the treatments specified in LEV30.12. If this adjustment leads to an increase in exposure, it shall be reported as a positive amount. If this adjustment leads to a decrease in exposure, it shall be reported as a negative amount.
8	Adjustments related to derivative financial instruments. The adjustment is the difference between the accounting value of the derivatives recognised as assets and the leverage ratio exposure value as determined by application of LEV30.13 to LEV30.16 and LEV30.21 to LEV30.35. If this adjustment leads to an increase in exposure, institutions shall disclose this as a positive amount. If this adjustment leads to a decrease in exposure, institutions shall disclose this as a negative amount.
9	Adjustments related to Securities Financing Transactions (SFTs) (ie repurchase agreements and other similar secured lending). The adjustment is the difference between the accounting value of the SFTs recognised as assets and the leverage ratio exposure value as determined by application of LEV30.36, LEV30.37 and LEV30.40 to LEV30.44. If this adjustment leads to an increase in the exposure, institutions shall disclose this as a positive amount. If this adjustment leads to a decrease in exposure, institutions shall disclose this as a negative amount.
10	The credit equivalent amount of off-balance sheet items determined by applying the relevant credit conversion factors to the nominal value of the off-balance sheet item, as specified in LEV30.47 and LEV30.49 to LEV30.56. As these amounts increase the total leverage ratio exposure measure, they shall be reported as a positive amount.
11	Adjustments for prudent valuation adjustments and specific and general provisions that have reduced Tier 1 capital. This adjustment reduces the leverage ratio exposure measure by the amount of prudent valuation adjustments and by the amount of specific and general provisions that have reduced Tier 1 capital as determined by LEV30.3 and LEV30.9 and LEV30.48, respectively. This adjustment shall be reported as a negative amount.
12	Any other adjustments. If these adjustments lead to an increase in the exposure, institutions shall report this as a positive amount. If these adjustments lead to a decrease in exposure, the institutions shall disclose this as a negative amount.
13	The leverage ratio exposure, which should be the sum of the previous items.

Linkages across templates

[LR1:13/a] is equal to [LR2:24/a] (depending on basis of calculation)

Template LR2: Leverage ratio common disclosure template

Purpose: To provide a detailed breakdown of the components of the leverage ratio denominator, as well as information on the actual leverage ratio, minimum requirements and buffers.

Scope of application: The table is mandatory for all banks.

Content: Quantitative information. Disclosures should be on a quarter-end basis except where explicitly noted in the instructions for certain rows. However, banks may, subject to approval from or due to requirements specified by their national supervisor, use more frequent calculations (eg daily or monthly averaging). Banks are required to include the frequency of calculation for their disclosures (eg quarter-end, daily averaging or monthly averaging, or a combination thereof).

Frequency: Quarterly.

Format: Fixed.

Accompanying narrative: Banks must describe the key factors that have had a material impact on the leverage ratio for this reporting period compared with the previous reporting period. Banks must also describe the key factors that explain any material differences between the amounts of securities financing transactions (SFTs) that are included in the bank's Pillar 1 leverage ratio exposure measure and the mean values of SFTs that are disclosed in row 28.

		a	b
		T	T-1
On-balance sheet exposures			
1	On-balance sheet exposures (excluding derivatives and securities financing transactions (SFTs), but including collateral)		
2	Gross-up for derivatives collateral provided where deducted from balance sheet assets pursuant to the operative accounting framework		
3	(Deductions of receivable assets for cash variation margin provided in derivatives transactions)		
4	(Adjustment for securities received under securities financing transactions that are recognised as an asset)		
5	(Specific and general provisions associated with on-balance sheet exposures that are deducted from Tier 1 capital)		
6	(Asset amounts deducted in determining Tier 1 capital and regulatory adjustments)		
7	**Total on-balance sheet exposures** (excluding derivatives and SFTs) (sum of rows 1 to 6)		

Derivative exposures			
8	Replacement cost associated with *all* derivatives transactions (where applicable net of eligible cash variation margin and/or with bilateral netting)		
9	Add-on amounts for potential future exposure associated with *all* derivatives transactions		
10	(Exempted central counterparty (CCP) leg of client-cleared trade exposures)		
11	Adjusted effective notional amount of written credit derivatives		
12	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)		
13	**Total derivative exposures (sum of rows 8 to 12)**		
Securities financing transaction exposures			
14	Gross SFT assets (with no recognition of netting), after adjustment for sale accounting transactions		
15	(Netted amounts of cash payables and cash receivables of gross SFT assets)		
16	Counterparty credit risk exposure for SFT assets		
17	Agent transaction exposures		
18	**Total securities financing transaction exposures (sum of rows 14 to 17)**		
Other off-balance sheet exposures			
19	Off-balance sheet exposure at gross notional amount		
20	(Adjustments for conversion to credit equivalent amounts)		
21	(Specific and general provisions associated with off-balance sheet exposures deducted in determining Tier 1 capital)		
22	**Off-balance sheet items (sum of rows 19 to 21)**		
Capital and total exposures			
23	**Tier 1 capital**		

24	**Total exposures (sum of rows 7, 13, 18 and 22)**		

Leverage ratio

25	**Leverage ratio (including the impact of any applicable temporary exemption of central bank reserves)**		
25a	Leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves)		
26	**National minimum leverage ratio requirement**		
27	**Applicable leverage buffers**		

Disclosure of mean values

28	Mean value of gross SFT assets, after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables		
29a	Quarter-end value of gross SFT assets, after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables		
30	Total exposures (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)		
30a	Total exposures (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)		
31	Basel III leverage ratio (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)		
31a	Basel III leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)		

Definitions and instructions

SFTs: transactions such as repurchase agreements, reverse repurchase agreements, securities lending and borrowing, and margin lending transactions, where the value of the transactions depends on market valuations and the transactions are often subject to margin agreements.

Capital measure: The capital measure for the leverage ratio is the Tier 1 capital of the risk-based capital framework as defined in the definition of capital standard (CAP) taking account of the transitional arrangements.

Row number	Explanation
1	Banks must include all balance sheet assets in their exposure measure, including on-balance sheet derivatives collateral and collateral for SFTs, with the exception of on-balance sheet derivative and SFT assets that are included in rows 8 to 18. Derivatives and SFTs collateral refer to either collateral received or collateral provided (or any associated receivable asset) accounted as a balance sheet asset. Amounts are to be reported in accordance with LEV30.8 to LEV30.11 and, where applicable, LEV30.5 and LEV30.7.
2	Grossed-up amount of any collateral provided in relation to derivative exposures where the provision of that collateral has reduced the value of the balance sheet assets under the bank's operative accounting framework, in accordance with LEV30.23.
3	Deductions of receivable assets in the amount of the cash variation margin provided in derivatives transactions where the posting of cash variation margin has resulted in the recognition of a receivable asset under the bank's operative accounting framework. As the adjustments in this row reduce the exposure measure, they shall be reported as negative figures.
4	Adjustment for securities received under a securities financing transaction where the bank has recognised the securities as an asset on its balance sheet. These amounts are to be excluded from the exposure measure in accordance with LEV30.37(1). As the adjustments in this row reduce the exposure measure, they shall be reported as negative figures.
5	Amounts of general and specific provisions that are deducted from Tier 1 capital which may be deducted from the exposure measure in accordance with LEV30.9. As the adjustments in this row reduce the exposure measure, they shall be reported as negative figures.
6	All other balance sheet asset amounts deducted from Tier 1 capital and other regulatory adjustments associated with on-balance sheet assets as specified in LEV30.3. As the adjustments in this row reduce the exposure measure, they shall be reported as negative figures.

7	Sum of rows 1 to 6.
8	Replacement cost (RC) associated with all derivatives transactions (including exposures resulting from direct transactions between a client and a CCP where the bank guarantees the performance of its clients' derivative trade exposures to the CCP). Where applicable, this amount should be net of cash variation margin received (as set out in LEV30.25), and with bilateral netting (as set out in LEV30.17 to LEV30.20). This amount should be reported with the 1.4 alpha factor applied as specified in LEV30.15 and LEV30.16.
9	Add-on amount for the potential future exposure (PFE) of all derivative exposures calculated in accordance with LEV30.15 and LEV30.16. This amount should be reported with the 1.4 alpha factor applied as specified in LEV30.15 and LEV30.16.
10	Trade exposures associated with the CCP leg of derivatives transactions resulting from client-cleared transactions or which the clearing member, based on the contractual arrangements with the client, is not obligated to reimburse the client in respect of any losses suffered due to changes in the value of its transactions in the event that a qualifying central counterparty (QCCP) defaults. As the adjustments in this row reduce the exposure measure, they shall be reported as negative figures.
11	The effective notional amount of written credit derivatives which may be reduced by the total amount of negative changes in fair value amounts that have been incorporated into the calculation of Tier 1 capital with respect to written credit derivatives according to LEV30.31.
12	This row comprises: • The amount by which the notional amount of a written credit derivative is reduced by a purchased credit derivative on the same reference name according to LEV30.31. • The deduction of add-on amounts for PFE in relation to written credit derivatives determined in accordance with LEV30.35. As the adjustments in this row reduce the exposure measure, they shall be reported as negative figures.
13	Sum of rows 8 to 12.
14	The gross amount of SFT assets without recognition of netting, other than novation with QCCPs, determined in accordance with LEV30.37, adjusted for any sales accounting transactions in accordance with LEV30.40.
15	The cash payables and cash receivables of gross SFT assets with netting determined in accordance with LEV30.37(1)(b). As these adjustments reduce the exposure measure, they shall be reported as negative figures.

16	The amount of the counterparty credit risk add-on for SFTs determined in accordance with LEV30.37(2).
17	The amount for which the bank acting as an agent in a SFT has provided an indemnity or guarantee determined in accordance with LEV30.41 to LEV30.44.
18	Sum of rows 14 to 17.
19	Total off-balance sheet exposure amounts (excluding off-balance sheet exposure amounts associated with SFT and derivative transactions) on a gross notional basis, before any adjustment for credit conversion factors (CCFs).
20	Reduction in gross amount of off-balance sheet exposures due to the application of CCFs as specified in LEV30.49 to LEV30.56. As these adjustments reduce the exposure measure, they shall be reported as negative figures.
21	Amounts of specific and general provisions associated with off-balance sheet exposures that are deducted from Tier 1 capital, the absolute value of which is not to exceed the sum of rows 19 and 20. As these adjustments reduce the exposure measure, they shall be reported as negative figures.
22	Sum of rows 19 to 21.
23	The amount of Tier 1 capital of the risk-based capital framework as defined in the definition of capital standard (CAP) taking account of the transitional arrangements.
24	Sum of rows 7, 13, 18 and 22.
25	The leverage ratio is defined as the Tier 1 capital measure divided by the exposure measure, with this ratio expressed as a percentage.
25a	If a bank's leverage ratio exposure measure is subject to a temporary exemption of central bank reserves, this ratio is defined as the Tier 1 capital measure divided by the sum of the exposure measure and the amount of the central bank reserves exemption, with this ratio expressed as a percentage. If the bank's leverage ratio exposure measure is not subject to a temporary exemption of central bank reserves, this ratio will be identical to the ratio reported in row 25.
26	The minimum leverage ratio requirement applicable to the bank. This number will be higher than 3% in the case of a bank belonging to a jurisdiction which has exercised the discretion to exempt central bank reserves from the computation of the leverage ratio requirement.
27	Total applicable leverage buffers. To include the G-SIB leverage ratio buffer requirement and any other applicable buffers.
28	Mean of the sums of rows 14 and 15, based on the sums calculated as of each day of the reporting quarter.

29	If rows 14 and 15 are based on quarter-end values, this amount is the sum of rows 14 and 15. If rows 14 and 15 are based on averaged values, this amount is the sum of quarter-end values corresponding to the content of rows 14 and 15.
30	Total exposure measure (including the impact of any applicable temporary exemption of central bank reserves), using mean values calculated as of each day of the reporting quarter for the amounts of the exposure measure associated with gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables).
30a	Total exposure measure (excluding the impact of any applicable temporary exemption of central bank reserves), using mean values calculated as of each day of the reporting quarter for the amounts of the exposure measure associated with gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables). If the bank's leverage ratio exposure measure is not subject to a temporary exemption of central bank reserves, this value will be identical to the value reported in row 30.
31	Tier 1 capital measure divided by the exposure measure (including the impact of any applicable temporary exemption of central bank reserves), using mean values calculated as of each day of the reporting quarter for the amounts of the exposure measure associated with gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables).
31a	Tier 1 capital measure divided by the exposure measure (excluding the impact of any applicable temporary exemption of central bank reserves), using mean values calculated as of each day of the reporting quarter for the amounts of the exposure measure associated with gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables). If the bank's leverage ratio exposure measure is not subject to a temporary exemption of central bank reserves, this ratio will be identical to the value reported in row 31.

Linkages across templates (valid only if the relevant rows are all disclosed on a quarter-end basis)

[LR2:23/a] is equal to [KM1:2/a]

[LR2:24/a] is equal to [KM1:13/a]

[LR2:25/a] is equal to [KM1:14/a]

[LR2:25a/a] is equal to [KM1:14b/a]

[LR2:31/a] is equal to [KM1:14c/a]

[LR2:31a/a] is equal to [KM1:14d/a]

DIS85

Liquidity

This chapter describes disclosure requirements for the liquidity ratios.

Version effective as of 15 Dec 2019

First version in the format of the consolidated framework.

Introduction

85.1 The disclosure requirements set out in this chapter are:

(1) Table LIQA – Liquidity risk management

(2) Temple LIQ1 – Liquidity coverage ratio (LCR)

(3) Template LIQ2 – Net stable funding ratio (NSFR)

85.2 Table LIQA provides information on a bank's liquidity risk management framework which it considers relevant to its business model and liquidity risk profile, organisation and functions involved in liquidity risk management. Template LIQ1 presents a breakdown of a bank's cash outflows and cash inflows, as well as its available high-quality liquid assets under its LCR. Template LIQ2 provides details of a bank's NSFR and selected details of its NSFR components.

Table LIQA – Liquidity risk management

Purpose: Enable users of Pillar 3 data to make an informed judgment about the soundness of a bank's liquidity risk management framework and liquidity position.

Scope of application: The table is mandatory for all banks.

Content: Qualitative and quantitative information.

Frequency: Annual.

Format: Flexible. Banks may choose the relevant information to be provided depending upon their business models and liquidity risk profiles, organisation and functions involved in liquidity risk management.

Below are examples of elements that banks may choose to describe, where relevant:

Qualitative disclosures	
(a)	Governance of liquidity risk management, including: risk tolerance; structure and responsibilities for liquidity risk management; internal liquidity reporting; and communication of liquidity risk strategy, policies and practices across business lines and with the board of directors.
(b)	Funding strategy, including policies on diversification in the sources and tenor of funding, and whether the funding strategy is centralised or decentralised.
(c)	Liquidity risk mitigation techniques.
(d)	An explanation of how stress testing is used.
(e)	An outline of the bank's contingency funding plans.
Quantitative disclosures	
(f)	Customised measurement tools or metrics that assess the structure of the bank's balance sheet or that project cash flows and future liquidity positions, taking into account off-balance sheet risks which are specific to that bank.
(g)	Concentration limits on collateral pools and sources of funding (both products and counterparties).
(h)	Liquidity exposures and funding needs at the level of individual legal entities, foreign branches and subsidiaries, taking into account legal, regulatory and operational limitations on the transferability of liquidity.
(i)	Balance sheet and off-balance sheet items broken down into maturity buckets and the resultant liquidity gaps.

Template LIQ1: Liquidity Coverage Ratio (LCR)

Purpose: Present the breakdown of a bank's cash outflows and cash inflows, as well as its available high-quality liquid assets (HQLA), as measured and defined according to the LCR standard.

Scope of application: The template is mandatory for all banks.

Content: Data must be presented as simple averages of daily observations over the previous quarter (ie the average calculated over a period of, typically, 90 days) in the local currency.

Frequency: Quarterly.

Format: Fixed.

Accompanying narrative: Banks must publish the number of data points used in calculating the average figures in the template.

In addition, a bank should provide sufficient qualitative discussion to facilitate users' understanding of its LCR calculation. For example, where significant to the LCR, banks could discuss:

- the main drivers of their LCR results and the evolution of the contribution of inputs to the LCR's calculation over time;
- intra-period changes as well as changes over time;
- the composition of HQLA;
- concentration of funding sources;
- currency mismatch in the LCR; and
- other inflows and outflows in the LCR calculation that are not captured in the LCR common template but which the institution considers to be relevant for its liquidity profile.

		a	b
		Total unweighted value (average)	**Total weighted value** (average)
High-quality liquid assets			
1	Total HQLA		
Cash outflows			
2	**Retail deposits and deposits from small business customers, of which:**		
3	Stable deposits		
4	Less stable deposits		

5	**Unsecured wholesale funding, of which:**		
6	Operational deposits (all counterparties) and deposits in networks of cooperative banks		
7	Non-operational deposits (all counterparties)		
8	Unsecured debt		
9	**Secured wholesale funding**		
10	**Additional requirements, of which:**		
11	Outflows related to derivative exposures and other collateral requirements		
12	Outflows related to loss of funding on debt products		
13	Credit and liquidity facilities		
14	**Other contractual funding obligations**		
15	**Other contingent funding obligations**		
16	**TOTAL CASH OUTFLOWS**		
Cash inflows			
17	**Secured lending (eg reverse repos)**		
18	**Inflows from fully performing exposures**		
19	Other cash inflows		
20	**TOTAL CASH INFLOWS**		
			Total adjusted value
21	**Total HQLA**		
22	**Total net cash outflows**		
23	**Liquidity Coverage Ratio (%)**		

General explanations

Figures entered in the template must be averages of the observations of individual line items over the financial reporting period (ie the average of components and the average LCR over the most recent three months of daily positions, irrespective of the financial reporting schedule). The averages are calculated after the application of any haircuts, inflow and outflow rates and caps, where applicable. For example:

$$\textit{Total } \textbf{unweighted } \textit{stable deposits}_{Qi} = \frac{1}{T} \times \sum_{t=1}^{T} (\textit{Total } \textbf{unweighted } \textit{stable deposits})_t$$

$$\textit{Total } \textbf{weighted } \textit{stable deposits}_{Qi} = \frac{1}{T} \times \sum_{t=1}^{T} (\textit{Total } \textbf{weighted } \textit{stable deposits})_t$$

where *T* equals the number of observations in period *Qi*.

Weighted figures of HQLA (row 1, third column) must be calculated after the application of the respective haircuts but before the application of any caps on Level 2B and Level 2 assets. Unweighted inflows and outflows (rows 2-8, 11-15 and 17-20, second column) must be calculated as outstanding balances. *Weighted* inflows and outflows (rows 2-20, third column) must be calculated after the application of the inflow and outflow rates.

Adjusted figures of HQLA (row 21, third column) must be calculated after the application of both (i) haircuts *and* (ii) any applicable caps (ie cap on Level 2B and Level 2 assets). *Adjusted* figures of net cash outflows (row 22, third column) must be calculated after the application of both (i) inflow and outflow rates *and* (ii) any applicable cap (ie cap on inflows).

The LCR (row 23) must be calculated as the average of observations of the LCR:

$$LCR_{Qi} = \frac{1}{T} \times \sum_{t=1}^{T} LCR_t$$

Not all reported figures will sum exactly, particularly in the denominator of the LCR. For example, "total net cash outflows" (row 22) may not be exactly equal to "total cash outflows" minus "total cash inflows" (row 16 minus row 20) if the cap on inflows is binding. Similarly, the disclosed LCR may not be equal to an LCR computed on the basis on the average values of the set of line items disclosed in the template.

Definitions and instructions:

Columns

Unweighted values must be calculated as outstanding balances maturing or callable within 30 days (for inflows and outflows).

Weighted values must be calculated after the application of respective haircuts (for HQLA) or inflow and outflow rates (for inflows and outflows).

Adjusted values must be calculated after the application of both (i) haircuts and inflow and outflow rates and (ii) any applicable caps (ie cap on Level 2B and Level 2 assets for HQLA and cap on inflows).

Row number	Explanation	Relevant paragraph(s) of LCR40
1	Sum of all eligible HQLA, as defined in the standard, before the application of any limits, excluding assets that do not meet the operational requirements, and including, where applicable, assets qualifying under alternative liquidity approaches.	LCR30.13 to LCR30.34, LCR31.1, LCR31.12 to LCR31.17, LCR31.21
2	Retail deposits and deposits from small business customers are the sum of stable deposits, less stable deposits and any other funding sourced from (i) natural persons and/or (ii) small business customers (as defined by CRE30.20 and CRE30.21).	LCR40.5 to LCR40.18, LCR40.22 to LCR40.25
3	Stable deposits include deposits placed with a bank by a natural person and unsecured wholesale funding provided by small business customers, defined as "stable" in the standard.	LCR40.5 to LCR40.12 , LCR40.22 to LCR40.24
4	Less stable deposits include deposits placed with a bank by a natural person and unsecured wholesale funding provided by small business customers, not defined as "stable" in the standard.	LCR40.5 and LCR40.6, LCR40.13 to LCR40.15, LCR40.22 to LCR40.24
5	Unsecured wholesale funding is defined as those liabilities and general obligations from customers other than natural persons and small business customers that are not collateralised.	LCR40.26 to LCR40.44
6	Operational deposits include deposits from bank clients with a substantive dependency on the bank where deposits are required for certain activities (ie clearing, custody or cash management activities). Deposits in institutional networks of cooperative banks include deposits of member institutions with the central institution or specialised central service providers.	LCR40.26 to LCR40.39
7	Non-operational deposits are all other unsecured wholesale deposits, both insured and uninsured	LCR40.40 to LCR40.42
8	Unsecured debt includes all notes, bonds and other debt securities issued by the bank, regardless of the holder, unless the bond is sold exclusively in the retail market and held in retail accounts.	LCR40.43
9	Secured wholesale funding is defined as all collateralised liabilities and general obligations.	LCR40.45 to LCR40.48
10	Additional requirements include other off-balance sheet liabilities or obligations	LCR40.45 to LCR40.64
11	Outflows related to derivative exposures and other collateral	LCR40.45 to

	requirements include expected contractual derivatives cash flows on a net basis. These outflows also include increased liquidity needs related to: downgrade triggers embedded in financing transactions, derivative and other contracts; the potential for valuation changes on posted collateral securing derivatives and other transactions; excess non-segregated collateral held at the bank that could contractually be called at any time; contractually required collateral on transactions for which the counterparty has not yet demanded that the collateral be posted; contracts that allow collateral substitution to non-HQLA assets; and market valuation changes on derivatives or other transactions.	LCR40.56
12	Outflows related to loss of funding on secured debt products include loss of funding on: asset-backed securities, covered bonds and other structured financing instruments; and asset-backed commercial paper, conduits, securities investment vehicles and other such financing facilities.	LCR40.57 and LCR40.58
13	Credit and liquidity facilities include drawdowns on committed (contractually irrevocable) or conditionally revocable credit and liquidity facilities. The currently undrawn portion of these facilities is calculated net of any eligible HQLA if the HQLA have already been posted as collateral to secure the facilities or that are contractually obliged to be posted when the counterparty draws down the facility.	LCR40.59 to LCR40.64
14	Other contractual funding obligations include contractual obligations to extend funds within a 30-day period and other contractual cash outflows not previously captured under the standard.	LCR40.65, LCR40.66, and, LCR40.74
15	Other contingent funding obligations, as defined in the standard.	LCR40.67 to LCR40.73
16	Total cash outflows: sum of rows 2-15.	
17	Secured lending includes all maturing reverse repurchase and securities borrowing agreements.	LCR40.78 to LCR40.80
18	Inflows from fully performing exposures include both secured and unsecured loans or other payments that are fully performing and contractually due within 30 calendar days from retail and small business customers, other wholesale customers, operational deposits and deposits held at the centralised institution in a cooperative banking network.	LCR40.86, LCR40.87, LCR40.89 and LCR40.90
19	Other cash inflows include derivatives cash inflows and other contractual cash inflows.	LCR40.88, LCR40.91 to LCR40.93
20	Total cash inflows: sum of rows 17-19	
21	Total HQLA (after the application of any cap on Level 2B and Level 2	LCR30.13 to

	assets).	LCR30.31, LCR30.33 to LCR30.37, LCR30.40 to LCR30.45
22	Total net cash outflows (after the application of any cap on cash inflows).	LCR40.1
23	Liquidity Coverage Ratio (after the application of any cap on Level 2B and Level 2 assets and caps on cash inflows).	LCR20.4

Template LIQ2: Net Stable Funding Ratio (NSFR)

Purpose: Provide details of a bank's NSFR and selected details of its NSFR components.

Scope of application: The template is mandatory for all banks.

Content: Data must be presented as quarter-end observations in the local currency.

Frequency: Semiannual (but including two data sets covering the latest and the previous quarter-ends).

Format: Fixed.

Accompanying narrative: Banks should provide a sufficient qualitative discussion on the NSFR to facilitate an understanding of the results and the accompanying data. For example, where significant, banks could discuss:

(a) the drivers of their NSFR results and the reasons for intra-period changes as well as the changes over time (eg changes in strategies, funding structure, circumstances); and

(b) the composition of the bank's interdependent assets and liabilities (as defined in NSF30.35 to NSF30.37) and to what extent these transactions are interrelated.

		a	b	c	d	e
		Unweighted value by residual maturity				
(In currency amount)		No maturity	< 6 months	6 months to < 1 year	≥ 1 year	Weighted value
Available stable funding (ASF) item						
1	Capital:					
2	*Regulatory capital*					
3	*Other capital instruments*					
4	Retail deposits and deposits from small business customers:					
5	*Stable deposits*					
6	*Less stable deposits*					
7	Wholesale funding:					
8	*Operational deposits*					

9	*Other wholesale funding*					
10	Liabilities with matching interdependent assets					
11	Other liabilities:					
12	*NSFR derivative liabilities*					
13	*All other liabilities and equity not included in the above categories*					
14	**Total ASF**					
Required stable funding (RSF) item						
15	Total NSFR high-quality liquid assets (HQLA)					
16	Deposits held at other financial institutions for operational purposes					
17	Performing loans and securities:					
18	*Performing loans to financial institutions secured by Level 1 HQLA*					
19	*Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions*					
20	*Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, central banks and PSEs, of which:*					
21	*With a risk weight of less than or equal to 35% under the Basel II standardised approach for credit risk*					
22						

	Performing residential mortgages, of which:					
23	*With a risk weight of less than or equal to 35% under the Basel II standardised approach for credit risk*					
24	*Securities that are not in default and do not qualify as HQLA, including exchange-traded equities*					
25	Assets with matching interdependent liabilities					
26	Other assets:					
27	*Physical traded commodities, including gold*					
28	*Assets posted as initial margin for derivative contracts and contributions to default funds of central counterparties*					
29	*NSFR derivative assets*					
30	*NSFR derivative liabilities before deduction of variation margin posted*					
31	*All other assets not included in the above categories*					
32	Off-balance sheet items					
33	**Total RSF**					
34	**Net Stable Funding Ratio (%)**					

General instructions for completion of the NSFR disclosure template

Rows in the template are set and compulsory for all banks. Key points to note about the common template are:

- Dark grey rows introduce a section of the NSFR template.

- Light grey rows represent a broad subcomponent category of the NSFR in the relevant section.
- Unshaded rows represent a subcomponent within the major categories under ASF and RSF items. As an exception, rows 21 and 23 are subcomponents of rows 20 and 22, respectively. Row 17 is the sum of rows 18, 19, 20, 22 and 24.
- No data should be entered for the cross-hatched cells.
- Figures entered in the template should be the quarter-end observations of individual line items.
- Figures entered for each RSF line item should include both unencumbered and encumbered amounts.
- Figures entered in unweighted columns are to be assigned on the basis of residual maturity and in accordance with NSF30.7 and NSF30.17.

Items to be reported in the "no maturity" time bucket do not have a stated maturity. These may include, but are not limited to, items such as capital with perpetual maturity, non-maturity deposits, short positions, open maturity positions, non-HQLA equities and physical traded commodities.

Explanation of each row of the common disclosure template

Row number	Explanation	Relevant paragraph(s) of NSF30
1	Capital is the sum of rows 2 and 3.	
2	Regulatory capital before the application of capital deductions, as defined in CAP10.1. Capital instruments reported should meet all requirements outlined in CAP10, and should only include amounts after transitional arrangements in CAP90 have expired under fully implemented Basel III standards (ie as in 2022).	NSF30.10(1), NSF30.13(4) and NSF30.14 (1)
3	Total amount of any capital instruments not included in row 2.	NSF30.10(2), NSF30.13(4) and NSF30.14 (1)
4	Retail deposits and deposits from small business customers, as defined in the LCR LCR40.5 to LCR40.18 and LCR40.22 to LCR40.25, are the sum of row 5 and 6.	
5	Stable deposits comprise "stable" (as defined in LCR40.7 to LCR40.12) non-maturity (demand) deposits and/or term deposits provided by retail and small business customers.	NSF30.10(3) and NSF30.11
6	Less stable deposits comprise "less stable" (as defined in LCR40.13 to LCR40.15) non-maturity (demand) deposits and/or term deposits provided by retail and small business customers.	NSF30.10(3) and NSF30.12

7	Wholesale funding is the sum of rows 8 and 9.	
8	Operational deposits: as defined in LCR40.26 to LCR40.36, including deposits in institutional networks of cooperative banks.	NSF30.10(3), NSF30.13(2) and NSF30.14 (1), including footnote 7.
9	Other wholesale funding includes funding (secured and unsecured) provided by non-financial corporate customer, sovereigns, public sector entities (PSEs), multilateral and national development banks, central banks and financial institutions.	NSF30.10(3), NSF30.13(1), NSF30.13(3), NSF30.13(4), and NSF30.14 (1).
10	Liabilities with matching interdependent assets.	NSF30.35 to NSF30.37
11	Other liabilities are the sum of rows 12 and 13.	
12	In the unweighted cells, report NSFR derivatives liabilities as calculated according to NSFR paragraphs 19 and 20. There is no need to differentiate by maturities. [The weighted value under NSFR derivative liabilities is cross-hatched given that it will be zero after the 0% ASF is applied.]	NSF30.8, NSF30.9, NSF30.14(3)
13	All other liabilities and equity not included in above categories.	NSF30.14(1), NSF30.14(2)], and NSF30.14 (4)
14	Total available stable funding (ASF) is the sum of all weighted values in rows 1, 4, 7, 10 and 11.	
15	Total HQLA as defined in LCR30.32, LCR30.40] to LCR30.45, LCR31.1, LCR31.4 to LCR31.6, LCR31.12 to LCR31.17, LCR31.21 and LCR31.47 (encumbered and unencumbered), without regard to LCR operational requirements and LCR caps on Level 2 and Level 2B assets that might otherwise limit the ability of some HQLA to be included as eligible in calculation of the LCR: (a) Encumbered assets including assets backing securities or covered bonds. (b) Unencumbered means free of legal, regulatory, contractual or other restrictions on the ability of the bank to liquidate, sell, transfer or assign the asset.	Footnote 9, NSF30.25(1) and NSF30.25 (2), NSF30.26, NSF30.28(1), NSF30.29(1) and NSF30.29 (2), NSF30.31 (1) and NSF30. 32(1)

16	Deposits held at other financial institutions for operational purposes as defined in LCR40.26 to LCR40.36.	NSF30.29(4)
17	Performing loans and securities are the sum of rows 18, 19, 20, 22 and 24.	
18	Performing loans to financial institutions secured by Level 1 HQLA, as defined in the LCR LCR30.41(3) to LCR30.41(5).	NSF30.27, NSF30.29(3) and NSF30.32 (3)
19	Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions.	NSF30.29(2), NSF30.29(3) and NSF30.32 (3)
20	Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, central banks and PSEs.	NSF30.25(3), NSF30.29(5), NSF30.30(2), NSF30.31(2) and NSF30.32 (1)
21	Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, central banks and PSEs with risk weight of less than or equal to 35% under the Standardised Approach.	NSF30.25(3), NSF30.29(5), NSF30.30(2) and NSF30.32 (1)
22	Performing residential mortgages.	NSF30.29(5), NSF30.30(1), NSF30.31(2) and NSF30.32 (1)
23	Performing residential mortgages with risk weight of less than or equal to 35% under the Standardised Approach.	NSF30.29(5), NSF30.30(1) and NSF30.32 (1)
24	Securities that are not in default and do not qualify as HQLA including exchange-traded equities.	NSF30.29(5), NSF30.31(3), and NSF30.32 (1)
25	Assets with matching interdependent liabilities.	NSF30.35 to NSF30.37
26	Other assets are the sum of rows 27-31.	

27	Physical traded commodities, including gold.	NSF30.31(4)
28	Cash, securities or other assets posted as initial margin for derivative contracts and contributions to default funds of central counterparties.	NSF30.31(1)
29	In the unweighted cell, report NSFR derivative assets, as calculated according to NSF30.23 and NSF30.24. There is no need to differentiate by maturities. In the weighted cell, if NSFR derivative assets are greater than NSFR derivative liabilities, (as calculated according to NSF30.8 and NSF30.9), report the positive difference between NSFR derivative assets and NSFR derivative liabilities.	NSF30.23, NSF30.24 and NSF30.32(2)
30	In the unweighted cell, report derivative liabilities as calculated according to NSF30.8, ie before deducting variation margin posted. There is no need to differentiate by maturities. In the weighted cell, report 20% of derivatives liabilities' unweighted value (subject to 100% RSF).	NSF30.8 and NSF30.32(4)
31	All other assets not included in the above categories.	NSF30.25(4) and NSF30.32 (3)
32	Off-balance sheet items.	NSF30.33 and NSF30.34
33	Total RSF is the sum of all weighted value in rows 15, 16, 17, 25, 26 and 32.	
34	Net Stable Funding Ratio (%), as stated NSF20.	NSF20.2

DIS99

Worked examples

This chapter provides worked examples of how to complete Template CR3, Template CCR5 and Template MR2.

Version effective as of 01 Jan 2023

Updated to take account of the changes published on 11 November 2021.

Interpretation of the effective date - illustration

99.1 The following table illustrates the application of paragraph DIS10.4 by specifying the first applicable fiscal period for disclosure requirements according to their frequency, using as example a bank with a fiscal year coinciding with the calendar year (case 1), a bank with a fiscal year ending in October of the same calendar year (case 2), and a bank with a fiscal year ending in March of the following calendar year (case 3).

(1) Banks with fiscal year from 1 January to 31 December:

(a) The first fiscal quarter subject to quarterly disclosure requirements with an "effective as of" date of 1 January of a given year will be the first fiscal quarter, ending in 31 March of that calendar year. The first fiscal quarter subject to quarterly disclosure requirements with an "effective as of" date of 31 December of a given year will be the fourth fiscal quarter, ending in 31 December of that calendar year.

(b) The first fiscal semester subject to semiannual disclosure requirements with an "effective as of" date of 1 January of a given year will be the first fiscal semester, ending in 31 June of that calendar year. The first fiscal semester subject to semiannual disclosure requirements with an "effective as of" date of 31 December of a given year will be the second fiscal semester, ending in 31 December of that calendar year.

(c) The first fiscal year subject to annual disclosure requirements with an "effective as of" date of 1 January of a given year will be the fiscal year starting in 1 January of that calendar year. The first fiscal year subject to annual disclosure requirements with an "effective as of" date of 31 December of a given year will be the fiscal year ending in that same 31 December of that calendar year.

(2) Banks with fiscal year from 1 November of the previous calendar year to 31 October:

(a) The first fiscal quarter subject to quarterly disclosure requirements with an "effective as of" date of 1 January of a given year will be the first fiscal quarter, ending in 31 January of that calendar year. The first fiscal quarter subject to quarterly disclosure requirements with an "effective as of" date of 31 December of a given year will be the first fiscal quarter, ending in 31 January of the following calendar year.

(b) The first fiscal semester subject to semiannual disclosure requirements with an "effective as of" date of 1 January of a given year will be the first fiscal semester, ending in 31 April of that calendar year. The first fiscal semester subject to semiannual disclosure requirements with an "effective as of" date of 31 December of a given year will be the first fiscal semester, ending in 31 April of the following calendar year.

(c) The first fiscal year subject to annual disclosure requirements with an "effective as of" date of 1 January of a given year will be the fiscal year starting in 1 November of the previous calendar year. The first fiscal year subject to annual disclosure requirements with an "effective as of" date of 31 December of a given year will be the fiscal year ending in 31 October of the following calendar year.

(3) Banks with fiscal year from 1 April to 31 March of the next calendar year:

(a) The first fiscal quarter subject to quarterly disclosure requirements with an "effective as of" date of 1 January of a given year will be the fourth fiscal quarter, ending in 31 March of that calendar year. The first fiscal quarter subject to quarterly disclosure requirements with an "effective as of" date of 31 December of a given year will be the third fiscal quarter, ending in 31 December of that calendar year.

(b) The first fiscal semester subject to semiannual disclosure requirements with an "effective as of" date of 1 January of a given year will be the second fiscal semester, ending in 31 March of that calendar year. The first fiscal semester subject to semiannual disclosure requirements with an "effective as of" date of 31 December of a given year will be the second fiscal semester, ending in 31 March of the following calendar year.

(c) The first fiscal year subject to annual disclosure requirements with an "effective as of" date of 1 January of a given year will be the fiscal year starting in 1 April of the previous calendar year. The first fiscal year

subject to annual disclosure requirements with an "effective as of" date of 31 December of a given year will be the fiscal year ending in 31 March of the following calendar year.

Template CR3 – illustration

99.2 The following scenarios illustrate how Template CR3 should be completed.

		a	b	c	d	e
		Unsecured exposures: carrying amount	Exposures to be secured	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
(i)	One secured loan of 100 with collateral of 120 (after haircut) and guarantees of 50 (after haircut), if bank expects that guarantee would be extinguished first	0	100	50	50	0
(ii)	One secured loan of 100 with collateral of 120 (after haircut) and guarantees of 50 (after haircut), if bank expects that collateral would be extinguished first	0	100	100	0	0
(iii)	Secured exposure of 100 partially secured: 50 by collateral (after haircut), 30 by financial guarantee (after haircut), none by credit derivatives	0	100	50	30	0
(iv)	One unsecured loan of 20 and one secured loan of 80. The secured loan is over-collateralised: 60 by collateral (after haircut), 90 by guarantee (after haircut), none by credit derivatives. If bank expects that collateral would be extinguished first.	20	80	60	20	0
	One unsecured loan of 20 and one secured loan of 80.					

(v)	The secured loan is under-collaterised: 50 by collateral (after haircut), 20 by guarantee (after haircut), none by credit derivatives.	20	80	50	20	0

Definitions

Exposures unsecured- carrying amount: carrying amount of exposures (net of allowances /impairments) that do not benefit from a credit risk mitigation technique.

Exposures to be secured: carrying amount of exposures which have at least one credit risk mitigation mechanism (collateral, financial guarantees, credit derivatives) associated with them. The allocation of the carrying amount of multi-secured exposures to their different credit risk mitigation mechanisms is made by order of priority, starting with the credit risk mitigation mechanism expected to be called first in the event of loss, and within the limits of the carrying amount of the secured exposures.

Exposures secured by collateral: carrying amount of exposures (net of allowances /impairments) partly or totally secured by collateral. In case an exposure is secured by collateral and other credit risk mitigation mechanism(s), the carrying amount of the exposures secured by collateral is the remaining share of the exposure secured by collateral after consideration of the shares of the exposure already secured by other mitigation mechanisms expected to be called beforehand in the event of a loss, without considering overcollateralisation.

Exposures secured by financial guarantees: carrying amount of exposures (net of allowances /impairments) partly or totally secured by financial guarantees. In case an exposure is secured by financial guarantees and other credit risk mitigation mechanism, the carrying amount of the exposure secured by financial guarantees is the remaining share of the exposure secured by financial guarantees after consideration of the shares of the exposure already secured by other mitigation mechanisms expected to be called beforehand in the event of a loss, without considering overcollateralisation.

Exposures secured by credit derivatives: carrying amount of exposures (net of allowances /impairments) partly or totally secured by credit derivatives. In case an exposure is secured by credit derivatives and other credit risk mitigation mechanism(s), the carrying amount of the exposure secured by credit derivatives is the remaining share of the exposure secured by credit derivatives after consideration of the shares of the exposure already secured by other mitigation mechanisms expected to be called beforehand in the event of a loss, without considering overcollateralisation.

Template CCR5 - illustration

99.3 The case below illustrates the cash and security legs of two securities lending transactions in Template CCR5:

(1) Repo on foreign sovereign debt with $50 cash received and $55 collateral posted

(2) Reverse repo on domestic sovereign debt with $80 cash paid and $90 collateral received

	e	f
	Collateral used in securities financing transactions (SFTs)	
	Fair value of collateral received	Fair value of posted collateral
Cash - domestic currency		80
Cash - other currencies	50	
Domestic sovereign debt	90	
Other sovereign debt		55
...		
Total	140	135

Template MR2 – illustration

99.4 The paragraphs below describe the relevant provisions for components of IMA capital requirement calculations.

(1) The aggregate capital requirement for approved and eligible trading desks (TDs) **($IMA_{G,A}$)** according to MAR33.43 is defined as: **C_A + DRC** + Capital surcharge.

(2) According to MAR33.41 **C_A** is defined as:

(3) According to MAR33.22 **DRC** is defined as the greater of: (1) the average of the DRC requirement model measures over the previous 12 weeks; or (2) the most recent DRC requirement model measure.

(4) According to MAR33.45 **Capital surcharge**: is calculated as the difference between the aggregated standardised capital charges ($SA_{G,A}$) and the aggregated internal models-based capital charges ($IMA_{G,A} = C_A$ + DRC) multiplied by a factor k. k and $SA_{G,A}$ are only recent while $IMA_{G,A}$ is average or recent -> Surcharge is average or recent.

, where

Example: illustration of the correct specification for row 12 in template MR2

99.5 Applying the formulae set out in MAR33.22, MAR33.41, MAR33.43, and MAR33.45 (marked in *italics* in row 12 below), the relevant components for C_A [either most recent (8+9) or average 1.5*8 +9] and DRC should take the respectively greater value of the "most recent" and "average" (marked in **bold**). This results in the green and amber trading desks total capital requirements (including capital surcharge) of 485.

		a	b	
	Template MR2	Most recent	Average	
8	IMCC	100	**130**	*1.5
9	SES	130	**100**	
	(C_A=*max[$IMCC_{t-1}$+SES_{t-1};mc*$IMCC_{avg}$+SES_{avg}]*)	*(230)*	***(295)***	
10	DRC	**100**	90	
11	Capital surcharge for amber TD		90	
12	Capital requirements for green and amber TDs (including capital surcharge) *max[a=(8+9); b=(multiplier*8+9)]+max[a=10; b=10]+ 11*		485	
13	SA Capital requirements for TD ineligible to use IMA C_u		20	

BCP

Core Principles for effective banking supervision

The Basel Core Principles provide a comprehensive standard for establishing a sound foundation for the regulation, supervision, governance and risk management of the banking sector.

BCP01

Foreword

This chapter sets out the foreword to the Core Principles.

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First version in the consolidated Basel Framework.

01.1 The Core Principles for effective banking supervision (Core Principles) are the de facto minimum standard for sound prudential regulation and supervision of banks and banking systems. The Core Principles are considered universally applicable and should be applied by national authorities in the supervision of banks within their jurisdictions.

01.2 The Committee issues the Core Principles as its contribution to strengthening the global financial system. Weaknesses in the banking system of a country, whether developing or developed, can threaten financial stability both within that country and internationally. The Committee believes that implementation of the Core Principles by all countries would be a significant step towards improving financial stability domestically and internationally and that it would provide a good basis for further development of effective supervisory systems. The vast majority of countries have endorsed the Core Principles and have committed to fully implement them.

01.3 The Core Principles are used by countries as a benchmark to assess the effectiveness of their supervisory systems, to identify future work to achieve a baseline level of sound supervisory practices and to upgrade supervisory systems and practices (as appropriate) in line with the evolution of their respective banking systems. They are also used by the International Monetary Fund (IMF) and the World Bank in the context of the Financial Sector Assessment Program (FSAP) to assess the effectiveness of countries' banking supervisory systems and practices.

01.4 Each iteration of the Core Principles builds upon the preceding versions and seeks to achieve the right balance in raising the bar for sound supervision while retaining the Core Principles as a flexible, globally applicable standard. To ensure the universal applicability of the Core Principles, reviews are conducted by a group composed of both Committee and non-Committee member countries and regional groups of banking supervisors, as well as the IMF and World Bank. The Committee also consults with industry and the public before finalising revisions to the standard.

01.5 Given the importance of consistent and effective standards implementation, the Committee is ready to encourage work at the national level to implement the Core Principles in conjunction with other supervisory bodies and interested parties. The Committee invites international financial institutions and donor agencies to use the Core Principles to assist individual countries to strengthen their supervisory arrangements. The Committee also remains committed to further enhancing its interaction with supervisors from non-member countries.

BCP02

Introduction to the Core Principles

This chapter outlines the objectives of the Core Principles and describes how to read the standard.

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Introduction

02.1 The Core Principles are conceived as a framework of minimum standards for sound supervisory practices. The Core Principles provide a comprehensive standard for establishing a sound foundation for the regulation, supervision, governance and risk management of the banking sector. They set out the powers that supervisors should have to address safety and soundness concerns, promote a forward-looking and risk-based approach to supervision, and encourage early intervention and timely supervisory actions to mitigate threats to the safety and soundness of banks and the banking system.[1]

Footnotes

[1] *National authorities are free to implement any supplementary measures that may be needed to achieve effective supervision in their jurisdictions.*

02.2 The Core Principles are considered universally applicable, irrespective of the complexity of banks and banking systems, and should be applied by national authorities in the supervision of banking organisations within their jurisdictions.[2] A high degree of compliance with the Core Principles should foster overall financial system stability; however, banking supervision cannot, and should not, provide an assurance that banks will not fail.

Footnotes

[2] *In countries where non-bank financial institutions provide deposit and lending services similar to those of banks, many of the principles set out in this document would also be appropriate to apply to such non-bank financial institutions. Some of these institutions may be regulated differently from banks, as long as they do not collectively hold a significant proportion of the deposits in a financial system.*

02.3 The Core Principles standard is structured as follows:

(1) The remainder of this section explains how to read this document considering the broad objectives of the Core Principles;

(2) The "Explanation of certain terms used in the Core Principles" lists common terms and clarifies how these should be interpreted within the context of this standard;

(3) The "Assessment methodology" describes how the standard should be used by jurisdictions to gauge their level of adherence to the Core Principles and within the context of the FSAP;

(4) The "Preconditions for effective banking supervision" sets out a number of external elements on which effective banking supervision is dependent, but which may not be within the direct jurisdiction of supervisors;

(5) "The Core Principles and assessment criteria" sets out the 29 principles and their accompanying essential and additional criteria;

(6) The "Update on Committee standards, guidelines and sound practices" lists the new and revised standards, guidelines and sound practices that have been published by the Committee since the last substantive review of the Core Principles; and

(7) The "Structure and guidance for assessment reports prepared by the International Monetary Fund and the World Bank" provides practical guidance to jurisdictions and assessors for the purpose of the IMF and World Bank FSAPs.

02.4 The banking sector is only one, albeit important, part of a financial system. The Committee has sought to maintain consistency, where possible, between these Core Principles and, for example, the corresponding standards for securities and insurance, as well as the standards for anti-money laundering (AML) and combatting the financing of terrorism (CFT) and transparency. Differences will inevitably remain, however, as key risk areas and supervisory priorities differ from sector to sector.

General approach

02.5 At a minimum, the Committee expects its members to fully implement the Basel Framework for their internationally active banks. The Core Principles are also a Basel standard, but they are applicable to all banks in all jurisdictions.

02.6 Each Core Principle applies to the supervision of all banks and banking groups. The intensity of supervision will need to be commensurate with the risk profile and systemic importance of banks.

02.7 In supervising an individual bank which is part of a corporate group, it is essential that supervisors consider the bank and its risk profile from a number of perspectives: on a solo basis (but with both a micro and macro focus); on a consolidated basis (in the sense of supervising the bank as a unit together with the other entities within the "banking group") and on a group-wide basis (taking into account the potential risks to the bank posed by other group entities outside of the banking group). Group entities (whether inside or outside the banking group) may be a source of strength but they may also be a source of weakness capable of adversely affecting the financial condition, reputation and overall safety and soundness of the bank. Supervisors should carefully consider the risks posed to a bank where it is part of a group or financial conglomerate with a mix of regulated and unregulated entities across different sectors. In the discharge of their functions, supervisors must observe a broad canvas of risk, whether arising from an individual bank, from its associated entities (regulated or not) or from the prevailing macro-financial environment.

02.8 Banks will from time to time run into difficulties, so effective crisis preparation and management and orderly resolution frameworks and measures are required to minimise the adverse impact on the broader banking and financial sectors. These include measures to be adopted by banks, such as recovery plans, and those to be adopted by supervisory, resolution and other authorities to coordinate the orderly restructuring or resolution of a troubled bank. Compliance with the Core Principles does not require the supervisory authority to also be the resolution authority.

Proportionality

02.9 The concept of proportionality ensures that applicable rules and supervision practices are consistent with banks' systemic importance and risk profiles, as well as appropriate for the broader characteristics of a particular financial system. The objective of proportionality is not to dilute the robustness of standards but to reflect jurisdictions' circumstances and supervisory capacity.[3]

Footnotes

[3] *For further information on practical considerations in implementing proportionality, see the Committee's High-level considerations on proportionality (July 2022) and Guidance on the application of the Core Principles for effective banking supervision to the regulation and supervision of institutions relevant to financial inclusion (September 2016).*

02.11

The Core Principles recognise that the appropriate intensity of supervision for banks varies, with more time and resources devoted to larger, more complex or riskier banks. Supervisors should assess the risk profile of banks in terms of the risks they run, the efficacy of their governance and risk management, and the risks they pose to banking and financial systems. This process focuses supervisory resources where they can be utilised optimally, concentrating on outcomes and moving beyond passive assessment of compliance with rules.

02.10 To fulfil their purpose, the Core Principles must be capable of application to a wide range of jurisdictions, whose banking sectors may include a broad spectrum of banks (from large internationally active banks to small, non-complex deposit-taking institutions). To accommodate this breadth of application, a proportionate approach is adopted, both in terms of expectations of supervisors in the discharge of their own functions and in terms of the requirements that supervisors impose on banks. The concept of proportionality underpins the assessment and implementation of the Core Principles, even if it is not always directly referenced.

02.12 While all banks must observe minimum capital and liquidity standards, and establish effective governance and risk management frameworks and practices, the principle of proportionality allows supervisors to better match the level of regulatory and supervisory requirements to different banks and banking systems. In the context of the Core Principles, this is reflected in the expectation that requirements imposed by supervisors on banks will be commensurate with the risk profile and systemic importance (including, but not limited to, size and complexity) of banks.

02.13 The Core Principles allow for different approaches to supervision, as long as the overriding goals are achieved. Specific country circumstances and the context in which supervisory practices are applied should be considered during implementation and assessments, and in the dialogue between assessors and country authorities.

Revisions to the Core Principles

02.14 The revised Core Principles reflect regulatory and supervisory developments, structural changes in banking, and lessons learnt in FSAP assessments since the last revision in 2012. The current review has been informed by several thematic topics: (i) financial risks; (ii) operational resilience; (iii) systemic risk and macroprudential supervision; (iv) new risks, such as climate-related financial risks and the digitalisation of finance; (v) non-bank financial intermediation; and (vi) risk management practices.

02.15 The post-Great Financial Crisis (GFC) period has seen banks continue to build their resilience to financial risks, underpinned by stronger regulatory and supervisory frameworks, including the Basel III standards. The Core Principles have been strengthened to reflect key elements of many of the post-GFC reforms introduced by the Committee. In particular, the importance of a non-risk-based measure to complement risk-based approaches in constraining leverage in banks and the banking system (eg a leverage ratio); enhancements to credit risk management practices; the introduction of expected credit loss approaches to provisioning; and more stringent requirements for managing large exposures and related party transactions. More recent crises, such as the Covid-19 pandemic and episodes of bank distress, have reinforced the importance of bank and banking system resilience to a range of different shocks, as well as the need for effective supervision.

02.16 Beyond financial risks, significant efforts have been directed at strengthening operational resilience to ensure that banks are better able to withstand, adapt to and recover from severe operational risk-related events, such as pandemics, cyber incidents, technology failures and natural disasters. The Core Principles enhance the focus on governance, operational risk management, business continuity planning and testing, the mapping of interconnections and interdependencies, third-party dependency management, incident management, and resilient cyber security and information and communication technology (ICT).

02.17 The last 10 years have reaffirmed the importance of applying a system-wide macro perspective to the supervision of banks to assist in identifying and analysing systemic risks and taking pre-emptive action to address them. Adopting a broad financial system perspective is integral to many of the Core Principles, and so the Committee has not included a specific standalone principle on macroprudential issues but has sought to strengthen the existing requirements based on lessons learnt. This includes the value of capital buffers that can be increased or released as risks build and crystallise or dissipate (eg a countercyclical capital buffer).

02.18 Climate change may result in physical and transition risks that could affect the safety and soundness of individual banks and have broader implications for the banking system and financial stability. Targeted changes have been introduced to explicitly reference climate-related financial risks and to promote a principles-based approach to improving supervisory practices and banks' risk management. Banks should understand how climate-related risk drivers may manifest through financial risks, recognise that these risks could materialise over varying time horizons (which may go beyond their traditional capital planning horizon), and implement appropriate measures to mitigate these risks. Supervisors are also expected to consider climate-related financial risks in their supervision of banks, to assess banks' risk management processes, and to require banks to submit

information that makes it possible to assess the materiality of climate-related financial risks. Both bank and supervisory practices may consider climate-related financial risks in a flexible manner, given the degree of heterogeneity and evolving practices in this area.

02.19 Technology-driven innovation and the digitalisation of finance are changing both customer behaviours and the way that banking services are provided. New products, new entrants and the use of new technologies present both opportunities and risks for supervisors, banks and the banking system. Digitalisation may amplify traditional risks (eg liquidity, operational and strategic risks), while digital communication channels can more rapidly propagate banking stress. Banks are also increasingly relying on third parties for the provision of technology services, which creates additional points of cyber risk as well as potential system-wide concentrations and further highlights the importance of operational resilience. For supervision to remain effective, supervisors need to ensure that they can continue to access relevant information (irrespective of where records are located) and review the overall activities of the banking group, including those undertaken by third parties that are supporting critical operations of banks.

02.20 Financial intermediation has evolved significantly since the last revision of the Core Principles, prompted by rapid advances in financial technology and the proliferation of non-bank financial intermediation. Non-bank financial institutions supplement banks in providing financial services, but their activities can also affect the stability of the financial system and increase the potential for contagion risks through their interconnections with banks. While the Core Principles are designed to apply to those institutions designated as banks, supervisors should remain alert to the risks arising from non-bank financial institution activities and their potential impact on the banking system. The revised Core Principles reinforce the group-wide approach to supervision and strengthen requirements for supervisors to monitor risks to banks from the range of different non-bank financial institutions and for banks to manage their counterparty risks.

02.21 Reflecting evolving risks and broader medium- and long-term trends, it is critical that banks institute a sound risk culture, maintain strong risk management practices and adopt and implement sustainable business models. The concept of bank business model sustainability reflects the expectation that banks design and implement sound and forward-looking strategies that generate sustainable returns over time. Both bank risk management and supervisory approaches have been strengthened in this respect. While responsibility for designing and implementing sustainable business strategies lies with a bank's board, supervisors have an important role to play, as assessing the robustness of banks' risk culture and business models is a key component of effective supervision.

BCP10

Explanation of certain terms used in the Core Principles

This chapter provides an explanation of certain key terms that are used throughout the Core Principles.

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10.1 This section provides an explanation of certain key terms that are used throughout the Core Principles. These explanations should be read only in the context of this document, and they do not apply across, or modify any aspect of, the Basel Framework.

(1) Applicable Basel standards: the references to "applicable Basel standards" in specific principles refer to the most recent Committee standard or guideline that is effective in relation to that principle.

(2) Bank: when the Core Principles use the term "bank" this should be read as "bank and banking group", except where "bank" is explicitly referred to on a solo basis.

(3) Banking group: includes the holding company, the bank and its offices, subsidiaries, affiliates and joint ventures, both domestic and foreign. Risks from other entities in the wider group, for example non-bank (including non-financial) entities, may also be relevant. This group-wide approach to supervision goes beyond accounting consolidation. The scope of consolidation used as the basis for all other Basel requirements is set out in the SCO standard.

(4) Basel Framework: refers to those Committee standards that are applicable to internationally active banks and are consolidated in the Basel Framework.

(5) Beneficial owner(s)/beneficial ownership: refers to the natural person(s) who ultimately owns or controls a customer and/or natural person on whose behalf a transaction is being conducted. It also includes those persons who exercise ultimate effective control over a legal person or arrangement.

(6) Board and senior management: refer to the oversight function and the management function in general and should be interpreted throughout this standard in accordance with the applicable law within each jurisdiction. There are significant differences in the legislative and regulatory frameworks across countries regarding these functions. Some countries use a two-tier board structure, in which the supervisory function of the board is performed by a separate entity known as a supervisory board, which has no executive functions. Other countries, in contrast, use a one-tier board structure, in which the board has a broader role. Owing to these differences, this standard does not advocate a specific board structure.

(7) Business model sustainability: when conducting business model analysis, the supervisor assesses the soundness of a bank's forward-looking strategies to generate sustainable returns over time, and its capacity to execute its business plan and strategy, considering potential changes in banks' operating environment.

(8) Climate-related financial risk: refers to the potential risks that may arise from climate change or from efforts to mitigate climate change, their related impacts and their economic and financial consequences. Climate-related physical and transition risk drivers can translate into traditional financial risk categories such as credit, market, operational, liquidity, strategic and reputational risks. Climate-related financial risks can materialise over different time horizons, which may go beyond a bank's traditional capital planning horizon.

(9) Compliance function: does not necessarily denote an organisational unit. Compliance staff may reside in operating business units or local subsidiaries and report up to operating business line management or local management, provided such staff also have a reporting line through to the head of compliance, who should be independent from business lines.

(10) Counterparty credit risk: transactions that give rise to counterparty credit risk include: over-the-counter (OTC) derivatives, exchange-traded derivatives, long settlement transactions and securities financing transactions that are bilaterally or centrally cleared. Counterparty credit risk may result from (but is not limited to) transactions with banks, non-financial corporates and non-bank financial institutions (see also Principle 17 BCP40.39).

(11) Country risk: is the risk of exposure to loss caused by events in a foreign country. The concept is broader than sovereign risk as all forms of lending or investment activity involving individuals, corporates, banks or governments are covered (see also Principle 21 BCP40.48).

(12) Credit risk: may result from on-balance sheet and off-balance sheet exposures, including loans and advances; investments; interbank lending; derivative transactions; securities financing transactions; and trading activities (see also Principle 17 BCP40.39).

(13) External experts: may include external auditors or other qualified external parties commissioned with an appropriate mandate, and subject to appropriate confidentiality restrictions.

(14) Internal audit: does not necessarily denote an organisational unit. Some countries allow smaller banks to implement a system of independent reviews (eg conducted by external experts) of key internal controls as an alternative.

(15) Macroeconomic environment: should be interpreted broadly and can include the phase of the business or credit cycle, conditions in financial markets and geopolitical developments.

(16) Off-site work: is a tool to regularly review and analyse the financial condition of banks, follow up on matters requiring further attention, identify and evaluate developing risks and help identify the priorities, scope of further off-site and on-site work etc.

(17) On-site work: is a tool to obtain independent verification that adequate policies, procedures and controls exist at banks, to determine that information reported by banks is reliable, to obtain additional information on the bank and its related companies that is needed for the assessment of the condition of the bank, to monitor the bank's follow-up on supervisory concerns etc.

(18) Operational risk: is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. The definition includes legal risk but excludes strategic and reputational risk (see also Principle 25 BCP40.56).

(19) Related parties: should include:

(a) the bank's subsidiaries and affiliates (including their subsidiaries, affiliates and special purpose entities) and any other party that the bank exerts control over or that exerts control over the bank;

(b) the bank's major shareholders, including beneficial owners;

(c) the bank's board members, senior management and key staff, and corresponding persons in affiliated companies, and parties that can exert significant influence on board members or senior management; and

(d) for the natural persons identified in (a) to (c), their direct and related interests, and their close family members (see also Principle 20 BCP40.46).

(20) Related party transactions: include on-balance sheet and off-balance sheet credit exposures; dealings such as service contracts, asset purchases and sales; construction contracts; lease agreements; derivative transactions; borrowings; and write-offs. The term "transaction" should be interpreted broadly to incorporate not only transactions that are entered into with related parties but also situations in which an unrelated party (with whom a bank has an existing exposure) subsequently becomes a related party (see also Principle 20 BCP40.46).

(21) Risk appetite: means the aggregate level and types of risk a bank is willing to assume, decided in advance and within its risk capacity (that is, the maximum amount of risk a bank is able to assume given its capital base,

risk management and control capabilities as well as its regulatory constraints), to achieve its strategic objectives and business plan.

(22) Risk culture: refers to a bank's norms, attitudes and behaviours related to risk awareness, risk-taking and risk management, and controls that shape decisions on risks. Risk culture influences the decisions of management and employees during their day-to-day activities and has an impact on the risks they assume.

(23) Risk profile: refers to the nature and scale of the risk exposures assumed by a bank.

(24) Service providers: include third parties, intragroup entities (ie entities within a group such as parent, subsidiary or affiliate companies)[1] and (if applicable) other parties further along the supply chain.

(25) Stress testing: comprises a range of activities from simple sensitivity analysis to more complex scenario analyses and reverse stress testing.

(26) Supervisor: refers to each of the authorities involved in banking supervision (see Principle 1, essential criterion 1 BCP40.5(1)). Such authority is called "the supervisor" throughout this standard, except where the longer form "the banking supervisor" is necessary for clarification. Unless stated otherwise, the "supervisor" refers to the home country supervisor.

(27) Systemic importance: is determined by the size, interconnectedness, substitutability, global or cross-jurisdictional activity (if any), and complexity of the bank, as set out in SCO40, SCO50 and RBC40.

(28) Transfer risk: is the risk that a borrower will not be able to convert local currency into a foreign currency and so will be unable to make debt service payments in a foreign currency. The risk normally arises from exchange restrictions imposed by the government in the borrower's country (see also Principle 21 BCP40.48).

Footnotes

[1] *While branches are not considered intragroup providers as they are not separate legal entities, it may also be appropriate to consider risks arising from the provision of services from a head office to its overseas branches, or between branches.*

BCP20

Assessment methodology

This chapter describes the assessment methodology.

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20.1 The Core Principles are intended mainly to help countries assess the quality of their systems and to provide input into their reform agenda. Assessing a country's compliance with the Core Principles is a useful tool for promoting the implementation of an effective system of banking supervision. To promote objectivity and comparability of compliance with the Core Principles in the different country assessments,[1] supervisors and assessors should refer to this assessment methodology, which does not eliminate the need for both parties to use their judgment in assessing compliance. Such an assessment should identify weaknesses in the existing system of supervision and regulation, and form a basis for remedial measures by government authorities and banking supervisors.

Footnotes

[1] *Ranking supervisory systems is not one of the aims of the assessments.*

20.2 While the publication of the assessments of jurisdictions affords transparency, an assessment of one jurisdiction will not be directly comparable with that of another. First, assessments have to reflect proportionality. Thus, a jurisdiction that is home to many systemically important banks will naturally have a higher hurdle to clear to obtain a "compliant" grading than a jurisdiction which only has small, non-complex deposit-taking institutions. Second, jurisdictions can elect to be graded against essential criteria only or against both essential criteria and additional criteria. Third, assessments will inevitably be country-specific and time-dependent to varying degrees. Therefore, the description provided for each Core Principle and the qualitative commentary accompanying the grading for each Core Principle should be reviewed to gain an understanding of a jurisdiction's approach to the specific component under consideration and the need for any improvements. Seeking to compare countries by simply referring to the number of "compliant" and "non-Compliant" grades they receive is unlikely to be informative.

20.3 From a broader perspective, effective banking supervision is dependent on a number of external elements, or preconditions, which may not be within the direct jurisdiction of supervisors. The review of the preconditions is qualitative and distinct from the assessment (and grading) of compliance with the Core Principles.

Use of the assessment methodology

20.4 The assessment methodology can be used in multiple contexts:

(1) self-assessments performed by banking supervisors themselves;

(2) IMF and World Bank assessments of the quality and effectiveness of supervisory systems, for example in the context of the FSAP;[2]

(3) reviews conducted by private third parties such as consulting firms; or

(4) peer reviews conducted, for instance, within regional groupings of banking supervisors.

Footnotes

[2] *The regular reports by the IMF and the World Bank on the lessons learnt from assessment experiences as part of FSAP exercises constitute a useful source of information, which has been used to improve the Core Principles.*

20.5 Whatever the context, the following factors are crucial:

(1) A recent self-assessment of compliance with the Core Principles is an essential exercise for supervisors to have undertaken, since it will provide an important indicator of where techniques and practices need to be strengthened.

(2) To promote objectivity, compliance with the Core Principles is best assessed by two suitably qualified external individuals with strong supervisory backgrounds who bring varied perspectives so as to provide checks and balances.

(3) A fair assessment of the banking supervisory process cannot be performed without the genuine cooperation of all relevant authorities.

(4) The process of assessing each of the 29 principles requires a judgmental weighing of various elements that only qualified assessors with practical, relevant experience can provide.

(5) The assessment requires some legal and accounting expertise in the interpretation of compliance with the Core Principles in relation to the legislative and accounting structure of the relevant country.

(6) The assessment must be comprehensive and in sufficient depth to allow a judgment on whether criteria are fulfilled in practice and not just in theory. Laws and regulations need to be sufficient in scope and depth, and they must be effectively enforced and complied with. Their existence alone does not provide sufficient indication that the criteria are met.

Assessment of compliance

20.6 The primary objective of an assessment is to identify the nature and extent of any weaknesses in banking supervision. While the process of implementing the Core Principles starts with the assessment of compliance, assessment is a means to an end, not an objective in itself. The assessment allows the supervisory authority (and in some instances the government) to initiate a strategy to improve the banking supervisory system, as necessary.

20.7 The assessment methodology for the Core Principles includes both essential and additional assessment criteria:

(1) Essential criteria are minimum baseline requirements for sound supervisory practices and are universally applicable to all countries. An assessment of a country against the essential criteria must recognise that its supervisory practices should be commensurate with the risk profile and systemic importance of the banks being supervised; that is, the assessment must consider the context in which the supervisory practices are applied.

(2) Additional criteria are suggested best practices that countries with more complex banks should aim for. Effective banking supervisory practices are not static. They evolve over time as lessons are learnt and banking business continues to develop and expand. Supervisors are often swift to encourage banks to adopt "best practice" and should "practise what they preach" by seeking to move continually towards the highest supervisory standards. To reinforce this aspiration, the additional criteria in the Core Principles set out supervisory practices that exceed current baseline expectations but which contribute to the robustness of individual supervisory frameworks. As supervisory practices evolve, it is expected that upon each revision of the Core Principles, a number of additional criteria will become essential criteria, as expectations of baseline standards change. The use of essential criteria and additional criteria will, in this sense, contribute to the continuing relevance of the Core Principles over time.

20.8 Countries undergoing assessment by the IMF and/or the World Bank have the following three assessment options:

(1) Unless the country explicitly selects another option, compliance with the Core Principles will be assessed and graded only with reference to the essential criteria;

(2) A country may voluntarily choose to be assessed against the additional criteria to identify areas in which it could enhance its regulation and supervision further and benefit from assessors' comments on how this could be achieved. However, compliance with the Core Principles will still be graded only with reference to the essential criteria; or

(3) To accommodate countries that seek to attain best supervisory practices, a country may voluntarily choose to be assessed and graded against both the essential and the additional criteria. It is anticipated that this will provide incentives to jurisdictions, particularly those that are important financial centres, to lead the way in the adoption of the highest supervisory standards.

20.9 For assessments of the Core Principles by external parties,[3] the following four-grade scale will be used. A "not applicable" grading can be used under certain circumstances as described in BCP20.10.

(1) Compliant – A country will be considered compliant with a principle when all essential criteria[4] applicable for this country are met without any significant deficiencies. There may be instances in which a country can demonstrate that the principle has been achieved by other means. Conversely, due to the specific conditions in individual countries, the essential criteria may not always be sufficient to achieve the objective of the principle, and therefore evidence of other measures may also be needed in order for the aspect of banking supervision addressed by the principle to be considered effective.

(2) Largely compliant – A country will be considered largely compliant with a principle if only minor shortcomings are observed that do not raise any concerns about the authority's ability and clear intent to achieve full compliance with the principle within a prescribed period of time. The assessment "largely compliant" can be used if the system does not meet all essential criteria but the overall effectiveness is sufficiently good and no material risks are left unaddressed.

(3) Materially non-compliant – A country will be considered materially non-compliant with a principle if there are severe shortcomings (despite the existence of formal rules, regulations and procedures) and there is evidence that supervision has clearly not been effective, that practical implementation is weak, or that the shortcomings are sufficient to raise doubts about the authority's ability to achieve compliance. It is acknowledged that the "gap" between "largely compliant" and "materially non-compliant" is wide, and that the choice may be difficult. However, the intention is to force the assessors to make a clear statement.

(4) Non-compliant – A country will be considered non-compliant with a principle if there has been no substantive implementation of the principle, several essential criteria have not been complied with, or supervision is manifestly ineffective.

Footnotes

[3] *While gradings of self-assessments may provide useful information to the authorities, these are not mandatory, as the assessors will arrive at their own independent judgment.*

[4] *For the purpose of grading, references to the term "essential criteria" in this paragraph would include additional criteria in the case of a country that has volunteered to be assessed and graded against the additional criteria.*

20.10 In addition, a principle will be considered "not applicable" if, in the view of the assessor, the principle does not apply given the structural, legal and institutional features of the country. In some instances, countries have argued that in the case of certain embryonic or immaterial banking activities, which were not being supervised, an assessment of "not applicable" should have been given, rather than "non-compliant". This is an issue for judgment by the assessor, although activities that are relatively insignificant at the time of assessment may later assume greater importance and authorities need to be aware of and prepared for such developments. The supervisory system should permit such activities to be monitored, even if no regulation or supervision is considered immediately necessary. "Not applicable" would be an appropriate assessment if the supervisors are aware of the phenomenon and capable of taking action, but there is realistically no chance that the activities will grow sufficiently in volume to pose a risk.

20.11 Grading is not an exact science, and the Core Principles can be met in different ways. The assessment criteria should not be seen as a checklist approach to compliance but as a qualitative exercise. Compliance with some criteria may be more critical for effective supervision, depending on the situation and circumstances in a given jurisdiction. Hence, the number of criteria complied with is not always an indication of the overall compliance rating for any given principle. Emphasis should be placed on the commentary that should accompany each principle's grading, rather than on the grading itself. The primary goal of the exercise is not to apply a "grade" but rather to direct authorities towards areas needing attention to set the stage for improvements and develop an action plan that prioritises the improvements needed to achieve full compliance with the Core Principles.

20.12 The assessment should also include the assessors' opinion of how weaknesses in the preconditions for effective banking supervision, as discussed in BCP30, hinder effective supervision and of how effectively supervisory measures mitigate these weaknesses. In particular, the assessment of compliance with individual Core Principles should clearly mention how compliance is likely to be primarily affected by preconditions that are considered to be weak. This opinion should be qualitative rather than providing any kind of graded assessment. To the extent that shortcomings in preconditions are material to the effectiveness of supervision, they may affect the grading of the affected Core Principles.

Practical considerations in conducting an assessment

20.13 While the Committee does not provide detailed guidelines on the preparation and presentation of assessment reports, it believes there are a few considerations that assessors should consider when conducting an assessment and preparing the assessment report.[5]

Footnotes

[5] *By way of example, BCP99 includes the format developed by the IMF and the World Bank for conducting their assessments of the state of implementation of the Core Principles in individual countries.*

20.14 When conducting an assessment, the assessor must have free access to a range of information and interested parties. The required information may include not only published information, such as the relevant laws, regulations and policies, but also more sensitive information, such as any self-assessments, operational guidelines for supervisors and, where possible, supervisory assessments of individual banks. This information should be provided as long as it does not violate supervisors' legal obligations to keep such information confidential.

Experience from assessments has shown that secrecy issues can often be solved through ad hoc arrangements between the assessor and the assessed authority. The assessor will need to meet a range of individuals and organisations, including the banking supervisory authority or authorities, other domestic supervisory authorities, any relevant government ministries, bankers and bankers' associations, auditors and other financial sector participants. Special note should be made of instances when required information is not provided and of the impact this might have on the accuracy of the assessment.

20.15 The assessment of compliance with each principle requires the evaluation of a chain of related requirements which, depending on the principle, may encompass laws, prudential regulations, supervisory guidelines, on-site examinations and off-site analyses, supervisory reporting and public disclosures, and evidence of enforcement or non-enforcement. The assessment must ensure that the requirements are put into practice, which entails assessing whether the supervisory authority has the necessary operational autonomy, skills, resources and commitment to implement the Core Principles. The assessment must confirm that the supervisor has the relevant powers and exercises them, where appropriate.[6]

Footnotes

[6] *The Core Principles require that the supervisor has adequate powers and that these powers are exercised through the appropriate supervisory tools. For example, Principle 1, essential criterion 6 requires that the supervisor has the power to take timely corrective action or to impose a range of sanctions when, in its judgment, a bank is not complying with laws or regulations, while Principle 11 refers to the supervisor acting to take timely corrective action or to impose sanctions expeditiously.*

20.16 It is important to bear in mind that some tasks, such as assessing the macroeconomic environment and detecting the build-up of dangerous trends, do not lend themselves to a rigid compliant/non-compliant structure. Although these tasks may be difficult to undertake, supervisors should aim for assessments that are as accurate as possible given the information available at the time and take reasonable actions to address and mitigate such risks.

20.17 Assessments should not focus solely on deficiencies but should also highlight specific achievements. This approach will provide a better picture of the effectiveness of banking supervision.

20.18 There are certain jurisdictions where non-bank financial institutions that are not part of a supervised banking group engage in some bank-like activities. These institutions may make up a significant portion of the total financial system and may be largely unsupervised. Since the Core Principles deal specifically with banking supervision, they cannot be used for formal assessments of these institutions. However, the assessment report should, at a minimum, mention any activities in which non-bank financial intermediation has an impact on supervised banks and the potential problems that may arise as a result of such activities.

20.19 The development of cross-border banking leads to increased complications when conducting Core Principles assessments. Improved cooperation and information-sharing between home and host country supervisors is of central importance, both in normal times and in crisis situations. The assessor must therefore determine whether such cooperation and information-sharing actually takes place to the extent needed, bearing in mind the size and complexity of the banking links between the two countries.

20.20 For the purposes of assessing risk management by banks in the context of Principles 15 to 25, a bank's risk management framework should take an integrated bank-wide perspective of its risk exposure, encompassing individual business lines and business units. Where a bank is a member of a group, the risk management framework should also cover the risk exposure across and within the banking group and take account of risks posed to the bank or banking group by other entities in the wider group.

20.21 Assessment of Principle 29 (Abuse of financial services) will, for some countries, involve a degree of duplication with the mutual evaluation process of the Financial Action Task Force (FATF). To address this overlap, where an evaluation has recently been conducted by the FATF on a given country, FSAP assessors may rely on that evaluation and focus their own review on the actions taken by

supervisors to address any shortcomings identified by the FATF. In the absence of any recent FATF evaluation, FSAP assessors should continue to assess countries' supervision of banks' AML/CFT controls.

BCP30

Preconditions for effective banking supervision

This chapter describes the preconditions for effective banking supervision.

Version effective as of 25 Apr 2024

First version in the consolidated Basel Framework.

30.1 An effective system of banking supervision needs to be able to effectively develop, implement, monitor and enforce supervisory policies under normal and stressed economic and financial conditions. Supervisors need to be able to respond to external conditions that can negatively affect banks or the banking system. There are a number of elements or preconditions that have a direct impact on the effectiveness of supervision in practice. These preconditions are mostly outside the direct or sole jurisdiction of banking supervisors. Where supervisors have concerns that the preconditions could impact the efficiency or effectiveness of bank regulation and supervision, supervisors should make the government and relevant authorities aware of this and the actual or potential negative repercussions for supervisory objectives. Supervisors should work with the government and relevant authorities to address concerns that are outside the direct or sole jurisdiction of the supervisors. Supervisors should also, as part of their normal business, adopt measures to address the effects of such concerns on the efficiency or effectiveness of bank regulation and supervision.

30.2 The preconditions include:

(1) sound and sustainable macroeconomic policies;

(2) a well established framework for financial stability policy formulation;

(3) a well developed public infrastructure;

(4) a clear framework for crisis management, recovery and resolution;

(5) an appropriate level of systemic protection (or public safety net); and

(6) effective market discipline.

30.3 Sound macroeconomic policies (mainly fiscal and monetary policies) are the foundation of a stable financial system. Without sound policies, imbalances such as high government borrowing and spending or an excessive shortage or supply of liquidity may arise and affect the stability of the financial system. Furthermore, certain government policies[1] may specifically use banks and other financial intermediaries as instruments, which may inhibit effective supervision.

Footnotes

[1] *Examples of such policies include accumulation of large quantities of government securities; reduced access to capital markets due to government controls or growing imbalances; degradation in asset quality due to loose monetary policies; and government-directed lending or forbearance requirements as an economic policy response to deteriorating economic conditions.*

30.4 In view of the interplay between the real economy and banks and the financial system, it is important that there is a clear framework for macroprudential surveillance and financial stability policy formulation. Such a framework should set out the authorities or those responsible for identifying systemic and emerging risks in the financial system; for monitoring and analysing market and other financial and economic factors that may lead to accumulation of systemic risks; for formulating and implementing appropriate policies; and for assessing how such policies may affect the banks and the financial system. It should also include mechanisms for effective cooperation and coordination among the relevant agencies.

30.5 Inadequacies in public infrastructure can contribute to the weakening of financial systems and markets or make it difficult to improve them. A well developed public infrastructure needs to comprise the following elements:

(1) a system of business laws, including corporate, bankruptcy, contract, consumer protection and private property laws, which is consistently enforced and provides a mechanism for the fair resolution of disputes;

(2) an efficient and independent judiciary;

(3) comprehensive and well defined accounting principles and rules that are widely accepted internationally;

(4) a system of independent external audits to ensure that users of financial statements, including banks, have independent assurance that the accounts provide a true and fair view of the financial position of the company and that they are prepared according to established accounting principles, with auditors held accountable for their work;

(5) availability of competent, independent and experienced professionals (eg accountants, auditors, lawyers and valuers), whose work complies with transparent technical and ethical standards set and enforced by official or professional bodies consistent with international standards, and who are subject to appropriate oversight;

(6) well defined rules governing, and adequate supervision of, other financial markets and, where appropriate, their participants;

(7) secure, efficient and well regulated payment and clearing systems (including central counterparties) for the settlement of financial transactions with counterparty risks effectively controlled and managed;

(8) efficient and effective credit bureaus that make credit information available on borrowers and/or databases that assist in the assessment of risks; and

(9) public availability of basic economic, financial and social statistics.

30.6 Effective crisis management frameworks and resolution regimes help to minimise potential disruptions to financial stability arising from banks and financial institutions that are in distress or failing. A sound institutional framework for crisis management and resolution requires a clear mandate and an effective legal basis for each relevant authority (such as banking supervisors, national resolution authorities, finance ministries and central banks). The relevant authorities should have a broad range of powers and appropriate tools set out in law to resolve a financial institution that is no longer viable and that has no reasonable prospect of becoming viable. There should also be agreement among the relevant authorities on their individual and joint responsibilities for crisis management and resolution, and how they will discharge these responsibilities in a coordinated manner. This should include the ability to share confidential information with each other to facilitate planning in advance to handle recovery and resolution situations and to manage such events when they occur.

30.7 Deciding on the appropriate level of systemic protection is a policy question to be addressed by the relevant authorities, including the government and central bank, particularly where it may result in a commitment of public funds. Supervisors will have an important role to play because of their in-depth knowledge of the financial institutions involved. In handling systemic issues, it is necessary to address the risks to confidence in the financial system and of contagion to otherwise sound institutions while minimising the distortion to market signals and discipline. A key element of the framework for systemic protection is a system of deposit insurance. Provided that such a system is transparent and carefully designed, it can contribute to public confidence in the system and thus limit contagion from banks in distress.

30.8 Effective market discipline depends in part on adequate flows of information to market participants, appropriate financial incentives to reward well managed institutions and arrangements that ensure that investors are not insulated from the consequences of their decisions. The issues to be addressed include corporate governance and ensuring that accurate, meaningful, transparent and timely information is provided by borrowers to investors and creditors. Market signals can be distorted and discipline undermined if governments seek to influence or override commercial decisions, particularly lending decisions, to achieve public policy objectives. In these circumstances, it is important that, if governments or their related entities provide or guarantee the lending, such arrangements are disclosed and there is a formal process for compensating financial institutions when such loans cease to perform.

BCP40

The Core Principles and assessment criteria

This chapter describes the criteria for assessing compliance with the Core Principles.

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Introduction

40.1 The Core Principles establish 29 principles that are needed for a supervisory system to be effective and can be categorised into two groups:

(1) Principles 1 to 13 focus on the powers, responsibilities and functions of supervisors;

(2) Principles 14 to 29 focus on prudential regulations and requirements for banks.

40.2 This chapter lists the assessment criteria for each of the 29 Core Principles under two separate headings: "essential criteria" and "additional criteria".

40.3 The individual assessment criteria are based on international standards and sound supervisory practices that are already established, even if they have not yet been fully implemented. Where appropriate, the documents on which the criteria are founded have been cited as "reference documents". These documents include more detailed explanations of supervisory expectations and practices. There is the expectation that guidelines issued by the Committee will be observed by Committee member jurisdictions.

Principle 1 - Responsibilities, objectives and powers

40.4 Principle 1:[1] An effective system of banking supervision has clear responsibilities and objectives for each authority involved in the supervision of banks and banking groups. A suitable legal framework for banking supervision is in place to provide each responsible authority with the necessary legal powers to authorise banks, conduct ongoing supervision, address compliance with laws and undertake timely corrective actions to address safety and soundness concerns.

Footnotes

[1] *Reference documents: BCBS, Sound Practices: implications of fintech developments for banks and bank supervisors, February 2018; BCBS, Report on the impact and accountability of banking supervision, July 2015; BCBS, Principles for the supervision of financial conglomerates, September 2012; SCO40.*

40.5 Essential criteria:

(1) The responsibilities and objectives of each of the authorities involved in banking supervision are clearly defined in legislation and publicly disclosed.

Where more than one authority is responsible for supervising the banking system, a credible and publicly available framework is in place to avoid regulatory and supervisory gaps.[2]

(2) The primary objective of banking supervision is to promote the safety and soundness of banks and the banking system. If the banking supervisor is assigned broader responsibilities, these are subordinate to the primary objective and do not conflict with it.

(3) Laws and regulations provide a framework for the supervisor to set and enforce minimum prudential standards for banks. The supervisor has the power to increase the prudential requirements for individual banks based on their risk profile and systemic importance.

(4) Banking laws, regulations and prudential standards are updated as necessary to ensure that they remain effective and relevant to changing industry and regulatory practices. These are subject to public consultation, as appropriate, and published in a timely manner.

(5) The supervisor has the power to:

(a) have full access[3] to a bank's board, management, staff and records (including records that are held by relevant service providers and can be accessed either directly or through the supervised bank);

(b) review the overall activities of a bank (including activities performed by relevant service providers), whether domestic or cross-border; and

(c) supervise the foreign activities of banks incorporated in its jurisdiction.

(6) When, in a supervisor's judgment, a bank is not complying with laws or regulations, or it is engaging or is likely to be engaging in unsafe or unsound practices or actions that have the potential to jeopardise the bank or the banking system, the supervisor has the power to:

(a) take (and/or require a bank to take) timely corrective action;

(b) impose a range of sanctions;

(c) revoke the bank's licence; and

(d) cooperate and collaborate with relevant authorities to achieve an orderly resolution of the bank, including triggering resolution where appropriate.

(7) The supervisor has the power to review the activities of parent companies and of companies affiliated with parent companies to determine their impact on the safety and soundness of the bank. The supervisor has access, whether directly or through the supervised bank, to all necessary information for conducting such a review irrespective of where it is available.

Footnotes

[2] *If countries have shared or transferred prudential tasks to a supranational supervisor, the roles and responsibilities that have been shared or transferred are clearly set out in law and publicly disclosed. Any residual powers or responsibilities that are retained must be publicly disclosed so that there is clarity on the division of responsibility.*

[3] *For this purpose, "access" includes supervisory access in person to the bank's premises, and to senior executive staff and the board (both individual members and as a whole) in person or virtually as needed.*

Principle 2 - Independence, accountability, resourcing and legal protection for supervisors

40.6 Principle 2:[4] The supervisor possesses operational independence, transparent processes, sound governance, budgetary processes that do not undermine autonomy, and adequate resources, and is accountable for the discharge of its duties and use of its resources. The legal framework for banking supervision includes legal protection for the supervisor.

Footnotes

[4] *Reference document: BCBS, Report on the impact and accountability of banking supervision, July 2015.*

40.7 Essential criteria:

(1) The operational independence, accountability and governance of the supervisor are prescribed in legislation and publicly disclosed. There is no government or industry interference that compromises the operational independence of the supervisor. The supervisor has full discretion to set prudential policy and take any supervisory actions or decisions on banks under its supervision.

(2) The process for the appointment and removal of the head(s) of the supervisory authority and members of its governing body is transparent. The head(s) of the supervisory authority is (are) appointed for a minimum term and is (are) removed from office during their term only for reasons specified in law or if they are not physically or mentally capable of carrying out the role or have been found guilty of misconduct. The reason(s) for removal is (are) publicly disclosed.

(3) The supervisor publishes its objectives and is accountable through a transparent framework for the discharge of its duties in relation to those objectives. The supervisor regularly communicates its supervisory priorities publicly.

(4) The supervisor has effective internal governance and communication processes that enable timely supervisory decisions to be taken at a level appropriate to the significance of the issue and expedited procedures in the case of an emergency. The allocation of responsibilities within the organisation as well as the delegation of authority for particular tasks or decisions are clearly defined. Supervisory processes include internal checks and balances to support effective decision-making and accountability. The governing body is structured to avoid any real or perceived conflicts of interest.

(5) The supervisor and its staff have credibility based on their professionalism and integrity. There are rules on how to avoid conflicts of interest and on the appropriate use of information obtained through work, with sanctions in place if these are not followed.

(6) The supervisor has adequate resources for the conduct of effective supervision and oversight. It is financed in a manner that does not undermine its autonomy or operational independence. This includes:

(a) a budget that provides for staff in sufficient numbers and with skills commensurate with the risk profile and systemic importance of the banks supervised;

(b) salary scales that allow it to attract and retain qualified staff;

(c) the ability to commission external experts with the necessary professional skills and independence to conduct supervisory tasks subject to the necessary confidentiality restrictions;

(d) a budget and programme for the regular training of staff;

(e) a technology budget sufficient to equip its staff with the tools needed to supervise the banking industry and assess individual banks; and

(f) a travel budget that allows appropriate on-site work, effective cross-border cooperation and participation in domestic and international meetings of significant relevance (eg supervisory colleges).

(7) As part of their annual resource planning exercise, supervisors regularly take stock of existing staff skills and projected requirements/needs over the short and medium term, considering relevant emerging risks and practices as well as supervisory developments. Supervisors review and implement measures to bridge any gaps in numbers and/or skillsets identified.

(8) In determining supervisory programmes and allocating resources, supervisors consider the risk profile and systemic importance of individual banks and the different risk mitigation approaches available.

(9) Laws provide protection to the supervisor and its staff against lawsuits for actions taken and/or omissions made while discharging their duties in good faith. The supervisor and its staff are adequately protected against the costs of defending their actions and/or omissions made while discharging their duties in good faith.[5]

Footnotes

[5] *The term "supervisor and its staff" is to be understood as covering the head of the authority, the governing body, employees and any professional service providers who carry out tasks for the supervisory authority. As the protection is provided in respect of actions taken and /or omissions made while discharging duties in good faith, it is not removed when the term of appointment, engagement or employment is ended.*

Principle 3 - Cooperation and collaboration

40.8 Principle 3: Laws, regulations or other arrangements provide a framework for cooperation and collaboration with relevant domestic authorities and foreign supervisors. These arrangements reflect the need to protect confidential information.[6]

Footnotes

[6] *Principle 3 is developed further in Principle 12 BCP40.27, Principle 13 BCP40.30 and Principle 29 BCP40.66.*

40.9 Essential criteria:

(1) Arrangements, whether formal or informal, are in place for cooperation, including analysis and sharing of information and undertaking collaborative work, with all domestic authorities with responsibility for the safety and soundness of banks, other financial institutions and/or the stability of the financial system. There is evidence that these arrangements work in practice, where necessary.

(2) Arrangements, whether formal or informal, are in place for the supervisor to coordinate, within its mandate, with relevant authorities with responsibility for macroprudential policy when undertaking actions related to monitoring, identifying and addressing systemic risks that have the potential to affect the stability of the banking system.

(3) Arrangements, whether formal or informal, are in place for cooperation, including analysis and sharing of information and undertaking collaborative work, with relevant foreign supervisors of banks. There is evidence that these arrangements work in practice, where necessary.

(4) The supervisor may provide confidential information to another domestic authority or foreign supervisor but must take reasonable steps to determine that any confidential information so released will be used only for bank-specific or system-wide supervisory purposes and will be treated as confidential by the receiving party.

(5) The supervisor receiving confidential information from other supervisors uses the confidential information for bank-specific or system-wide supervisory purposes only. The supervisor does not disclose to third parties confidential information received without the permission of the supervisor providing the information and is able to deny any demand (other than a court order or mandate from a legislative body) to disclose confidential information in its possession. If the supervisor is legally compelled to disclose confidential information it has received from another supervisor, it promptly notifies the originating supervisor, indicating what information it is compelled to release and the circumstances surrounding the release. Where consent to passing on confidential information is not given, the supervisor uses all reasonable means to resist such a demand or protect the confidentiality of the information.

(6) Processes are in place for the supervisor to support resolution authorities (eg central banks and finance ministries as appropriate) undertaking recovery and resolution planning and actions.

Principle 4 - Permissible activities

40.10 Principle 4: The permissible activities of institutions that are licensed and subject to supervision as banks are clearly defined, and the use of the word "bank" in names is controlled.

40.11 Essential criteria:

(1) The term "bank" is clearly defined in laws or regulations.

(2) The permissible activities of institutions that are licensed and subject to supervision as banks are clearly defined either by supervisors, or in laws or regulations.

(3) The use of the word "bank" and any derivations, such as "banking", in a name, including domain names, is limited to licensed and supervised institutions in all circumstances where the general public might otherwise be misled.

(4) The taking of deposits from the public is reserved for institutions that are licensed and subject to supervision as banks.[7]

(5) The supervisor or licensing authority publishes or otherwise makes available a current list of licensed banks, including branches of foreign banks, operating within its jurisdiction in a way that is easily accessible to the public.

Footnotes

[7] *The Committee recognises the existence of non-bank financial institutions that take deposits but may be regulated differently from banks. These institutions should be subject to a form of regulation commensurate to the type and size of their business and, collectively, should not hold a significant proportion of deposits in the financial system.*

Principle 5 - Licensing criteria

40.12 Principle 5:[8] The licensing authority has the power to set criteria for licensing banks and to reject applications where the criteria are not met. At a minimum, the licensing process consists of an assessment of the ownership structure and governance (including the fitness and propriety of board members and senior management) of the bank and its wider group, its strategic and operating plan, internal controls, risk management and projected financial condition (including capital base). Where the proposed owner or parent organisation is a foreign bank, the prior consent of its home supervisor is obtained.

Footnotes

[8] *Reference documents: BCBS, Corporate governance principles for banks , July 2015; BCBS, Shell banks and booking offices, January 2003.*

40.13 Essential criteria:

(1) The law identifies the authority responsible for granting and withdrawing a banking licence. The licensing authority could be the banking supervisor or another competent authority. If the licensing authority and the supervisor are not the same, the supervisor has the right to have its views on each application considered and its concerns addressed. In addition, the licensing authority provides the supervisor with any information that may be material to the supervision of the licensed bank. The supervisor imposes prudential conditions or limitations on the newly licensed bank, where appropriate.

(2) Laws or regulations give the licensing authority the power to set criteria for licensing banks. If the criteria are not fulfilled or if the information provided is inadequate, the licensing authority has the power to reject an application. If the licensing authority or supervisor determines that the licence was based on false information, the licence can be revoked.

(3) The licensing authority determines that the proposed legal, managerial, operational and ownership structures of the bank and its wider group will not hinder effective:

(a) supervision on both a solo and a consolidated basis; and

(b) implementation of corrective measures in the future.

Shell banks must not be licensed.

(4) The licensing authority identifies and determines the suitability of the bank's major shareholders[9] (including the beneficial owners) and others that may exert significant influence. It also assesses the transparency of the ownership structure, the sources of initial capital and the ability of shareholders to provide additional financial support, where needed.

(5) A minimum initial capital amount is stipulated for all banks.

(6) At authorisation, the licensing authority evaluates the bank's proposed board members and senior management in terms of their expertise and integrity, availability and time commitment to assume the responsibility, and any potential for conflicts of interest (fit and proper test). The fit and proper criteria include: skills and experience in relevant financial operations commensurate with the intended activities of the bank; and no record of criminal activities or adverse regulatory judgments that make a person unfit to hold important positions in a bank.[10] The licensing authority determines whether the bank's board has collective sound knowledge of the material activities the bank intends to pursue, and the associated risks. The supervisor reassesses the suitability of board members in case of significant events (eg change of control or major acquisition) or upon receipt of information that impacts their fitness and propriety.

(7) The licensing authority reviews the proposed strategic and operating plans of the bank. This includes determining that an appropriate system of corporate governance, risk management and internal controls, including those related to the detection and prevention of criminal activities[11] as well as the oversight of proposed outsourced functions, will be in place. The operational structure is required to reflect the scope and degree of sophistication of the proposed activities of the bank.

(8) The licensing authority reviews pro forma financial statements and projections of the proposed bank. This includes an assessment of the adequacy of the financial strength to support the proposed strategic plan as well as financial information on the principal shareholders of the bank.

(9) In the case of foreign banks establishing a branch or subsidiary, before issuing a licence, the host supervisor establishes that no objection (or a statement of no objection) from the home supervisor has been received. For cross-border banking operations in its country, the host supervisor determines whether the home supervisor practises global consolidated supervision and uses this information to inform its approach to licensing and supervision.

(10) The licensing authority or supervisor has policies and processes to monitor the progress of new entrants in meeting their business and strategic goals, and to determine that the supervisory requirements outlined in the licence approval are being met.

(11) The criteria for issuing licences are consistent with those applied in ongoing supervision. The supervisor determines that banks continue to comply with the applicable criteria once they are licensed.

Footnotes

[9] *This includes corporate owners of banks, for those countries which allow corporate ownership of banks.*

[10] *Refer to Principle 14 BCP40.32.*

[11] *Refer to Principle 29 BCP40.66.*

Principle 6 - Transfer of significant ownership

40.14 Principle 6:[12] The supervisor[13] has the power to review, reject and impose prudential conditions on any proposals to transfer significant ownership or controlling interests held directly or indirectly in existing banks to other parties.

Footnotes

[12] *Reference documents: BCBS, Parallel-owned banking structures, January 2003; BCBS, Shell banks and booking offices, January 2003.*

[13] *While the term "supervisor" is used throughout Principle 6, the Committee recognises that in a few countries these issues might be addressed by a separate licensing authority.*

40.15 Essential criteria:

(1) Laws or regulations contain clear definitions of "significant ownership" and "controlling interest".

(2) There are requirements to obtain supervisory approval or provide immediate notification with respect to proposed changes that would result in a change in ownership (including beneficial ownership), to the exercise of voting rights over a particular threshold or to a change in controlling interest.

(3) The supervisor has the power to reject any proposal for a change in significant ownership (including beneficial ownership) or controlling interest, or prevent the exercise of voting rights in respect of such investments to ensure that any change in significant ownership meets criteria comparable with those used for licensing banks. If the supervisor determines that the change in significant ownership was based on false information, the supervisor has the power to reject, modify or reverse the change in significant ownership.

(4) The supervisor obtains from banks, through periodic reporting or on-site examinations, the names and holdings of all significant shareholders or those that exert controlling influence, including the identities of beneficial owners of shares being held by nominees, custodians and through vehicles that might be used to disguise ownership.

(5) The supervisor has the power to take appropriate action to modify, reverse or otherwise address a change of control that has taken place without the necessary notification to, or approval from, the supervisor.

(6) Laws, regulations or the supervisor require banks to notify the supervisor as soon as they become aware of any material information which may negatively affect the suitability of a major shareholder or a party that has a controlling interest.

Principle 7 - Major acquisitions

40.16 Principle 7: The supervisor has the power to: (i) approve or reject (or recommend to the responsible authority the approval or rejection of) and impose prudential conditions on major acquisitions or investments by a bank (including the establishment of cross-border operations), against prescribed criteria; and (ii) determine that corporate affiliations or structures do not expose the bank to undue risks or hinder effective supervision.

40.17 Essential criteria:

(1) Laws or regulations clearly define:

(a) what types and amounts (absolute and/or in relation to a bank's capital) of acquisitions and investments need prior supervisory approval; and

(b) cases for which notification after the acquisition or investment is sufficient. Such cases are primarily activities closely related to banking and where the investment is small relative to the bank's capital.

(2) Laws or regulations provide criteria by which to judge individual bank proposals for acquisitions and investments.

(3) The supervisor determines that any new acquisitions and investments will not expose the bank to undue risks or hinder effective supervision, and (where appropriate) that they will not hinder effective implementation of corrective measures in the future.[14] The supervisor can prohibit banks from making major acquisitions/investments (including the establishment of cross-border banking operations) in countries with laws or regulations prohibiting information flows deemed necessary for adequate consolidated supervision. In making this assessment, the supervisor considers the effectiveness of supervision in the host country and its own ability to exercise supervision on a consolidated basis.

(4) The supervisor determines that the bank has, from the outset, adequate financial, managerial and organisational resources to manage the acquisition /investment.

(5) The supervisor is aware of the risks that non-banking activities can pose to a bank and has the means to take action to mitigate those risks. The supervisor considers the ability of the bank to manage these risks prior to permitting investment in non-banking activities.

(6) The supervisor reviews major acquisitions or investments by other entities in the banking group to determine that these do not expose the bank to any undue risks or hinder effective supervision. The supervisor also determines, where appropriate, that these new acquisitions and investments will not hinder effective implementation of corrective measures in the future. Where necessary, the supervisor is able to effectively address the risks to the bank arising from such acquisitions or investments.

Footnotes

[14] *The supervisor may consider whether the acquisition or investment creates obstacles to the orderly resolution of the bank.*

Principle 8 - Supervisory approach

40.18 Principle 8:[15] An effective system of banking supervision requires the supervisor to develop and maintain a forward-looking assessment of the risk profile of individual banks, proportionate to their systemic importance; identify, assess and address risks emanating from banks and the banking system as a whole; have a framework in place for early intervention; and have plans in place, in partnership with other relevant authorities, to take action to resolve banks in an orderly manner if they become non-viable.

Footnotes

[15] *Reference documents: BCBS, High-level considerations on proportionality, July 2022; BCBS, Principles for the effective management and supervision of climate-related financial risks, June 2022; BCBS, Frameworks for early supervisory intervention, March 2018; BCBS, Sound Practices: implications of fintech developments for banks and bank supervisors, February 2018; BCBS, Guidelines for identifying and dealing with weak banks, July 2015; SRP10, SRP20, SCO50.*

40.19 Essential criteria:

(1) The supervisor uses a well defined methodology and processes to determine and assess on an ongoing basis the nature, impact and scope of the risks which banks:

(a) are exposed to; and

(b) present to the safety and soundness of the banking system (including implications for and interlinkages with financial system stability).

The methodology and processes address (among other things): banks' group structure (including risks posed by entities in the wider group); risks around banks' business models, including business model sustainability;[16] banks' risk profile with a forward-looking view;[17] their internal control environment; and their resolvability. The methodology permits relevant comparisons between banks, and the nature, frequency and intensity of supervision reflect the outcome of this analysis.

(2) The supervisor, in conjunction with relevant authorities where appropriate, uses a process to assess and identify which banks are systemically important in a domestic context. Supervisors publicly disclose information that provides an outline of the process employed to assess and determine systemic importance. The supervisor conducts these assessments sufficiently regularly to ensure they reflect the current state of the domestic financial system.

(3) The supervisor assesses banks' compliance with prudential regulations and other legal requirements.

(4) The supervisor considers the macroeconomic environment, climate-related financial risks and emerging risks in its risk assessment of banks. The supervisor also considers cross-sectoral developments, for example in non-bank financial institutions, through frequent contact with their regulators.

(5) The supervisor, in conjunction with other relevant authorities, identifies, monitors and assesses:

(a) the build-up and transmission of risks, trends and concentrations within and across the banking system as a whole;

(b) any emerging or system-wide risks which could impact banks and the banking system as a whole; and

(c) common behaviours by banks (eg procyclical actions), interlinkages and interconnections that may adversely affect the stability of the banking system, including implications for financial system stability.

The supervisor incorporates this analysis into its assessment of banks and addresses proactively any serious threat to the stability of the banking system. The supervisor communicates any significant trends or emerging risks to other relevant authorities with responsibilities for financial system stability.

(6) Drawing on information provided by the bank and other domestic authorities, the supervisor, in conjunction with the resolution authority, assesses the bank's resolvability (where appropriate) having regard to the bank's risk profile and systemic importance. When bank-specific barriers to orderly resolution are identified, the supervisor requires banks to adopt appropriate measures, where necessary, such as changes to business strategies, managerial, operational and ownership structures, and internal procedures. Any such measures consider their effect on the soundness and stability of the bank's ongoing business.

(7) The supervisor has a clear framework or process (eg identification of risk and early intervention) for handling banks in the build-up to and during times of stress, such that any decisions to require or undertake recovery or resolution actions are made in a timely manner.

(8) Where the supervisor becomes aware of banks restructuring their activities to avoid the regulatory perimeter, the supervisor takes appropriate steps to address this. Where the supervisor becomes aware of bank-like activities being performed fully or partially outside the regulatory perimeter, the supervisor takes appropriate steps to draw the matter to the attention of the responsible authority to address regulatory arbitrage.

Footnotes

[16] *The ultimate responsibility for designing and implementing sustainable business strategies lies with a bank's board.*

[17] *The time horizon for establishing a forward-looking view should appropriately reflect climate-related financial risks and emerging risks as needed.*

Principle 9 - Supervisory techniques and tools

40.20 Principle 9:[18] The supervisor uses an appropriate range of techniques and tools to implement the supervisory approach and deploys supervisory resources on a proportionate basis, considering the risk profile and systemic importance of banks.

Footnotes

[18] *Reference document: BCBS, High-level considerations on proportionality, July 2022.*

40.21 Essential criteria:

(1) The supervisor employs an appropriate mix of on-site and off-site supervision to evaluate the condition of banks, their risk profile, their internal control environment and the corrective measures necessary to address supervisory concerns. The specific mix between on-site and off-site supervision may be determined by the particular conditions and circumstances of the country and the bank. The supervisor regularly assesses the quality, effectiveness and integration of its on-site and off-site functions and amends its approach, as needed.

(2) The supervisor has a coherent process for planning and executing on-site and off-site activities. There are policies and processes to ensure that such activities are conducted on a thorough and consistent basis with clear responsibilities, objectives and outputs, and that there is effective coordination and information-sharing between the on-site and off-site functions.

(3) The supervisor uses a range of information to regularly review and assess the safety and soundness of banks and the stability of the banking system, the evaluation of material risks, and the identification of necessary corrective and supervisory actions. This includes information such as prudential reports, statistical returns, information on a bank's related entities and publicly available information. The information received on banks is used by supervisors to form a holistic view and understanding of their risk profile. The supervisor determines that information provided by banks is reliable[19] and obtains, as necessary, additional information on banks and their related entities.

(4) The supervisor uses a variety of tools to regularly review and assess the safety and soundness of banks and the stability of the banking system, including:

(a) analysis of financial statements and accounts;

(b) business model analysis;

(c) horizontal peer reviews;

(d) analysis of corporate governance, including risk management and internal control systems;

(e) reviews of the outcome of stress tests undertaken by the banks; and

(f) assessments of the adequacy of banks' capital and liquidity levels under adverse economic scenarios, which may include conducting supervisory stress tests on individual banks or on a system-wide basis.

The supervisor uses its analysis to determine follow-up work required, if any.

(5) Based on the information provided by banks and its own analysis, the supervisor communicates its findings to banks as appropriate and requires them to take action to mitigate any particular vulnerabilities that have the potential to affect their safety and soundness or the stability of the banking system (including implications for and interlinkages with financial system stability).

(6) The supervisor evaluates the work of the bank's internal audit function (including those that are outsourced or co-sourced) and determines whether, and to what extent, it may rely on the internal auditors' work to identify areas of potential risk.

(7) The supervisor engages sufficiently frequently with the bank's board, non-executive board members and senior and middle management (including heads of individual business units and control functions) to develop an understanding of and assess matters such as strategy, group structure, corporate governance, performance, capital adequacy, liquidity, asset quality, risk management systems and internal controls. Where necessary, the supervisor challenges the bank's board and senior management on the assumptions made in setting strategies and business models.

(8) The supervisor communicates to the bank the findings of its on- and off-site supervisory analyses in a timely manner by means of written reports or through discussions or meetings with the bank's management. The supervisor meets with the bank's senior management and the board to discuss the results of supervisory examinations and external audits, as appropriate. The supervisor also meets separately with the bank's independent board members and external auditor, as necessary.

(9) The supervisor undertakes appropriate and timely follow-up activities to check that banks have addressed supervisory concerns or implemented requirements communicated to them. This includes early escalation to the appropriate level of the supervisory authority and to the bank's board if action points are not addressed in an adequate or timely manner.

(10) The supervisor requires banks to notify it in advance of any substantive changes in their activities, structure and overall condition, or as soon as they become aware of any material adverse developments, including breaches of legal or prudential requirements.

(11) The supervisor may use independent third parties, including external experts, but it cannot outsource its prudential responsibilities to third parties. Where third parties are used, the supervisor:

(a) clearly defines and documents their roles and responsibilities, including the scope of work where they are appointed to conduct supervisory tasks;

(b) assesses their suitability for the designated task(s), the quality of their work and whether their output can be relied upon to the degree intended;

(c) ensures that they are subject to appropriate confidentiality restrictions;

(d) considers the biases that may influence them; and

(e) requires that they promptly bring to its attention any material shortcomings identified during the course of any work undertaken by them for supervisory purposes.

(12) The supervisor has an adequate information system which facilitates the processing, monitoring and analysis of prudential information. The system aids the identification of areas requiring follow-up action.

Footnotes

[19] *Refer to Principle 10 BCP40.23.*

40.22 Additional criterion:

(1) The supervisor has a framework for periodic independent reviews, for example by an internal audit function, internal risk function or third-party assessor, of the adequacy and effectiveness of the range of its available supervisory tools and the effectiveness of their use, and makes changes as appropriate. The supervisory approach should be reviewed at periodic intervals and improved as necessary to ensure it remains effective and fit for purpose.

Principle 10 - Supervisory reporting

40.23 Principle 10:[20] The supervisor collects, reviews and analyses prudential reports and statistical returns[21] from banks on both a solo and a consolidated basis, and independently verifies these reports through either on-site examinations or use of external experts.

Footnotes

[20] *Reference documents: BCBS, Principles for the effective management and supervision of climate-related financial risks, June 2022; BCBS, Sound Practices: implications of fintech developments for banks and bank supervisors, February 2018; BCBS, Principles for effective risk data aggregation and risk reporting, January 2013; BCBS, Principles for the supervision of financial conglomerates, September 2012.*

[21] *In the context of this principle, "prudential reports and statistical returns" are distinct from and required in addition to mandatory accounting reports. The former are addressed by this principle, and the latter are addressed in Principle 27 BCP40.61.*

40.24 Essential criteria:

(1) The supervisor has the power to require banks to submit information, on both a solo and a consolidated basis, on their financial condition, performance and risk exposures, on demand and at regular intervals. These reports provide information such as on- and off-balance sheet assets and liabilities, profit and loss, capital adequacy, liquidity, large exposures, risk concentrations (including by economic sector, geography and currency), asset quality, loan loss provisioning, related party transactions, interest rate risk, market risk and information that allows for the assessment of the materiality of climate-related financial risks and emerging risks to banks.

(2) The supervisor provides reporting instructions that clearly describe the standards to be used in preparing supervisory reports. Such standards are based on accounting principles and rules that are widely accepted internationally.

(3) The supervisor requires banks to have sound governance structures and control processes for methodologies that produce valuations. The measurement of fair values maximises the use of relevant and reliable inputs which are consistently applied for risk management and reporting purposes. The valuation framework and control procedures are subject to adequate independent validation and verification, either internally or by an external expert. The supervisor assesses whether the valuation used for regulatory purposes is reliable and prudent. Where the supervisor determines that valuations are not sufficiently prudent, the supervisor requires the bank to adjust its reporting for capital adequacy or regulatory reporting purposes.

(4) The supervisor collects and analyses information from banks at a frequency commensurate with the nature of the information requested and the risk profile and systemic importance of the bank.

(5) To make meaningful comparisons between banks, the supervisor collects data from all banks and all relevant entities covered by consolidated supervision on a comparable basis and for the same dates (stock data) and periods (flow data).

(6) The supervisor has the power to request and receive any relevant information from banks, as well as any entities in the wider group, irrespective of their activities, where the supervisor believes that it is:

(a) material to the condition of the bank;

(b) material to the assessment of the risks of the bank; or

(c) needed to support resolution planning.

This includes, but is not limited to, internal management information, corporate governance information, transactions with the wider group (eg any non-bank entities) and related party transactions.

(7) The supervisor has a means of enforcing compliance with the requirement that the information be submitted on a timely and accurate basis. The supervisor determines the appropriate level of the bank's senior management that is responsible for the accuracy of supervisory returns, imposes sanctions for misreporting and persistent errors, and requires that inaccurate information be amended.

(8) The supervisor utilises policies and procedures to determine the validity and integrity of supervisory information. This includes a programme for the periodic verification of supervisory returns either by the supervisor's own staff or by external experts.

(9) The supervisor has a process in place to periodically review the information collected to determine that it satisfies a supervisory need.

Principle 11 - Corrective and sanctioning powers of supervisors

40.25 Principle 11:[22] The supervisor acts at an early stage to address unsafe and unsound practices or activities that could pose risks to banks or to the banking system. The supervisor has at its disposal an adequate range of supervisory tools, that it can apply at its discretion, to bring about timely corrective actions. This includes the ability to revoke the banking licence or to recommend its revocation.

Footnotes

[22] *Reference document: BCBS, Parallel-owned banking structures, January 2003.*

40.26 Essential criteria:

(1) The supervisor raises supervisory concerns with the bank's management or, where appropriate, the bank's board, at an early stage, and requires that these concerns be addressed in a timely manner. Where the supervisor requires the bank to take significant corrective actions, these are addressed in a written document to the bank's board. The supervisor requires the bank to submit regular written progress reports, and it checks that corrective actions are completed satisfactorily. The supervisor follows through conclusively and in a timely manner on matters that are identified.

(2) The supervisor uses an appropriate range of supervisory tools[23] in a timely manner when, in the supervisor's judgment, a bank is not complying with laws, regulations or supervisory actions, is engaged in unsafe or unsound practices or in activities that could pose risks to the bank or the banking system, or when the interests of depositors are otherwise threatened.

(3) The supervisor uses its powers to act where a bank falls below established regulatory threshold requirements, including prescribed regulatory ratios or measurements. The supervisor intervenes at an early stage to require a bank to take action to prevent it from breaching its regulatory threshold requirements. Laws or regulations guard against the supervisor unduly delaying appropriate corrective actions, without limiting the supervisor's discretion to act.

(4) The supervisor uses a broad range of possible measures to address, at an early stage, such scenarios as described in BCP40.26(2) above. These measures include the ability to impose sanctions expeditiously or require a bank to take timely corrective action. In practice, the range of measures is applied in accordance with the gravity of a situation. The supervisor provides clear prudential objectives or sets out the actions to be taken, which may include restricting the current activities of the bank, imposing more stringent prudential limits and requirements, withholding approval of new activities or acquisitions, restricting or suspending payments to shareholders or share repurchases, restricting asset transfers, barring individuals from the banking sector, replacing or restricting the powers of managers, board members or controlling owners, facilitating a takeover by or merger with a healthier institution, providing for the interim management of the bank, and revoking or recommending the revocation of the banking licence.

(5) The supervisor applies sanctions not only to the bank but, when and if necessary, also to management and/or the board, or relevant individuals. The supervisor has the power to apply corrective measures and sanctioning measures simultaneously, including financial penalties.

(6) The supervisor exercises its power to take corrective actions, including ring-fencing the bank from the actions of parent companies, subsidiaries, parallel-owned banking structures and other related entities in matters that could impair the safety and soundness of the bank or the banking system.

(7) Laws, regulations or the supervisor establish a clear policy on whether imposed sanctions are made a matter of public knowledge and, in that case, what to disclose and when. The decision to publish sanctions or corrective measures applied to banks and individuals (eg senior managers, board members, directors, officers and other employees) may be subject to confidentiality considerations and it must not jeopardise other supervisory objectives or prejudice another case pending before the supervisor. While transparency of enforcement measures is encouraged, the decision to disclose sanctions can be made on a case by case basis, depending on their seriousness and the frequency of their occurrence, among other considerations.

(8) The supervisor cooperates and collaborates with relevant authorities in deciding when and how to effect the orderly resolution of a problem bank (which could include closure, assisting in restructuring, or merger with a stronger institution).

(9) Where appropriate, when taking formal corrective action in relation to a bank, the supervisor informs the supervisor of related non-bank financial entities of its actions and coordinates its actions with them.

Footnotes

[23] *Refer to Principle 1, essential criterion 1 BCP40.5.*

Principle 12 - Consolidated supervision

40.27 Principle 12:[24] The supervisor supervises the banking group on a consolidated basis, adequately monitoring and, as appropriate, applying prudential standards to all aspects of the business conducted by the banking group worldwide.

Footnotes

[24] *Reference documents: BCBS, Principles for the supervision of financial conglomerates, September 2012; BCBS, Home-host information sharing for effective Basel II implementation, June 2006; BCBS, The supervision of cross-border banking, October 1996; BCBS, Principles for the supervision of banks' foreign establishments, May 1983; BCBS, Consolidated supervision of banks' international activities, March 1979; SCO10.*

40.28 Essential criteria:

(1) The supervisor understands the overall structure of the banking group and is familiar with all the material activities (including non-banking activities) conducted by entities in the wider group, whether domestic or cross-border. The supervisor understands and assesses how group-wide risks are managed and takes action when risks arising from the banking group and other entities in the wider group, in particular contagion and reputational risks, may jeopardise the safety and soundness of the bank and the banking system.

(2) The supervisor imposes prudential standards and collects and analyses financial and other information on a consolidated basis for the banking group, covering areas such as capital adequacy, liquidity, large exposures, exposures to related parties, lending limits and group structure.

(3) The supervisor reviews whether the oversight of a bank's foreign operations by management (of the parent bank or head office and, where relevant, the holding company) is adequate having regard to their risk profile and systemic importance. The supervisor determines that parent banks have unimpeded access to all material information from their foreign branches and subsidiaries. The supervisor also determines that banks' policies and processes require the local management of any cross-border operations to have the necessary expertise to manage those operations in a safe and sound manner, and in compliance with supervisory and regulatory requirements. The home supervisor considers the effectiveness of supervision conducted in the host countries in which its banks have material operations.

(4) The home supervisor visits the foreign offices of the bank periodically. The location and frequency of these visits are determined by the risk profile and systemic importance of the bank's foreign operations. The supervisor meets the host supervisors during these visits. The supervisor has a policy for assessing whether it needs to conduct on-site examinations of a bank's foreign operations or require additional reporting, and it has the power and resources to take those actions as and when appropriate.

(5) The supervisor reviews the main activities of parent companies and of companies affiliated with the parent companies that have a material impact on the safety and soundness of the bank and takes appropriate supervisory action.

(6) The supervisor limits the range of activities the consolidated group may conduct and the locations in which activities can be conducted (including the closing of foreign offices) if it determines that:

(a) the safety and soundness of the bank is compromised because the activities expose it to excessive risk and/or are not properly managed;

(b) the supervision by other domestic authorities is not adequate relative to the risks the activities present; and/or

(c) the exercise of effective supervision on a consolidated basis is hindered.

(7) In addition to supervising on a consolidated basis, the responsible supervisor supervises individual banks in the group. The responsible supervisor supervises each bank on a solo basis and understands its relationship with other members of the group.[25]

Footnotes

[25] *Refer to Principle 16, additional criterion 2 BCP40.38.*

40.29 Additional criterion:

(1) For countries which allow corporate ownership of banks, the supervisor has the power to establish and enforce fit and proper standards for senior management of parent companies.

Principle 13 - Home-host relationships

40.30 Principle 13:[26] Home and host supervisors of cross-border banking groups share information and cooperate for effective supervision of the group and group entities, and effective handling of crisis situations. Supervisors require the local operations of foreign banks to be conducted to the same standards as those required of domestic banks.

Footnotes

[26] *Reference documents: Financial Stability Board (FSB), Key attributes of effective resolution regimes for financial institutions, October 2014; BCBS, Principles for effective supervisory colleges, June 2014; BCBS, Home-host information sharing for effective Basel II implementation, June 2006; BCBS, High-level principles for the cross-border implementation of the New Accord, August 2003; BCBS, Shell banks and booking offices, January 2003; BCBS, The supervision of cross-border banking, October 1996; BCBS, Information flows between banking supervisory authorities, April 1990; BCBS, Principles for the supervision of banks' foreign establishments, May 1983.*

40.31 Essential criteria:

(1) The home supervisor establishes bank-specific supervisory colleges for banking groups with material cross-border operations to enhance its effective oversight, considering the risk profile and systemic importance of the banking group and the corresponding needs of its supervisors. In its broadest sense, the host supervisor which has a relevant subsidiary or a significant branch in its jurisdiction and a shared interest in the effective supervisory oversight of the banking group is included in the college. The structure of the college reflects: (i) the nature of the banking group, including its scale, structure and complexity, and its significance in host jurisdictions; and (ii) the opportunity to enhance mutual trust and meet the needs and responsibilities of both home and host supervisors.

(2) Home and host supervisors share appropriate information on a timely basis in line with their respective roles and responsibilities, both bilaterally and through colleges. This includes information on:

(a) the material risks (including those arising from the respective macroeconomic environments) and risk management practices of the banking group; and

(b) the supervisors' assessments of the safety and soundness of the relevant entity under their jurisdiction.

Informal or formal arrangements (such as memoranda of understanding and confidentiality agreements) are in place to enable the timely exchange of confidential information.

(3) Home and host supervisors coordinate and plan supervisory activities or undertake collaborative work if common areas of interest are identified to improve the effectiveness and efficiency of supervision of cross-border banking groups.

(4) The home supervisor develops an agreed communication strategy with the relevant host supervisors. The scope and nature of the strategy reflects the risk profile and systemic importance of the cross-border operations of the banking group. Home and host supervisors also agree on the communication of views and outcomes of joint activities and college meetings to banks, where appropriate, to ensure the consistency of messages on group-wide issues.

(5) Where appropriate, given the banking group's risk profile and systemic importance, the home supervisor, working with its national resolution authorities, develops a framework for cross-border crisis cooperation and coordination among the relevant home and host authorities. The relevant authorities share information on crisis preparations from an early stage, subject to rules on confidentiality, in a way that does not materially compromise the prospect of a successful resolution.

(6) Where appropriate, given the banking group's risk profile and systemic importance, the home supervisor, working with its national resolution authorities and relevant host authorities, develops a group resolution plan. The relevant authorities share any information necessary for the development and maintenance of a credible resolution plan. Supervisors also notify and consult relevant authorities and supervisors (both home and host) promptly when taking any recovery and resolution measures.

(7) The host supervisor's national laws or regulations require that the cross-border operations of foreign banks are subject to prudential, inspection and regulatory reporting requirements similar to those for domestic banks.

(8) The home supervisor is given on-site access to local offices and subsidiaries of a banking group to facilitate its assessment of the group's safety and soundness and compliance with customer due diligence requirements. The home supervisor informs host supervisors of intended visits to local offices and subsidiaries of banking groups.

(9) The host supervisor supervises booking offices in a manner consistent with internationally agreed standards. The supervisor does not permit shell banks or the continued operation of shell banks.

(10) A supervisor that takes action based on information received from, or that is consequential for the work of, another supervisor consults that supervisor, to the extent possible, before taking such action.

Principle 14 - Corporate governance

40.32 Principle 14:[27] The supervisor determines that banks have robust corporate governance policies and processes covering, for example, corporate culture and values, strategic direction and oversight, group and organisational structure, the control environment, the suitability assessment process, the responsibilities of the banks' boards and senior management, and compensation practices. These policies and processes are commensurate with the risk profile and systemic importance of the bank.

Footnotes

[27] *Reference documents: BCBS, High-level considerations on proportionality, July 2022; FSB, Strengthening governance frameworks to mitigate misconduct risk: a toolkit for firms and supervisors, April 2018; FSB, Supplementary Guidance to the FSB Principles and Standards on Sound Compensation Practices, March 2018; BCBS, Corporate governance principles for banks, July 2015; FSB, Guidance on supervisory interaction with financial institutions on risk culture: a framework for assessing risk culture, April 2014; FSB, Principles for Sound Compensation Practices, April 2009.*

40.33 Essential criteria:

(1) Laws, regulations or the supervisor establish the responsibilities of a bank's board and senior management with respect to corporate governance to ensure there is effective control over the bank's entire business. The supervisor provides guidance to banks on expectations for sound corporate governance.

(2) The supervisor regularly conducts comprehensive evaluations of a bank's corporate governance policies and practices, and their implementation, and determines that the bank has robust corporate governance policies and processes commensurate with its risk profile and systemic importance. The supervisor requires banks to correct deficiencies in a timely manner.

(3) The supervisor determines that board membership comprises individuals with a balance of skills, diversity and expertise, who collectively possess the necessary qualifications commensurate with the size, complexity and risk profile of the bank. Board membership includes a sufficient number of experienced independent directors.[28] Board members are qualified (individually and collectively) for their positions, effective and exercise their "duty of care" and "duty of loyalty".[29]

(4) The supervisor determines that governance structures and processes for nominating and appointing board members are appropriate for the bank. Boards regularly assess the performance of the board as a whole, its committees and individual board members (including their ongoing suitability). Board membership is regularly renewed to refresh skills and independence. Commensurate with the bank's risk profile and systemic importance, board structures include audit, risk, compensation and other board committees with experienced, independent directors.

(5) The supervisor determines that the bank's board approves and oversees implementation of the bank's strategic direction, risk appetite and strategy, and related policies, establishes and communicates corporate culture and values (eg through a code of conduct),[30] and establishes conflicts of interest policies and a strong control environment.

(6) The supervisor determines that the bank's board, except where required otherwise by laws or regulations:

(a) has established fit and proper standards in selecting senior management and heads of the control functions;

(b) has developed effective processes to allocate authority, responsibility and accountability within the bank;

(c) maintains plans for succession; and

(d) actively and critically oversees senior management's execution of board strategies, including monitoring the performance of senior management and heads of the control functions against the standards established for them.

(7) The supervisor determines that the bank's board actively oversees the design and operation of the bank's compensation system and that it has appropriate incentives, which are aligned with prudent risk-taking and effective in addressing misconduct that potentially results in losses. The compensation system and related performance standards, policies and procedures are non-discriminatory and consistent with the long-term objectives and financial soundness of the bank and are rectified if there are deficiencies.

(8) The supervisor determines that the bank's board and senior management know and understand the bank's operational structure and its risks, including those arising from the use of structures that impede transparency (eg special purpose or related structures). The supervisor determines that risks are effectively managed and mitigated, where appropriate.

(9) Laws, regulations or the supervisor require banks to notify the supervisor or publicly disclose as soon as they become aware of any material and bona fide information that may negatively affect the fitness and propriety of a bank's board member or a member of the senior management.

(10) The supervisor has the power to require changes in the composition of the bank's board if it believes that any individuals are not fulfilling their duties related to the satisfaction of these criteria.

Footnotes

[28] *Independent director refers to a non-executive member of the board who does not have any management responsibilities within the bank and is not under any other undue influence, internal or external, political or ownership, that would impede the board member's exercise of objective judgment.*

[29] *The Committee defines: (i) "duty of care" as the duty of board members to decide and act on an informed and prudent basis with respect to the bank. This is often interpreted as requiring board members to approach the affairs of the company the same way that a "prudent person" would approach his or her own affairs; and (ii) "duty of loyalty" as the duty of board members to act in good faith in the interest of the company. The duty of loyalty should prevent individual board members from acting in their own interest, or the interest of another individual or group, at the expense of the company and shareholders.*

[30] *This includes whistleblowing policies and procedures that protect employees from reprisals or other detrimental treatment.*

Principle 15 - Risk management process

40.34 Principle 15:[31] The supervisor determines that banks have a comprehensive risk management process (including effective board and senior management oversight) to identify, measure, evaluate, monitor, report and control or mitigate all material risks[32] (which can include risks related to digitalisation, climate-related financial risks and emerging risks) on a timely basis and to assess the adequacy of their capital, their liquidity and the sustainability of their business models in relation to their risk profile and market and macroeconomic conditions. This extends to the development and review of contingency arrangements (including robust and credible recovery plans where warranted) that consider the specific circumstances of the bank. The risk management process is commensurate with the risk profile and systemic importance of the bank.[33]

Footnotes

[31] *Reference documents: BCBS, High-level considerations on proportionality, July 2022; BCBS, Principles for the effective management and supervision of climate-related financial risks, June 2022; BCBS, Stress testing principles, October 2018; BCBS, Sound Practices: implications of fintech developments for banks and bank supervisors, February 2018; BCBS, Identification and management of step-in risk, October 2017; BCBS, Corporate governance principles for banks, July 2015; BCBS, Supervisory guidance for managing risks associated with the settlement of foreign exchange transactions, February 2013; BCBS, Principles for effective risk data aggregation and risk reporting, January 2013; BCBS, Principles for the supervision of financial conglomerates, September 2012; FSB, Guidance on supervisory interaction with financial institutions on risk culture: a framework for assessing risk culture, April 2014.*

[32] *To some extent, the precise requirements may vary from risk type to risk type (Principles 15 to 25) as reflected by the underlying reference documents.*

[33] *While in this and other principles the supervisor is required to determine that banks' risk management policies and processes are being adhered to, the responsibility for ensuring adherence remains with a bank's board and senior management.*

40.35 Essential criteria:

(1) The supervisor determines that banks have appropriate risk management strategies that have been approved by the bank's board, and that the board establishes an effective risk appetite statement and framework to define the level of risk the bank is willing to assume or tolerate. The supervisor also determines that the board ensures that:

(a) a sound risk culture is established throughout the bank, to promote the development and execution of its strategy;

(b) policies and processes are developed for risk-taking that are consistent with the risk management strategy and the established risk appetite;

(c) uncertainties attached to risk measurement are recognised;

(d) appropriate limits are established that are consistent with the bank's risk appetite, risk profile, capital strength and liquidity needs. These limits are understood by, and regularly communicated to, relevant staff; and

(e) senior managers take the steps necessary to monitor and control all material risks consistent with the approved strategies and risk appetite.

(2) The supervisor requires banks to have comprehensive risk management policies and processes to identify, measure, evaluate, monitor, report and control or mitigate all material risks.[34] The supervisor determines that these processes are adequate:

(a) to provide a comprehensive bank-wide view of risk across all material risk types;

(b) for the risk profile and systemic importance of the bank;

(c) to assess risks arising from the macroeconomic environment affecting the markets in which the bank operates and to incorporate such assessments into the bank's risk management process; and

(d) to assess risks that could materialise over longer time horizons (including risks related to digitalisation, climate-related financial risks and emerging risks). Where appropriate, banks use scenario analysis as a tool.

(3) The supervisor determines that risk management strategies, policies, processes and limits are properly documented and aligned with the bank's risk appetite statement and framework; regularly reviewed and appropriately adjusted to reflect changing risk appetites, risk profiles and market and macroeconomic conditions; and communicated within the bank. The

supervisor determines that adequate procedures are in place for breaches of risk limits and significant deviations from established policies, ensuring they receive prompt attention and authorisation from the appropriate level of management and the bank's board (where necessary) and are adequately followed up with proportionate and timely remedial action.

(4) The supervisor determines that the bank's board and senior management obtain sufficient information on and understand the nature and level of risk being taken by the bank and how this risk relates to adequate levels of capital and liquidity. The supervisor also determines that the board and senior management regularly review and understand the implications and limitations (including the risk measurement uncertainties) of the risk management information that they receive.

(5) The supervisor determines that banks have an appropriate internal process for assessing their overall capital and liquidity adequacy and the sustainability of their business models in relation to their risk appetite, risk profile[35] and forward-looking business strategies. The supervisor reviews and evaluates banks' internal capital and liquidity adequacy assessments and strategies.

(6) Where banks use models to measure components of risk, the supervisor determines that the following conditions are met:

(a) banks comply with supervisory standards on the use of models;

(b) the banks' boards and senior management understand the limitations and uncertainties relating to the output of the models and the risk inherent in their use; and

(c) banks perform regular and independent validation and testing of the models. In addition, the supervisor assesses whether the model outputs appear reasonable as a reflection of the risks assumed.

In addition, the supervisor assesses whether the model outputs appear reasonable as a reflection of the risks assumed.

(7) The supervisor determines that banks have information systems that are adequate (both under normal circumstances and in periods of stress) for measuring, assessing and reporting on the size, composition and quality of

exposures on a bank-wide basis across all risk types, products and counterparties. The supervisor also determines that these reports reflect the bank's risk profile and capital and liquidity needs, and that they are provided on a timely basis to the bank's board and senior management in a form suitable for their use.

(8) The supervisor determines that banks develop and maintain appropriate risk data aggregation and reporting capabilities commensurate with the risk profile and systemic importance of the bank. The supervisor also determines that the board and senior management review and approve the bank's risk data aggregation and risk reporting framework, and that they ensure that adequate resources are deployed to support these efforts.

(9) The supervisor determines that banks have adequate policies and processes to ensure that the banks' boards and senior management understand the risks inherent in new products,[36] material modifications to existing products, and major management initiatives (such as changes in systems, processes, business models and major acquisitions). The supervisor determines that the bank's board and senior management monitor and manage these risks on an ongoing basis. The supervisor also determines that the bank's policies and processes require the undertaking of any major activities of this nature to be approved by the board or a specific committee of the board.

(10) The supervisor determines that banks have risk management functions covering all material risks with sufficient resources, independence, authority and access to the banks' boards to perform their duties effectively. The supervisor determines that their duties are clearly segregated from risk-taking functions in the bank and that they report on risk exposures directly to the board and senior management. The supervisor also determines that the risk management function is subject to regular review by the internal audit function.

(11) The supervisor requires larger and more complex banks to have a dedicated risk management unit overseen by a chief risk officer (CRO) or equivalent function. If the CRO of a bank is removed from their position for any reason, this should be done with the prior approval of the board and generally should be disclosed publicly. The bank should also discuss the reasons for such removal with its supervisor.

(12) The supervisor issues standards related to, in particular, credit risk, market risk, liquidity risk, interest rate risk in the banking book, operational risk and large exposures.

(13) The supervisor requires banks to have appropriate contingency arrangements, as an integral part of their risk management process, to address risks that may materialise and actions to be taken in stress conditions (including those that will pose a serious risk to their viability). If warranted by its risk profile and systemic importance, the contingency arrangements include robust and credible recovery plans that consider the specific circumstances of the bank. The supervisor, working with resolution authorities as appropriate, assesses the adequacy of banks' contingency arrangements given their risk profile and systemic importance (including reviewing any recovery plans) and their likely feasibility during periods of stress. The supervisor seeks improvements if deficiencies are identified.

(14) The supervisor requires banks to have forward-looking stress testing programmes covering all material risks commensurate with their risk profile and systemic importance as an integral part of their risk management process. At a minimum, banks' stress testing programmes cover credit risk, market risk, interest rate risk in the banking book, liquidity risk, country and transfer risk, operational risk and significant risk concentrations. The supervisor regularly assesses a bank's stress testing programme and determines that it captures all material sources of risk and adopts plausible adverse scenarios. The supervisor also determines that the bank integrates the results into its decision-making, risk management processes (including contingency arrangements) and the assessment of its capital and liquidity levels. The supervisor requires corrective action if material deficiencies are identified in a bank's stress testing programme or if the results of stress tests are not adequately considered in the bank's decision-making process. Where appropriate, the scope of the supervisor's assessment includes the extent to which the stress testing programme:

(a) promotes risk identification and control on a bank-wide basis;

(b) adopts suitably severe assumptions and seeks to address feedback effects and system-wide interaction between risks;

(c) benefits from the active involvement of the board and senior management; and

(d) is appropriately documented and regularly maintained and updated.

(15) The supervisor assesses whether banks appropriately account for risks (including liquidity impacts) in their internal pricing, performance measurement and new product approval process for all significant business activities.

Footnotes

[34] *This includes, where relevant, risks not directly addressed in the subsequent principles, such as reputational, step-in and strategic risks.*

[35] *Banks should include climate-related financial risks assessed as material over relevant time horizons, including in their stress testing programmes where appropriate.*

[36] *New products include those developed by the bank or by a third party and purchased or distributed by the bank.*

Principle 16 - Capital adequacy

40.36 Principle 16:[37] The supervisor sets prudent and appropriate capital adequacy requirements for banks that reflect the risks undertaken and presented by a bank in the context of the markets and macroeconomic conditions in which it operates.[38] The supervisor defines the components of capital, bearing in mind their ability to absorb losses. At least for internationally active banks, capital requirements are not less stringent than the applicable Basel standards.

Footnotes

[37] *Reference documents: BCBS, High-level considerations on proportionality, July 2022; BCBS, Guiding principles for the operationalisation of a sectoral countercyclical capital buffer, November 2019; SCO10, SCO30, CAP10, CAP30, CAP50, CAP99, RBC20, RBC30, RBC40, LEV10, LEV20, LEV30, SRP10, SRP20.*

[38] *Implementation of the Basel Framework is not a prerequisite for compliance with the Core Principles. Compliance with the Basel Framework capital adequacy regimes is only required of those jurisdictions that have declared that they have voluntarily implemented it.*

40.37 Essential criteria:

(1) Laws, regulations or the supervisor require banks to calculate and consistently observe prescribed capital requirements, including thresholds with reference to which a bank might be subject to supervisory action. Laws, regulations or the supervisor define the qualifying components of capital, ensuring that emphasis is given to those elements of capital permanently available to absorb losses on a going concern basis.

(2) At least for internationally active banks,[39] the definition of capital, the risk coverage, the method of calculation and thresholds for the prescribed requirements are not lower than those established in the applicable Basel standards.

(3) The supervisor has the power to impose a specific capital charge and/or limits on all material risk exposures, if warranted, including in respect of risks that the supervisor considers not to have been adequately transferred or mitigated through transactions (eg securitisation transactions) entered into by the bank. Both on-balance sheet and off-balance sheet risks are included in the calculation of prescribed capital requirements.

(4) The prescribed capital requirements reflect the risk profile and systemic importance of banks in the context of the markets and macroeconomic conditions in which they operate, constrain the build-up of leverage in banks and the banking sector, and reduce the risk of contagion. In assessing the adequacy of a bank's capital levels given its risk profile, the supervisor focuses, among other things, on:

(a) the potential loss absorbency of the instruments included in the bank's capital base;

(b) the appropriateness of risk weights as a proxy for the risk profile of its exposures;

(d) the adequacy of provisions and reserves to cover expected losses; and

(e) the quality of its risk management and controls.

Consequently, capital requirements may vary from bank to bank to ensure that each bank is operating with the appropriate level of capital to support its risk profile. Laws, regulations or the supervisor in a particular jurisdiction may set higher overall capital adequacy standards than the applicable Basel requirements.

(5) The use of banks' internal assessments of risk as inputs to the calculation of regulatory capital is approved by the supervisor. If the supervisor approves such use:

(a) such assessments adhere to rigorous qualifying standards;

(b) any cessation of such use or any material modification of the bank's processes and models for producing such internal assessments are subject to the approval of the supervisor;

(c) the supervisor has the capacity to evaluate a bank's internal assessment process to determine that the relevant qualifying standards are met and that the bank's internal assessments can be relied upon as a reasonable reflection of the risks undertaken;

(d) the supervisor has the power to impose conditions on its approvals if the supervisor considers it prudent to do so; and

(e) if a bank does not continue to meet the qualifying standards or the conditions imposed by the supervisor on an ongoing basis, the supervisor has the power to revoke its approval.

(6) The supervisor has the power to require banks to adopt a forward-looking approach to capital management (including the conduct of appropriate stress testing). The supervisor has the power to require banks:

(a) to set capital levels and manage available capital and planned capital expenditures in anticipation of possible business cycle effects, market conditions and changes in factors specific to the bank that could have an adverse effect; and

(b) to have in place feasible contingency arrangements to maintain or strengthen capital positions in times of stress, as appropriate given the risk profile and systemic importance of the bank.

(7) Laws or regulations require, or the supervisor has the power to impose a simple, transparent, non-risk-based measure that captures all on- and off-balance sheet exposures to supplement risk-based capital requirements to constrain the build-up of leverage in banks and in the banking sector.

Footnotes

[39] *Capital adequacy requirements for internationally active banks should be applied on a fully consolidated basis, including any holding company that is the parent entity within a banking group. The framework will apply to all internationally active banks at every tier within a banking group, on a fully consolidated basis. As an alternative to full sub-consolidation, the application of this framework to the standalone bank (ie on a basis that does not consolidate assets and liabilities of subsidiaries) would achieve the same objective, providing the full book value of any investments in subsidiaries and significant minority-owned stakes is deducted from the bank's capital. Supervisors must also test that individual banks are adequately capitalised on a standalone basis.*

40.38 Additional criteria:

(1) For non-internationally active banks, capital requirements, including the definition of capital, the risk coverage, the method of calculation, the scope of application and the capital required, are broadly consistent with the principles of the applicable Basel standards relevant to internationally active banks.

(2) The supervisor requires adequate distribution of capital within different entities of a banking group according to the allocation of risks.[40]

(3) Laws or regulations permit the supervisor or relevant authorities to require banks to maintain additional capital (which may include sectoral capital requirements) in a form that can be released when system-wide risk crystallises or dissipates.

Footnotes

[40] *Refer to Principle 12, essential criterion 7 BCP40.28.*

Principle 17 - Credit risk

40.39 Principle 17:[41] The supervisor determines that banks have an adequate credit risk management process that considers their risk appetite, risk profile, market conditions, macroeconomic factors and forward-looking information. This includes prudent policies and processes to identify, measure, evaluate, monitor, report and control or mitigate credit risk[42] (including counterparty credit risk[43]) on a timely basis. The full credit life cycle is covered, including credit underwriting, credit evaluation and the ongoing management of the bank's loan and investment portfolios.

Footnotes

[41] *Reference documents: BCBS, High-level considerations on proportionality, July 2022; BCBS, Guidance on credit risk and accounting for expected credit losses, December 2015; FSB, Principles for sound residential mortgage underwriting practices, April 2012; CRE20, CRE40, CRE45, CRE50, CRE51, CRE54, MGN10, MGN20.*

[42] *Credit risk may result from: on-balance sheet and off-balance sheet exposures, including loans and advances; investments; interbank lending; derivative transactions; securities financing transactions; and trading activities.*

[43] *Transactions that give rise to counterparty credit risk include: OTC derivatives, exchange-traded derivatives, long settlement transactions and securities financing transactions that are bilaterally or centrally cleared. Counterparty credit risk may result from (but is not limited to) transactions with banks, non-financial corporates and non-bank financial institutions.*

40.40 Essential criteria:

(1) Laws, regulations or the supervisor require banks to have sound credit risk management processes that provide a comprehensive bank-wide view of all credit risk exposures, including a robust methodology for the early identification and appropriate measurement of credit losses. The supervisor determines that the processes are consistent with the risk appetite, risk profile, systemic importance and capital strength of the bank, that they consider current and forward-looking market and macroeconomic factors, and that they result in prudent standards of underwriting, evaluation, administration, monitoring, measurement and control of credit risk.

(2) The supervisor determines that a bank's board approves and regularly reviews the credit risk management strategy and significant policies for identifying, measuring, evaluating, monitoring, reporting and controlling or mitigating credit risk (including counterparty credit risk) and that these are consistent with the risk appetite set by the board. The supervisor also determines that the board oversees management in a way that ensures that these policies are implemented effectively and fully integrated into the bank's overall risk management process.

(3) The supervisor requires and regularly determines that such policies and processes establish an appropriate and properly controlled credit risk environment, including:

(a) a well documented and effectively implemented strategy and sound policies and processes for assuming credit risk, without undue reliance on external credit assessments;

(b) well defined criteria and policies and processes for:

(i) approving new exposures (including prudent underwriting standards), and ensuring a thorough understanding of the risk profile and characteristics of the borrowers (and in the case of securitisation exposures all features of securitisation transactions)[44] that would materially impact the performance of these exposures;

(ii) renewing and refinancing existing exposures; and

(iii) identifying the appropriate approval authority for the size and complexity of the exposures;

(c) effective credit administration policies and processes, including: continued analysis of a borrower's ability and willingness to make all payments associated with the contractual arrangements (including reviews of the performance of underlying assets, eg for securitisation exposures or project finance); monitoring of documentation, legal covenants, contractual requirements, collateral and other forms of credit risk mitigation; and an appropriate exposure grading or classification system;

(d) effective information systems for accurate and timely identification, aggregation and reporting of credit risk exposures to the bank's board and senior management on an ongoing basis;

(e) prudent and appropriate credit limits consistent with the bank's risk appetite, risk profile and capital strength, which are understood by and regularly communicated to relevant staff;

(f) exception tracking and reporting processes that ensure prompt action at the appropriate level of the bank's senior management or board where necessary; and

(g) effective controls (including in respect of the quality, reliability and relevance of data and in respect of validation procedures) around the use of models to identify and measure credit risk and set limits.

(4) The supervisor determines that banks have policies and processes to monitor the total indebtedness of obligors to which they extend credit and any risk factors that may result in default, including significant unhedged foreign exchange risk.

(5) The supervisor requires that banks make credit decisions free of conflicts of interest and on an arm's length basis.

(6) The supervisor requires that the credit policy prescribes that major credit risk exposures exceeding a certain amount or percentage of the bank's capital must be decided by the bank's board or senior management. The same requirement applies to credit risk exposures that are especially risky or are otherwise not aligned with the bank's core business activities.

(7) The supervisor has full access to information in the credit and investment portfolios and to the bank officers involved in assuming, managing, controlling and reporting on credit risk.

Footnotes

[44] *Securitisation includes both traditional and synthetic securitisations (or similar structures that contain features common to both). Where appropriate, supervisors should provide guidance about whether a given transaction should be considered a securitisation.*

Principle 18 - Problem exposures, provisions and reserves

40.41 Principle 18:[45] The supervisor determines that banks have adequate policies and processes for the early identification and management of problem exposures[46] and the maintenance of adequate provisions[47] and reserves.[48]

Footnotes

[45] *Reference documents: BCBS, Prudential treatment of problem assets – definitions of non-performing exposures and forbearance, April 2017; BCBS, Guidance on credit risk and accounting for expected credit losses , December 2015.*

[46] *For banks' internal risk management purposes, a problem exposure is an exposure for which there is reason to believe that all amounts due, including the principal and interest, may not be collected in accordance with the contractual terms of the agreement with the counterparty.*

[47] *Principle 18 covers all provisioning approaches (eg incurred loss models, expected credit loss models, calendar provisioning) that are used for prudential purposes. In some jurisdictions, cumulative provisions are referred to as loss allowances.*

[48] *Reserves for the purposes of this principle are "below the line" non-distributable appropriations of profit required by a supervisor in addition to provisions ("above the line" charges to profit).*

40.42 Essential criteria:

(1) Laws, regulations or the supervisor require banks to formulate policies, processes and methodologies for grading, classifying and monitoring all credit exposures (including off-balance sheet and forborne exposures[49]) and identifying and managing problem exposures. In addition, laws, regulations or the supervisor require regular reviews by banks of their credit exposures (at an individual level or at a portfolio level for credit exposures with homogeneous characteristics) to ensure appropriate exposure classification, detection of deteriorating exposures and timely identification of problem exposures.

(2) Laws, regulations or the supervisor require banks to formulate policies, processes and methodologies for consistently establishing provisions and ensuring appropriate and robust provisioning levels.[50] In addition, laws, regulations or the supervisor require banks to formulate policies and processes for writing off problem exposures where recovery is unlikely or where the exposures have very little recovery value.

(3) The supervisor determines that the bank's board approves and regularly reviews significant policies for classifying exposures, determining provisions and managing problem exposures and write-offs. The supervisor also determines that the board oversees management in a way that ensures that these policies are implemented effectively and fully integrated into the bank's overall risk management process.

(4) The supervisor determines that banks have adequate and appropriate policies, processes, methodologies and organisational resources for establishing provisions and write-offs. The supervisor determines that policies, processes and methodologies for the measurement of provisions are appropriate to ensure that provisions and write-offs are timely and reflect realistic repayment and recovery expectations and, where relevant, include appropriate expectations about future credit losses based on reasonable and supportable information. The supervisor determines that banks' credit loss provisions and write-off methodologies and levels are subject to an effective review and validation process conducted by a function independent of the relevant risk-taking function.

(5) The supervisor determines that banks have adequate and appropriate policies, processes and organisational resources for:

(a) reviewing and classifying exposures;

(b) the early identification of deteriorating exposures;

(c) ongoing oversight of problem exposures; and

(d) collecting past due obligations.

(6) The supervisor obtains information on a regular basis and in relevant detail or has full access to information concerning the classification of exposures, collateral and other risk mitigants, provisions and write-offs. The supervisor requires banks to have adequate documentation to support their classification and provisioning.

(7) The supervisor assesses whether banks' classification of exposures is appropriate and whether their determination of provisioning levels is adequate for prudential purposes. The supervisor evaluates banks' treatment of exposures with a view to identifying any material circumvention of the classification and provisioning standards (eg forbearance). If policies, processes or methodologies are inadequate, or if exposure classifications are inaccurate or provisions are deemed to be inadequate for prudential purposes (eg if the supervisor considers existing or anticipated deterioration

in exposure quality to be of concern, or if the provisions do not fully reflect losses expected to be realised), the supervisor has the power to take appropriate action, for example through requiring the bank to:

(a) revise its policies, processes or methodologies for classification and provisioning;

(b) adjust its classifications of exposures;

(c) increase its levels of provisioning, reserves or capital; or

(d) if necessary, impose other remedial measures.

Assessments supporting the supervisor's opinion in relation to this and other essential criteria under this principle may be conducted by external experts, with the supervisor reviewing the work of the external experts, including to determine the adequacy of the bank's policies, processes and methodologies for classifying exposures and determining provisions.

(8) The supervisor requires banks to have appropriate mechanisms in place for regularly assessing the value of risk mitigants, including guarantees, credit derivatives and collateral. The valuation of collateral reflects the net realisable value, considering prevailing market conditions and the time required for realisation.

(9) Laws, regulations or the supervisor establish criteria for an exposure to be:

(a) identified as a problem exposure;

(b) identified as non-performing (exposures where full repayment is unlikely or which are 90 days past due for a material amount, or defaulted exposures under either the Basel Framework or the applicable prudential regulation, or credit-impaired exposures according to the applicable accounting framework);

(c) reclassified as performing (the counterparty does not have any material exposure more than 90 days past due, repayments have been made when due over a continuous repayment period, the counterparty's situation has improved so that full repayment of exposure is likely in accordance with the contractual terms, and the exposure is no longer defaulted or impaired); and

(d) classified as a forborne exposure.

(10) The supervisor determines that the bank's board obtains timely and appropriate information on the condition of the bank's credit portfolio, including classification of exposures, the level of provisions and reserves, and major problem exposures. The information includes, at a minimum, summary results of the latest credit exposure review process, comparative trends in the overall quality of problem exposures, and measurements of any existing or anticipated deterioration in exposure quality and losses expected to be realised.

(11) The supervisor requires that valuation, classification and provisioning, at least for significant exposures, are conducted on an individual item basis. For this purpose, supervisors require banks to set an appropriate threshold for the purpose of identifying significant exposures and to regularly review the level of the threshold.

(12) The supervisor regularly assesses any trends and concentrations in risk and risk build-up across the banking sector in relation to banks' problem exposures and considers any observed concentration in the risk mitigation strategies adopted by banks and the potential effect on the efficacy of the mitigant in reducing loss. The supervisor considers the adequacy of provisions and reserves at the bank and banking system level given this assessment.

Footnotes

[49] *A forborne exposure is an exposure for which a bank's counterparty is experiencing financial difficulty in meeting its financial commitments and the bank grants a concession that it would not otherwise consider.*

[50] *Provisions are not limited to problem exposures. Depending on the relevant jurisdiction's accounting and prudential frameworks, provisions may be required for a wider range of exposures (eg all exposures, including performing exposures, under expected credit loss frameworks).*

Principle 19 - Concentration risk and large exposure limits

40.43 Principle 19:[51] The supervisor determines that banks have adequate policies and processes to identify, measure, evaluate, monitor, report and control or mitigate concentrations of risk on a timely basis. Supervisors set prudential limits to restrict bank exposures to single counterparties or groups of connected counterparties.[52] At least for internationally active banks, large exposure requirements are not less stringent than the applicable Basel standard.

Footnotes

[51] *Reference documents: BCBS, High-level considerations on proportionality, July 2022; Joint Forum, Cross-sectoral review of group-wide identification and management of risk concentrations, April 2008; BCBS, Principles for the management of credit risk, September 2000; LEX10, LEX20, LEX30, LEX40.*

[52] *Connected counterparties may include natural persons as well as legal persons. Two or more natural or legal persons shall be deemed a group of connected counterparties if at least one of the following criteria is satisfied: (a) control relationship: one of the counterparties, directly or indirectly, has control over the other(s); or (b) economic interdependence: if one of the counterparties were to experience financial problems, the other(s), as a result, would also be likely to encounter financial difficulties.*

40.44 Essential criteria:

(1) Laws, regulations or the supervisor require banks to have policies and processes that provide a comprehensive bank-wide view of significant sources of concentration risk.[53] Exposures (including counterparty credit risk exposure) arising from off-balance sheet as well as on-balance sheet items included in both the banking book and trading book are captured. At least for internationally active banks, large exposure requirements are not less stringent than the applicable Basel standard.

(2) The supervisor determines that a bank's information systems identify and aggregate on a timely basis exposures creating risk concentrations and large exposure to single counterparties or groups of connected counterparties and facilitate active management of such exposures.[54]

(3) The supervisor determines that a bank's risk management policies and processes establish thresholds for acceptable concentrations of risk, reflecting the bank's risk appetite, risk profile and capital strength, which are understood by and regularly communicated to relevant staff. The supervisor also determines that the bank's policies and processes require all material concentrations to be regularly reviewed and reported to the bank's board.

(4) The supervisor regularly obtains information that enables concentrations within a bank's portfolio, including sectoral, geographical and currency exposures, to be reviewed.

(5) For credit exposure to single counterparties or groups of connected counterparties, laws or regulations explicitly define, or the supervisor has the power to define, a group of connected counterparties to reflect actual risk exposure. The supervisor may exercise discretion in applying this definition on a case by case basis.

(6) Laws, regulations or the supervisor set prudent and appropriate requirements to control and constrain large credit exposures to a single counterparty or a group of connected counterparties. "Exposures" for this purpose include all claims and transactions (including those giving rise to counterparty credit risk exposure), whether on-balance sheet or off-balance sheet. The supervisor also determines that banks assess connectedness between counterparties through control relationships and economic interdependence based on objective and qualitative criteria. The supervisor determines that senior management monitors these limits and that they are not exceeded on a solo or consolidated basis.

Footnotes

[53] *Concentration risk may result from credit, market and other risk where a bank is overly exposed to particular asset classes, products, collateral, currencies or funding sources, and is broader than exposures subject to large exposure requirements. Credit concentrations include exposures to: single counterparties (including collateral credit protection and other commitments provided); groups of connected counterparties; counterparties in the same industry, economic sector or geographic region; and counterparties whose financial performance is dependent on the same activity or commodity.*

[54] *The measure of credit exposure for large exposures should reflect the maximum possible loss from counterparty failure (ie it should encompass actual and potential exposures as well as contingent liabilities). The risk weighting concept adopted in the Basel Framework should not be used in measuring credit exposure for this purpose, as its use for measuring credit concentrations could significantly underestimate potential losses.*

40.45 Additional criterion:

(1) In respect of credit exposure to single counterparties or groups of connected counterparties, non-internationally active banks are required to adhere to the limits below:

(a) 10% or more of a bank's Tier 1 capital is defined as a large exposure; and

(b) 25% of a bank's Tier 1 capital is the limit for an individual large exposure to a private sector non-bank counterparty or a group of connected counterparties.

Minor deviations from these limits may be acceptable, especially if they are explicitly temporary or related to very small or specialised banks.

Principle 20 - Transactions with related parties

40.46 Principle 20:[55] To prevent abuses arising in transactions with related parties[56] and to address the risk of conflicts of interest, the supervisor requires banks to: enter into any transactions with related parties on an arm's length basis;[57] monitor these transactions; take appropriate steps to control or mitigate the risks; and write off exposures to related parties in accordance with standard policies and processes.

Footnotes

55 *Reference documents: BCBS, Corporate governance principles for banks , July 2015; BCBS, Principles for the management of credit risk, September 2000.*

56 *Related parties should include:*

(a) the bank's subsidiaries and affiliates (including their subsidiaries, affiliates and special purpose entities) and any other party that the bank exerts control over or that exerts control over the bank;

(b) the bank's major shareholders, including beneficial owners;

(c) the bank's board members, senior management and key staff, corresponding persons in affiliated companies, and parties that can exert significant influence on board members or senior management; and

(d) for the natural persons identified in (a) to (c), their direct and related interests and their close family members.

57 *Related party transactions include on-balance sheet and off-balance sheet credit exposures; dealings such as service contracts, asset purchases and sales, construction contracts and lease agreements; derivative transactions; borrowings; and write-offs. The term "transaction" should be interpreted broadly to incorporate not only transactions that are entered into with related parties but also situations in which an unrelated party (with whom a bank has an existing exposure) subsequently becomes a related party.*

40.47 (1) Laws, regulations or the supervisor set out a comprehensive definition of "related parties" that should at least consider all of the elements detailed in footnote 56. The supervisor may exercise discretion in applying this definition on a case by case basis.

(2) Laws, regulations or the supervisor require that transactions with related parties are not undertaken on more favourable terms (eg in credit assessment, tenor, interest rates, fees, amortisation schedules, requirements for collateral) than corresponding transactions with non-related counterparties.[58]

(3) The supervisor requires that transactions with related parties and the write-off of related party exposures exceeding specified amounts or otherwise posing special risks are subject to prior approval by the bank's board. The

supervisor requires that board members with conflicts of interest are excluded from the approval process for granting and managing related party transactions.

(4) The supervisor determines that banks have policies and processes to prevent persons benefiting from the transaction (and/or persons related to such a person) or who otherwise have a conflict of interest from being part of the process of granting and managing the related party transaction.

(5) Laws or regulations establish, or the supervisor sets on a general or case by case basis, limits for exposures to related parties[59] or require such exposures to be collateralised or deducted from capital.[60] When limits are only set on aggregate exposures to related parties, those are at least as strict as those for single counterparties or groups of connected counterparties under Principle 19.

(6) The supervisor determines that banks have policies and processes to:

(a) identify individual exposures to and transactions with related parties as well as the total amount of exposures; and

(b) monitor and report on them through an independent credit review or audit process.

The supervisor determines that exceptions to policies, processes and limits are reported to the appropriate level of the bank's senior management and, if necessary, to the board, for timely action. The supervisor also determines that senior management monitors related party transactions on an ongoing basis, and that the board also provides oversight of these transactions.

(7) The supervisor obtains and regularly reviews information on aggregate exposures to related parties. Supervisors require banks to report (or the supervisor acquires this information through other means) individual related party transactions that are material (eg those exceeding a specified amount or a percentage of the bank's Tier 1 capital).

Footnotes

[58] *Exceptions may be appropriate for certain transactions between entities within a banking group when the supervisor considers this to be consistent with sound group-wide risk management. An exception may also be appropriate for beneficial terms that are part of overall remuneration packages.*

[59] *For this purpose, exposures should be calculated consistently with Principle 19 BCP40.43.*

[60] *The supervisor may exclude banks' exposures to certain entities within the banking group where the supervisor considers this to be consistent with sound group-wide risk management.*

Principle 21 - Country and transfer risks

40.48 Principle 21:[61] The supervisor determines that banks have adequate policies and processes to identify, measure, evaluate, monitor, report and control or mitigate country risk[62] and transfer risk[63] in their international lending and investment activities on a timely basis.

Footnotes

[61] *Reference documents: IMF, External debt statistics – guide for compilers and users, 2013; BCBS, Management of banks' international lending: country risk analysis and country exposure measurement and control, March 1982.*

[62] *Country risk is the risk of exposure to loss caused by events in a foreign country. The concept is broader than sovereign risk as all forms of lending or investment activity involving individuals, corporates, banks or governments are covered.*

[63] *Transfer risk is the risk that a borrower will not be able to convert local currency into a foreign currency and so will be unable to make debt service payments in a foreign currency. The risk normally arises from exchange restrictions imposed by the government in the borrower's country.*

40.49 (1) The supervisor determines that a bank's policies and processes adequately consider the identification, measurement, evaluation, monitoring, reporting and control or mitigation of country risk and transfer risk. The supervisor also determines that the processes are consistent with the risk profile, systemic importance and risk appetite of the bank, consider market and macroeconomic conditions, and provide a comprehensive bank-wide view of country and transfer risk exposure. Exposures (including, where relevant, intragroup exposures) are identified, monitored and managed on a regional and an individual country basis (in addition to the end-borrower/end-counterparty basis). Banks are required to monitor and evaluate developments in country risk and in transfer risk and apply appropriate countermeasures.

(2) The supervisor determines that a bank's strategies and policies for the management of country and transfer risks have been approved and are regularly reviewed by the bank's board. The supervisor also determines that the board oversees management in a way that ensures that these policies are implemented effectively and fully integrated into the bank's overall risk management process.

(3) The supervisor determines that banks have information systems, risk management systems and internal control systems that accurately aggregate, monitor and report country exposures on a timely basis; and ensure adherence to established country exposure limits.

(4) There is supervisory oversight of the setting of appropriate provisions against country risk and transfer risk, which may include the following:

(a) The supervisor (or relevant authority) decides on appropriate minimum provisioning by regularly setting fixed percentages for exposures to each country, considering prevailing conditions. The supervisor reviews minimum provisioning levels where appropriate.

(a) The supervisor (or relevant authority) regularly sets percentage ranges for each country, considering prevailing conditions, and the banks may decide, within these ranges, which provisioning to apply for their individual exposures. The supervisor reviews percentage ranges for provisioning purposes where appropriate.

(a) The bank itself sets percentages or guidelines or even decides on the appropriate provisioning for individual exposures. The adequacy of the provisioning will then be judged by the external auditor and/or by the supervisor.

(5) The supervisor regularly obtains and reviews sufficient and timely information on the country risk and transfer risk of banks. The supervisor has the power to obtain additional information, as needed (eg in crisis situations).

Principle 22 - Market risk

40.50 Principle 22:[64] The supervisor determines that banks have an adequate market risk management process that considers risk appetite, risk profile, market and macroeconomic conditions, and the risk of a significant deterioration in market liquidity. This includes prudent policies and processes to identify, measure, evaluate, monitor, report and control or mitigate market risks on a timely basis.

Footnotes

[64] *Reference documents: BCBS, High-level considerations on proportionality, July 2022; RBC25, MAR10, MAR11, MAR12, MAR20, MAR21, MAR22, MAR23, MAR30, MAR31, MAR32, MAR33, MAR40, MAR50, MAR99.*

40.51 Essential criteria:

(1) Laws, regulations or the supervisor require banks to have appropriate market risk management processes that provide a comprehensive bank-wide view of market risk exposure. The supervisor determines that the processes are consistent with the risk appetite, risk profile, systemic importance and capital strength of the bank; that they consider market and macroeconomic conditions and the risk of a significant deterioration in market liquidity; and that they clearly articulate the roles and responsibilities for identifying, measuring, monitoring, reporting and controlling market risk.

(2) The supervisor determines that a bank's strategies and policies for the management of market risk have been approved and are regularly reviewed by the bank's board. The supervisor also determines that the board oversees management in a way that ensures that these policies are implemented effectively and fully integrated into the bank's overall risk management process.

(3) The supervisor determines that the bank's policies and processes establish an appropriate and properly controlled market risk environment including:

(a) comprehensive risk measurement systems for the accurate and timely identification, aggregation, monitoring and reporting of market risk exposures to the bank's board and senior management;

(b) appropriate market risk limits, which are consistent with the bank's risk appetite, risk profile, capital strength and management's ability to manage market risk and which are understood by and regularly communicated to relevant staff;

(c) exception tracking and reporting processes that ensure prompt action at the appropriate level of the bank's senior management or board, where necessary;

(d) effective controls around the use of models to identify and measure market risk, and set limits; and

(e) sound policies and processes for the allocation of exposures to the trading book.

(4) The supervisor determines that there are systems and controls to ensure that banks' marked to market positions are revalued frequently. The supervisor also determines that all transactions are captured on a timely basis and that the valuation process uses consistent and prudent practices and reliable market data verified by a function independent of the relevant risk-taking business units (or, in the absence of market prices, internal or industry-accepted models). To the extent that the bank relies on modelling for the purposes of valuation, the bank is required to ensure that the model is validated regularly by a function independent of the relevant risk-taking business units. The supervisor requires banks to establish and maintain policies and processes for considering valuation adjustments for positions that otherwise cannot be prudently valued, including concentrated, less liquid and stale positions.

(5) The supervisor determines that banks hold appropriate levels of capital against unexpected losses and make appropriate valuation adjustments for uncertainties in determining the fair value of assets and liabilities.

Principle 23 - Interest rate risk in the banking book

40.52 Principle 23:[65] The supervisor determines that banks have adequate systems to identify, measure, evaluate, monitor, report and control or mitigate interest rate risk in the banking book on a timely basis.[66] These systems consider the bank's risk appetite, risk profile and market and macroeconomic conditions.

Footnotes

[65] *Reference documents: BCBS, High-level considerations on proportionality, July 2022; SRP31.*

[66] *Wherever "interest rate risk" is used in this principle the term refers to interest rate risk in the banking book. Interest rate risk in the trading book is covered under Principle 22 BCP40.50.*

40.53 Essential criteria:

(1) Laws, regulations or the supervisor require banks to have an appropriate interest rate risk strategy and interest rate risk management framework that provides a comprehensive bank-wide view of interest rate risk. This includes policies and processes to identify, measure, evaluate, monitor, report and control or mitigate material sources of interest rate risk. The supervisor determines that the bank's strategy, policies and processes are consistent with the risk appetite, risk profile and systemic importance of the bank, that they consider market and macroeconomic conditions, and that they are regularly reviewed and appropriately adjusted, where necessary, in line with the bank's changing risk profile and market developments.

(2) The supervisor determines that a bank's strategies and policies for the management of interest rate risk have been approved and are regularly reviewed by the bank's board. The supervisor also determines that the board oversees management in a way that ensures that these policies are implemented effectively and fully integrated into the bank's overall risk management process.

(3) The supervisor determines that a bank's policies and processes establish an appropriate and properly controlled interest rate risk environment, including:

(a) comprehensive risk measurement systems for the accurate and timely identification, aggregation, monitoring and reporting of interest rate risk exposures to the bank's board and senior management;

(b) a regular review and independent (internal or external) validation of any models used by the functions tasked with managing interest rate risk (including a review of key model assumptions, eg regarding optional elements (whether implicit or explicit) embedded in a bank's assets, liabilities and/or off-balance sheet items, in which the bank or its customer can alter the level and timing of their cash flows);

(c) appropriate limits, approved by the bank's board and senior management, that reflect the bank's risk appetite, risk profile and capital strength and that are understood by and regularly communicated to relevant staff; and

(d) effective exception tracking and reporting processes which ensure prompt action at the appropriate level of the bank's senior management or board, where necessary.

(4) The supervisor obtains from banks the results of their internal interest rate risk measurement systems, expressed in terms of the threat to both economic value and earnings, using standardised interest rate shocks on the banking book.

(5) The supervisor assesses whether the internal capital measurement systems of banks adequately capture interest rate risk in the banking book.

Principle 24 - Liquidity risk

40.54 Principle 24:[67] The supervisor sets prudent and appropriate liquidity requirements (which can include either quantitative or qualitative requirements or both) that reflect the liquidity needs of banks. The supervisor determines that banks have a strategy that enables prudent management of liquidity risk and compliance with liquidity requirements. The strategy considers the bank's risk profile, market and macroeconomic conditions, and includes prudent policies and processes, consistent with the bank's risk appetite, to identify, measure, evaluate, monitor, report and control or mitigate liquidity risk over an appropriate set of time horizons. At least for internationally active banks, liquidity (including funding) requirements are not lower than the applicable Basel standards.

Footnotes

[67] *Reference documents: BCBS, High-level considerations on proportionality, July 2022; BCBS, Principles for sound liquidity risk management and supervision, September 2008; LCR10, LCR20, LCR30, LCR31, LCR40, LCR99, NSF10, NSF20, NSF30, NSF99.*

40.55 Essential criteria:

(1) Laws, regulations or the supervisor require banks to consistently observe prescribed liquidity requirements, including thresholds with reference to which a bank is subject to supervisory action. At least for internationally active banks, the prescribed requirements are not lower than those prescribed in the applicable Basel standards, and the supervisor uses a range of liquidity monitoring tools no less extensive than those prescribed in the applicable Basel standards.

(2) The prescribed liquidity requirements reflect the liquidity risk profile of banks (including on- and off-balance sheet risks) in the context of the markets and macroeconomic conditions in which they operate.

(3) The supervisor determines that banks have a robust liquidity management framework that requires them to maintain sufficient liquidity to withstand a range of stress events and that includes appropriate policies for managing liquidity risk, which have been approved by the bank's board. The supervisor also determines that these policies and processes provide a comprehensive bank-wide view of liquidity risk and are consistent with the bank's liquidity risk tolerance, risk profile and systemic importance.

(4) The supervisor determines that a bank's liquidity strategy, policies and processes establish an appropriate and properly controlled liquidity risk environment, including:

(a) clear articulation of an overall liquidity risk appetite that is appropriate for the bank's business and its role in the financial system, and that is approved by the bank's board;

(b) sound day-to-day and intraday liquidity risk management practices;

(c) comprehensive risk measurement systems for the accurate and timely identification, aggregation, monitoring, reporting and control of liquidity risk exposures and funding needs (including active management of collateral positions) bank-wide;

(d) adequate oversight by the bank's board to ensure that management effectively implements policies and processes for the management of liquidity risk in a manner consistent with the bank's liquidity risk appetite; and

(e) regular review by the bank's board (at least annually) and appropriate adjustment of the bank's strategy, policies and processes for the management of liquidity risk given the bank's changing risk profile and external developments in the markets and macroeconomic conditions in which it operates.

(5) The supervisor requires banks to establish, and regularly review, funding strategies, policies and processes for the ongoing measurement and monitoring of funding requirements and the effective management of funding risk. The policies and processes include consideration of how other risks (eg credit, market, operational and reputational risks) may impact the bank's overall liquidity strategy, and include:

(a) an analysis of funding requirements under alternative scenarios;

(b) the maintenance of a cushion of high-quality, unencumbered, liquid assets that can be used, without impediment, to obtain funding in times of stress;

(c) diversification in the sources (including counterparties, instruments, currencies and markets) and tenor of funding, and regular review of concentration limits;

(d) regular efforts to establish and maintain relationships with liability holders; and

(e) regular assessment of the capacity to monetise assets.

(6) The supervisor determines that banks have robust liquidity contingency funding plans to handle liquidity problems. The supervisor determines that the bank's contingency funding plan is formally articulated, adequately documented and sets out the bank's strategy for addressing liquidity shortfalls in a range of stress environments without placing reliance on lender of last resort support. The supervisor also determines that the bank's contingency funding plan establishes clear lines of responsibility, includes clear communication plans (including communication with the supervisor) and is regularly tested and updated to ensure it is operationally robust. The supervisor assesses whether the bank's contingency funding plan is feasible (given its risk profile and systemic importance) and requires the bank to address any deficiencies.

(7) The supervisor requires banks to include a variety of short-term and protracted bank-specific and market-wide liquidity stress scenarios (individually and in combination), using conservative and regularly reviewed assumptions, into their stress testing programmes for risk management purposes. The supervisor determines that the results of the stress tests are used by the bank to adjust its liquidity risk management strategies, policies and positions and to develop effective contingency funding plans.

(8) The supervisor identifies those banks carrying out significant foreign currency liquidity transformation. Where a bank's foreign currency business is significant, or the bank has significant exposure in a given currency, the

supervisor requires the bank to undertake separate analysis of its strategy and monitor its liquidity needs separately for each such significant currency. This includes the use of stress testing to determine the appropriateness of mismatches in that currency and, where appropriate, the setting and regular review of limits on the size of its cash flow mismatches for foreign currencies in aggregate and for each significant currency individually. In such cases, the supervisor also monitors the bank's liquidity needs in each significant currency, and evaluates the bank's ability to transfer liquidity from one currency to another across jurisdictions and legal entities.

(9) The supervisor determines that a bank's level of encumbered balance sheet assets is managed within acceptable limits to mitigate the risks in terms of the impact on the bank's cost of funding and the implications for the sustainability of its long-term liquidity position. The supervisor requires banks to commit to adequate disclosure and to set appropriate limits to mitigate identified risks.

Principle 25 - Operational risk and operational resilience

40.56 Principle 25:[68] The supervisor determines that banks have an adequate operational risk[69] management framework and operational resilience[70] approach that considers their risk profile, risk appetite, business environment, tolerance for disruption to their critical operations,[71] and emerging risks. This includes prudent policies and processes to: (i) identify, assess, evaluate, monitor, report and control or mitigate operational risk on a timely basis; and (ii) identify and protect themselves from threats and potential failures, respond and adapt to, as well as recover and learn from, disruptive events to minimise their impact on delivering critical operations through disruption.

Footnotes

[68] *Reference documents: FSB, Enhancing third-party risk management and oversight: a toolkit for financial institutions and financial authorities, December 2023; BCBS, High-level considerations on proportionality, July 2022; BCBS, Principles for the effective management and supervision of climate-related financial risks, June 2022; BCBS, Revisions to the principles for the sound management of operational risk, March 2021; BCBS, Principles for operational resilience , March 2021; BCBS, Cyber resilience: range of practices, December 2018; BCBS, Sound practices implications of fintech developments for banks and bank supervisors, February 2018; FSB, Guidance on identification of critical functions and critical shared services, July 2013; BCBS, Recognising the risk-mitigating impact of insurance in operational risk modelling, October 2010; BCBS, High-level principles for business continuity, August 2006; BCBS, Outsourcing in financial services, February 2005.*

[69] *Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. This definition includes legal risk but excludes strategic and reputational risk.*

[70] *Operational resilience refers to the ability of the bank to deliver critical operations through disruption. Operational resilience is an outcome that benefits from the effective management of operational risk.*

[71] *Tolerance for disruption is the level of disruption from any type of operational risk a bank is willing to accept given a range of severe but plausible scenarios. The term "critical operations" encompasses critical functions and includes activities, processes, services and their relevant supporting assets, the disruption of which would be material to the continued operation of the bank or its role in the financial system. Whether a particular operation is critical depends on the nature of the bank and its role in the financial system.*

40.57 Essential criteria:

(1) Laws, regulations or the supervisor require banks to have appropriate operational risk management and operational resilience strategies, policies, procedures, systems, controls and processes to:

(a) identify, assess, evaluate, monitor, report and control or mitigate operational risk; and

(b) identify and protect themselves from threats and potential failures, respond and adapt to, as well as recover and learn from, disruptive events to minimise their impact on their delivery of critical operations.

These strategies, policies, procedures, systems and controls are consistent with the bank's risk profile, systemic importance, risk appetite, tolerance for disruption and capital strength, and consider market and macroeconomic conditions and emerging risks.

(2) The supervisor determines that a bank's board approves and periodically reviews the strategies and policies for its:

(a) management of operational risk for all material products, activities, processes and systems (including the bank's risk appetite for operational risk); and

(b) operational resilience approach (including tolerance for disruption to critical operations).

The supervisor also requires that the board oversee senior management to ensure that these policies are implemented effectively and fully integrated into the overall framework for managing risks across the bank. The supervisor determines that banks have adequate functions[72] for the management of operational risk to identify external and internal threats and potential failures in people, processes and systems on an ongoing basis.

(3) The supervisor determines that the bank has identified its critical operations (consistent with its operational resilience approach) and mapped the people, technology, processes, data, facilities, third parties or intragroup entities and the interconnections and interdependencies among them that are necessary for the delivery of critical operations through disruption.

(4) The supervisor determines that banks develop and implement response and recovery plans to manage incidents that could disrupt the delivery of critical operations in line with the bank's risk appetite and tolerance for disruption and that they continuously improve their incident response and recovery plans by incorporating the lessons learnt from previous incidents.

(5) The supervisor requires that banks conduct business continuity exercises under a range of severe but plausible scenarios to test their ability to deliver critical operations through disruption. The supervisor reviews the quality and comprehensiveness of the bank's business continuity and disaster recovery plans to assess their ability to deliver critical operations. In doing so, the supervisor determines that the bank can operate on an ongoing basis and minimise losses and interruptions to service provision in the event of a severe business disruption or failure (including but not limited to disruption at a service provider and disturbances in payment and settlement systems).

(6) Laws, regulations or the supervisor require banks to implement a robust information and communication technology (ICT)[73] framework (including cyber security) within their operational risk management framework and operational resilience approach. The supervisor determines that banks have established appropriate policies and processes to identify, assess, mitigate, monitor and manage ICT risks.[74] These policies and processes also require the board to regularly oversee the effectiveness of the bank's ICT risk management and senior management to routinely evaluate the design, implementation and effectiveness of the bank's ICT risk management. The supervisor also determines that banks have resilient ICT that is subject to protection, detection, response and recovery processes that are regularly tested, incorporate appropriate situational awareness of vulnerabilities and convey relevant timely information for risk management and decision-making processes to fully support and facilitate the delivery of the bank's critical operations.

(7) The supervisor assesses whether banks have appropriate processes and effective information systems to:

(a) regularly monitor operational risk profiles and material operational exposures;

(b) compile and analyse operational risk event data, which include internal loss data, and, when feasible, external operational loss event data; and

(c) facilitate appropriate reporting mechanisms at the level of the bank's board, senior management, the independent risk function and the business units that support proactive management of operational risk and operational resilience.

(8) The supervisor requires banks to have appropriate reporting mechanisms to keep the supervisor apprised of developments affecting their operational risk, including reporting of incidents that disrupt critical operations, and their severity.

(9) Laws, regulations or the supervisor require the board and senior management to understand the risks associated with bank activities performed by service providers and ensure that effective risk management policies and processes are in place to manage these risks. The supervisor determines that banks have established appropriate policies and processes to assess, manage and monitor bank activities performed by service providers. The supervisor determines that banks' third-party risk management policies cover:

(a) procedures for determining whether and how activities can be provided by service providers, and conducting appropriate due diligence for selecting potential service providers;

(b) sound structuring of the service providers' provision, including ownership and confidentiality of data, as well as termination rights;

(c) managing and monitoring the risks associated with the service provider arrangement, including the financial condition of the service provider;

(d) maintaining an effective control environment at the bank over the service provider, which includes a register of outsourced activities, metrics and reporting to facilitate service provider oversight;

(e) managing dependencies on arrangements, including (but not limited to) those of service providers, for the delivery of critical operations;

(f) maintaining viable contingency planning and developing exit strategies to demonstrate the bank's operational resilience in the event of a failure or disruption at a service provider impacting the provision of critical operations.[75] The bank's business continuity plans should assess the substitutability of the service providers that it uses for critical operations and other viable alternatives that may facilitate operational resilience in the event of an outage at a service provider, such as bringing the activity back in-house;

(g) execution of comprehensive contracts and/or service level agreements that ensure a clear allocation of responsibilities between the service provider and the bank; and

(h) the bank's right to inspect the service provider's books and records and ability to request reporting (eg audit reports), and permission for the

bank's supervisor to access, directly or via the supervised bank, documentation, data and any other information related to the provision of the activity to the bank.

(10) The supervisor determines that senior management has established a change management process[76] that is comprehensive, appropriately resourced, adequately divided up between the risk management and control functions, and conducive to the assessment of potential effects on the delivery of critical operations and on their interconnections and interdependencies.

Footnotes

[72] *Including control functions, risk management and internal audit.*

[73] *Information and communication technology refers to the underlying physical and logical design of information technology and communication systems, the individual hardware and software components, data and the operating environments.*

[74] *These include cyber security, ICT response and recovery programmes, ICT change management processes, ICT incident management processes and relevant information transmission to users on a timely basis.*

[75] *In developing their exit strategies, banks should consider both near-term and long-term disorderly and orderly exits, as this could impact exit strategies and assumptions.*

[76] *A bank's operational risk exposure evolves when it initiates change, such as engaging in new activities or developing new products or services; entering into unfamiliar markets or jurisdictions; implementing new business processes or technology systems or modifying existing ones; and/or engaging in businesses that are geographically distant from the head office. Change management should assess the evolution of associated risks across time throughout the full life cycle of a product or service.*

40.58 Additional criteria:

(1) The supervisor regularly identifies any common points of exposure across banks to operational risk or potential vulnerability (eg reliance of many banks on a common service provider, disruption to service providers of payment and settlement activities, exposures to losses from physical risks or from geopolitical events).

(2) The supervisor assesses concentration risk-related arrangements, and potential systemic risks arising from the concentration of services provided by specific service providers to banks within its jurisdiction.

Principle 26 - Internal control and audit

40.59 Principle 26:[77] The supervisor determines that banks have adequate internal control frameworks to establish and maintain an effectively controlled and tested operating environment for the conduct of their business, considering their risk profile. These include clear arrangements for delegating authority and responsibility; separation of the functions that involve committing the bank, paying away its funds, and accounting for its assets and liabilities; reconciliation of these processes; safeguarding the bank's assets; and appropriate independent [78] internal audit (including those that are outsourced or co-sourced), compliance and other control functions to test adherence to and effectiveness of these controls as well as applicable laws and regulations.

Footnotes

[77] *Reference documents: BCBS, Principles for the effective management and supervision of climate-related financial risks, June 2022; BCBS, Corporate governance principles for banks, July 2015; BCBS, The internal audit function in banks, June 2012; BCBS, Compliance and the compliance function in banks, April 2005; BCBS, Framework for internal control systems in banking organisations, September 1998.*

[78] *In assessing independence, supervisors give due regard to the control systems designed to avoid conflicts of interest in the performance measurement of staff in the compliance, control and internal audit functions. For example, the remuneration of such staff should be determined independently of the business lines that they oversee.*

40.60 Essential criteria:

(1) Laws, regulations or the supervisor require banks to have internal control frameworks that are adequate to establish an effectively controlled and tested operating environment for the conduct of their business, considering their risk profile with a forward-looking view.[79] These controls are the responsibility of the bank's board and/or senior management and deal with organisational structure, accounting policies and processes, checks and balances, and the safeguarding of assets and investments (including measures for the prevention and early detection and reporting of misuse, such as fraud, embezzlement, unauthorised trading and computer intrusion). More specifically, these controls address:

(a) organisational structure: definitions of duties and responsibilities, including clear delegation of authority (eg clear loan approval limits), decision-making policies and processes, separation of critical functions (eg business origination, payments, reconciliation, risk management, accounting, audit and compliance);

(b) accounting policies and processes, such as but not limited to: reconciliation of accounts, control lists, information for management;

(c) checks and balances (or "four-eyes principle"): segregation of duties, cross-checking, dual control of assets, double signatures; and

(d) safeguarding assets and investments: including physical control and computer access.

(2) The supervisor determines that there is an appropriate balance in the skills and resources of the back office, control functions and operational management relative to the business origination units. The supervisor also determines that the staff of the back office and control functions have sufficient expertise and authority within the organisation (and, where appropriate, in the case of control functions, sufficient access to the bank's board) to be an effective check and balance to the business origination units.

(3) The supervisor determines that banks have an adequately staffed, permanent and independent compliance function that assists senior management in managing effectively the compliance risks faced by the bank. The supervisor determines that staff within the compliance function are suitably trained, have relevant experience and have sufficient authority within the bank to perform their role effectively. The supervisor determines that the bank's board exercises oversight of the management of the compliance function.

(4) The supervisor determines that banks have an independent, permanent and effective internal audit function (including those that are outsourced or co-sourced) charged with:

(a) assessing whether existing policies, processes and internal controls (including risk management, compliance and corporate governance processes) are effective and appropriate and remain sufficient for the bank's business; and

(b) ensuring that policies and processes are complied with.

(5) The supervisor determines that the internal audit function:

(a) has sufficient resources and that staff are suitably trained and have relevant experience to understand and evaluate the business they are auditing;

(b) has appropriate independence and is accountable to the bank's board or to an audit committee of the board, and its status within the bank ensures that senior management reacts to and acts upon its recommendations;

(c) is kept informed in a timely manner of any material changes made to the bank's risk management strategy, policies or processes;

(d) may communicate with any member of staff and has full access to records, files or data of the bank and its affiliates, whenever relevant to the performance of its duties;

(e) employs a methodology that identifies the material risks run by the bank;

(f) prepares an audit plan, which is reviewed regularly, based on its own risk assessment and allocates its resources accordingly; and

(g) has the authority to assess any outsourced functions.

Footnotes

[79] *The time horizon for establishing a forward-looking view should appropriately reflect climate-related financial risks and emerging risks as needed.*

Principle 27 - Financial reporting and external audit

40.61 Principle 27:[80] The supervisor determines that banks and banking groups maintain adequate and reliable records, prepare financial statements in accordance with accounting policies and practices that are widely accepted internationally and annually publish information that fairly reflects their financial condition and performance and bears an independent external auditor's opinion. The supervisor also determines that banks and parent companies of banking groups have adequate governance and oversight of the external audit function.

Footnotes

[80] *Reference documents: BCBS, Supplemental note to external audits of banks – audit of expected credit loss, December 2020; BCBS, External audits of banks, March 2014; BCBS, Supervisory guidance for assessing banks' financial instrument fair value practices, April 2009.*

40.62 (1) The supervisor[81] holds the bank's board and management responsible for ensuring that financial statements are prepared in accordance with accounting policies and practices that are widely accepted internationally and for ensuring that these are supported by recordkeeping systems to produce adequate and reliable data.

(2) The supervisor holds the bank's board and management responsible for ensuring that the financial statements issued annually to the public bear an independent external auditor's opinion as a result of an audit conducted in accordance with internationally accepted auditing practices and standards.

(3) The supervisor determines that banks use valuation practices consistent with accounting standards widely accepted internationally. The supervisor also determines that the framework, structure and processes for fair value estimation are subject to independent verification and validation, and that banks document any significant differences between the valuations used for financial reporting purposes and for regulatory purposes.

(4) Laws, regulations or the supervisor set out the scope of external audits of banks and the standards to be followed in performing such audits. These should be aligned with internationally accepted standards and require the use of a risk- and materiality-based approach in planning and performing the external audit.

(5) Supervisory guidelines or local auditing standards determine that audits cover several areas, including but not limited to the loan portfolio, loan loss provisions, non-performing exposures, asset valuations, trading and other securities activities, derivatives, asset securitisations, consolidation of off-balance sheet vehicles and other involvement with such vehicles, and the adequacy of internal controls over financial reporting.

(6) The supervisor has the power to reject and rescind the appointment of an external auditor who is deemed to have inadequate expertise or independence or who is not subject to or does not adhere to established professional standards.

(7) The supervisor determines that banks rotate their external auditors (either the firm or individuals within the firm) from time to time.

(8) The supervisor meets periodically with external audit firms to discuss issues of common interest relating to bank operations.

(9) The supervisor requires the external auditor, directly or through the bank, to report to the supervisor matters of material significance, for example: failure to comply with the licensing criteria or breaches of banking or other laws; significant deficiencies and control weaknesses in the bank's financial reporting process; or any other matters that they believe are likely to be of material significance to the safety and soundness of the bank. Laws or regulations provide that auditors who make any such reports in good faith cannot be held liable for breach of the duty of confidentiality.

Footnotes

[81] *In this essential criterion, the supervisor is not necessarily limited to the banking supervisor. Responsibility for ensuring that financial statements are prepared in accordance with accounting policies and practices may also be vested with securities and market supervisors.*

40.63 Additional criterion:

(1) The supervisor has the power to access external auditors' working papers, where necessary.

Principle 28 - Disclosure and transparency

40.64 Principle 28:[82] The supervisor determines that banks and banking groups regularly publish information on a consolidated and, where appropriate, solo basis that is easily accessible and fairly reflects their financial condition, performance, risk exposures, risk management strategies and corporate governance policies and processes (including compensation practices). At least for internationally active banks, disclosure requirements are not less stringent than the applicable Basel standards.

Footnotes

[82] *Reference documents: BCBS, High-level considerations on proportionality, July 2022; BCBS, Corporate governance principles for banks, July 2015; FSB, Enhancing the risk disclosure of banks, October 2012; BCBS, Enhancing bank transparency, September 1998; DIS10, DIS20, DIS21, DIS25, DIS26, DIS30, DIS31, DIS35, DIS40, DIS42, DIS43, DIS45, DIS50, DIS51, DIS60, DIS70, DIS75, DIS80, DIS85, DIS99.*

40.65 (1) Laws, regulations or the supervisor require periodic public disclosures[83] of information by banks on a consolidated and, where appropriate, solo basis that adequately reflect the bank's true financial condition and performance, and adhere to standards promoting comparability, relevance, reliability and timeliness of the information disclosed.

(2) The supervisor determines that the required disclosures include both qualitative and quantitative information on a bank's financial performance, financial position, risk management strategies and practices, risk exposures (including information that will help in understanding a bank's risk exposures during a financial reporting period), aggregate exposures to related parties, transactions with related parties, accounting policies, business models, management, governance (including major share ownership and voting rights) and compensation practices. The scope and content of the information provided and the level of disaggregation and detail are commensurate with the risk profile and systemic importance of the bank. At least for internationally active banks, disclosure requirements are not less stringent than the applicable Basel standards.

(3) Laws, regulations or the supervisor require banks to disclose all material entities in the group structure.

(4) The supervisor or another authority effectively reviews and enforces compliance with disclosure standards.

(5) The supervisor or other relevant authorities regularly publish information on the banking system in aggregate to facilitate public understanding of the banking system and the exercise of market discipline. Such information includes aggregate data on balance sheet indicators and statistical parameters that reflect the principal aspects of banks' operations (balance sheet structure, capital ratios, income earning capacity and risk profiles).

Footnotes

[83] *In this essential criterion, the disclosure requirement may be found in applicable accounting, stock exchange listing or other similar rules, instead of or in addition to directives issued by the supervisor.*

Principle 29 - Abuse of financial services

40.66 Principle 29:[84] The supervisor determines that banks have adequate policies and processes, including robust and risk-based[85] customer due diligence (CDD) rules and effective compliance functions to promote high ethical and professional standards in the financial sector and prevent the bank from being used intentionally or unintentionally for criminal activities.[86]

Footnotes

[84] *Reference documents: FATF Recommendations (February 2012, as amended in November 2023); BCBS, Sound management of risks related to money laundering and financing of terrorism, July 2020; FATF, Guidance on risk-based supervision, March 2021; FATF, Guidance on correspondent banking services, October 2016; FATF, Risk-based approach guidance for the banking sector, October 2014; BCBS, Shell banks and booking offices, January 2003.*

[85] *Adopting a risk-based approach will enable competent authorities and banks to ensure that measures to prevent or mitigate money laundering and terrorist and proliferation financing are commensurate with the identified risks.*

[86] *The Committee is aware that, in some jurisdictions, other authorities, such as a financial intelligence unit, may have primary responsibility for assessing compliance with laws and regulations regarding criminal activities in banks, such as fraud, money laundering and terrorist and proliferation financing. Thus, in the context of this principle, "the supervisor" might refer to such other authorities, particularly in essential criteria 7, 8 and 10. In such jurisdictions, the banking supervisor cooperates with such authorities to achieve adherence with the criteria set out in this principle.*

40.67 Essential criteria:

(1) Laws or regulations establish the duties, responsibilities and powers of the supervisor related to the supervision of banks' internal controls and enforcement of compliance with the relevant laws and regulations regarding criminal activities.

(2) The supervisor determines that banks have adequate policies and processes that promote high ethical and professional standards and prevent the bank from being used intentionally or unintentionally for criminal activities. This includes the monitoring, detection and prevention of criminal activity, and reporting of such suspected activities to the appropriate authorities.

(3) In addition to reporting to the financial intelligence unit or other designated authorities, banks report suspicious activities and incidents of fraud to the banking supervisor if such activities/incidents are material to the safety, soundness or reputation of the bank.[87]

(4) If the supervisor becomes aware of any additional suspicious transactions, it informs the financial intelligence unit and, if applicable, other designated

authorities of such transactions. In addition, the supervisor directly or indirectly shares information related to suspected or actual criminal activities with relevant authorities, in a timely manner.

(5) The supervisor determines that banks establish CDD policies and processes that are well documented and communicated to all relevant staff. The supervisor also determines that such policies and processes are integrated into the bank's overall risk management and include appropriate steps to identify, assess, monitor, manage and mitigate the risks of money laundering, terrorist financing and proliferation financing with respect to customers, countries and regions, as well as to products, services, transactions and delivery channels on an ongoing basis. The CDD management programme, on a group-wide basis, has as its essential elements:

(a) a customer acceptance policy that identifies business relationships that the bank will not accept (or will be terminated) based on identified risks;

(b) an ongoing customer identification, verification and due diligence programme, which encompasses verification of beneficial ownership, understanding the purpose and nature of the business relationship, and risk-based reviews to ensure that CDD information is updated and relevant;

(c) policies and processes to monitor transactions on an ongoing basis and identify unusual or potentially suspicious transactions as well as those individuals or entities subject to the United Nations sanctions related to terrorism and proliferation financing;

(d) enhanced due diligence on high-risk accounts (eg escalation to the bank's senior management of decisions on entering into business relationships with these accounts or maintaining such relationships when an existing relationship becomes high-risk);

(e) enhanced due diligence on politically exposed persons (including their family members and close associates) encompassing, among other things, escalation to the bank's senior management of decisions on entering into business relationships with these persons; and

(f) clear rules on what records must be kept on CDD and individual transactions and their retention period. Such records have at least a five-year retention period.

(6) The supervisor determines that banks have specific policies and processes regarding correspondent banking and other similar relationships, in addition to normal due diligence. Such policies and processes include:

(a) gathering sufficient information about their respondent banks to understand fully the nature of their business and customer base, their reputation, how they are supervised and whether they have been subject to money laundering, terrorism financing or proliferation financing investigations or regulatory actions;

(b) prohibitions on establishing or continuing correspondent banking relationships with those banks that do not have adequate controls to manage the risk of criminal activities, that are not effectively supervised by the relevant authorities, or that are considered to be shell banks; and

(c) senior management approval for entering into new correspondent banking relationships.

(7) The supervisor determines that banks have sufficient controls and systems to prevent, identify and report potential abuses of financial services, including money laundering, terrorism financing and proliferation financing.

(8) The supervisor has adequate powers to take action against a bank that does not comply with relevant laws and regulations regarding criminal activities.

(9) The supervisor determines that banks have:

(a) requirements for internal audit and/or external experts to independently evaluate the relevant risk management policies, processes and controls. The supervisor has access to their reports;

(b) effective policies and processes to designate a compliance officer at the bank's management level to manage the financial crimes compliance programme, and a dedicated officer to whom potential abuses of the bank's financial services (including suspicious transactions) are reported;

(c) a compliance function with adequate powers, reporting independence, staff and other resources;

(d) adequate screening policies and processes to ensure high ethical and professional standards when hiring staff or when entering into an agency or outsourcing relationship;

(e) ongoing training programmes for their staff, including on CDD and methods to monitor and detect criminal and suspicious activities; and

(f) policies and processes to report criminal activities by staff to competent authorities.

(10) The supervisor determines that banks have and follow clear policies and processes for staff to report any issues related to the abuse of the banks' financial services to local management and/or the relevant dedicated officer. The supervisor also determines that banks have and utilise adequate management information systems to provide the banks' boards, management and dedicated officers with timely and appropriate information on such activities.

(11) Laws provide that a member of a bank's staff who reports suspicious activity in good faith either internally or directly to the relevant authority cannot be held liable.

(12) The supervisor, directly or indirectly, cooperates with relevant domestic and foreign financial sector authorities or exchanges information with them regarding suspected or actual criminal activities present in banks, where this information is for supervisory purposes.

(13) Unless another authority is responsible, the supervisor has in-house resources with specialist expertise for addressing criminal activities detected in banks. In this case, the supervisor regularly provides information on the risks of money laundering, terrorism financing and proliferation financing to the banks.

(14) The supervisor determines that banks have in place group-wide programmes to address money laundering, terrorist financing and proliferation financing, including policies and procedures for sharing information within the group for these purposes.

Footnotes

[87] *In accordance with international standards, banks are to report suspicious activities involving cases of potential money laundering, terrorist financing and proliferation financing to the relevant national centre, which is established either as an independent governmental authority or as a department within an existing authority or authorities that serves as a financial intelligence unit.*

BCP98

Update on Committee standards, guidelines and sound practices

This chapter lists Committee standards, guidelines and sound practices that have been published since the last substantive review of the Core Principles.

Version effective as of 25 Apr 2024

First version in the consolidated Basel Framework.

98.1 Supervision and supervisory practices are not static. The Committee frequently issues new (and revises existing) standards, guidelines and sound practices. These are designed to strengthen regulatory and supervisory regimes, particularly for internationally active banks in Committee member jurisdictions. Supervisors are encouraged to move towards the adoption of updated and new international supervisory standards as they are issued.

98.2 Any standards that are consolidated in the Basel Framework are automatically incorporated into the Basel Core Principles when "Basel Framework" is referred to in the text. Similarly, when the Basel Core Principles refer to "applicable standards", this refers to the most recent BCBS standard or guideline that is effective.

98.3 The Committee has included this annex as a resource on supervisory practices and emerging risks that have evolved since the last review of the Basel Core Principles. When the next review of the Basel Core Principles is conducted, it will consider whether and how to embed any specific requirements or learnings from these publications within the text of the Core Principles.

98.4 This list is updated biennially.

Standards	Table 1

Guidelines	Table 2

Sound practices	Table 3

Other standard-setting bodies' publications	Table 4

BCP99

Structure and guidance for assessment reports prepared by the International Monetary Fund and World Bank

This chapter outlines guidance for the preparation of assessment reports by the International Monetary Fund and World Bank.

Version effective as of 25 Apr 2024

First version in the consolidated Basel Framework.

99.1 This section presents guidance and a format recommended by the IMF and the World Bank for the presentation and organisation of the Basel Core Principles (BCP) assessment reports by assessors in the context of the FSAP and standalone assessments. A self-assessment[1] conducted by the country's authorities prior to IMF-World Bank assessments is an essential element in the process and should also follow this guidance and format.

Footnotes

[1] *Such self-assessment should be made available to assessors well in advance – also considering the possible need for translation – accompanied by the supporting legislation and regulation.*

99.2 The BCP assessment report should be divided into eight parts:

(1) a "summary and main findings" section;

(2) a general section providing background information and information on the methodology used;

(3) an overview of institutional setting and market infrastructure;

(4) a review of preconditions for effective banking supervision;

(5) detailed principle-by-principle assessments;

(6) a compliance table summarising the results of the assessment;

(7) recommended actions; and

(8) the authorities' response.

The following paragraphs provide a brief description of each of the eight parts.

99.3 A short "summary and main findings section" should provide an overview of the main findings and main recommendations of the report. It should read as an executive summary, with the main findings for several principles aggregated in a few paragraphs under subtitles. For example, assessors may choose to consolidate findings and recommendations under the subtitles of Responsibility, objectives, powers, independence and accountability (principles 1–2), Ownership, licensing and structure (principles 4–7), Methods of ongoing supervision (principles 8–10), Corrective and sanctioning powers of supervisors (principle 11), Cooperation, consolidated, and cross-border banking supervision (principles 3, 12–13), Corporate governance (principle 14), Prudential requirements, regulatory framework, accounting and disclosure (principles 15–29).

99.4 A brief introduction and methodology section which provides background information on the assessment conducted, ie the context in which the assessment is being conducted and the methodology used. This section should:

(1) Indicate that the scope of the assessment has been selected with the authorities' agreement, mentioning in particular whether the authorities agreed to be assessed and graded on the basis of only the essential criteria or on the basis of additional criteria too. The names and affiliations of the assessors should be mentioned in this section.

(2) Mention the sources used for the assessment such as any self-assessments, questionnaires filled out by the authorities, relevant laws, regulations and instructions, and other documentation, such as reports, studies, public statements, websites, unpublished guidelines, directives, supervisory reports and assessments.

(3) Identify counterparty authorities and mention, in a generic way, senior officials[2] with whom interviews were held and meetings with other domestic supervisory authorities, private sector participants, other relevant government authorities or industry associations (such as bankers' associations, auditors and accountants).

(4) Mention factors that impeded or facilitated the assessment. In particular, information gaps (such as lack of access to supervisory materials or translated documents) should be mentioned, and an indication should be given of the extent to which these gaps may have affected the assessment.[3]

Footnotes

[2] *Names are typically avoided, in order to protect individuals and encourage candour.*

[3] *If the lack of information adversely impacts the quality and depth of the assessment of a particular Core Principle, assessors should refer to this in the comment section of the assessment template and document the obstacles encountered, in particular where access to in-depth information is crucial in evaluating compliance. Such issues should be brought to the attention of the mission leaders and, where necessary, referred to headquarters staff for guidance.*

99.5 The third section should provide an overview of the supervisory environment for the financial sector, with a brief description of the institutional and legal setting, in particular the mandate and oversight roles of the different supervisory authorities, the existence of unregulated financial intermediaries and the role of

self-regulatory organisations. Furthermore, it should provide a general description of the structure of the financial markets and, in particular, the banking sector, mentioning the number of banks, total assets to gross domestic product, a basic review of banking stability, capital adequacy, leverage, asset quality, liquidity, profitability and risk profile of the sector, and information on ownership, ie foreign versus domestic, state-owned versus privately owned, the existence of conglomerates or unregulated affiliates, and similar information. If the assessment is part of an FSAP, this section can be shorter, summarising and cross-referencing other FSAP documents.

99.6 The fourth section should provide an overview of the preconditions for effective banking supervision, as described in this BCP standard. Experience has shown that insufficient implementation of the preconditions can seriously undermine the quality and effectiveness of banking supervision. Assessors should aim to give a factual review of preconditions so that the reader of the report is able to clearly understand the environment in which the banking system and the supervisory framework are operating. This will provide the perspective for a better appreciation of the assessment and grading of individual principles. The review normally should take up no more than one or two paragraphs for each type of precondition and should follow the headings indicated below.

(1) Sound and sustainable macroeconomic policies: the review should describe those aspects that could affect the structure and performance of the banking system and should not express an opinion on the adequacy of policies in these areas. It may make reference to analyses and recommendations in existing IMF and World Bank documents, such as Article IV and other Bank and Fund programme-related reports.

(2) A well established framework for financial stability policy formulation: the review should indicate the existence or otherwise of a clear framework for macroprudential surveillance and stability policy formulation. It should cover clarity of roles and mandates of the relevant agencies; the mechanisms for effective inter-agency cooperation and coordination; and communication of macroprudential analyses, risks and policies, and their outcomes. Assessors may rely on independent assessments of the adequacy and effectiveness of the framework, where available.

(3) A well developed public infrastructure: a factual review of the public infrastructure should focus on elements relevant to the banking system and, where appropriate, it should be prepared in coordination with other

specialists on the mission and the IMF-World Bank country teams. This part of the review of the preconditions could cover issues such as the presence of a good credit culture, a system of business laws, including corporate, bankruptcy, contract, consumer protection and private property laws, that is consistently enforced and provides a mechanism for the fair resolution of disputes; the presence of well trained and reliable accounting, auditing and legal professions; an effective and reliable judiciary; an adequate financial sector regulation; and efficient payment, clearing and settlement systems.

(4) A clear framework for crisis management, recovery and resolution: the review should cover the availability of a sound institutional framework for crisis management and resolution of banks, and the clarity of the roles and mandates of the relevant agencies. While evidence of effectiveness may be observed in the actual management and resolution of past crises, it may be also available from documentation of the outcomes of crisis simulation exercises conducted in the jurisdiction. Assessors may rely on independent assessments of the adequacy and effectiveness of the framework, where available.

(5) An appropriate level of systemic protection (or public safety net): an overview of the safety nets or systemic protection could, for instance, include the following elements: an analysis of the functions of the various entities involved, such as supervisory authorities, the deposit insurer and the central bank. This would be followed by a review of the existence of a well defined process for dealing with crisis situations, such as the resolution of a failed financial institution. This would be combined with a description of the coordination of the roles of the various entities involved in this process. Additionally, in connection with the use of public funds (including central bank funds), a review of whether sufficient measures are in place to minimise moral hazard would be conducted. Moreover, the mechanisms to meet banks' temporary short-term liquidity needs, primarily through the interbank market, but also from other sources, would need to be described.

(6) Effective market discipline: a review of market discipline could, for instance, cover issues such as the presence of rules on corporate governance, transparency and audited financial disclosure; appropriate incentive structures for the hiring and removal of managers and board members; protection of shareholders' rights; adequate availability of market and consumer information; disclosure of government influence in banks; tools for the exercise of market discipline, such as the mobility of deposits and other assets held in banks; adequate periodicity of interest rate and other price

quotes; an effective framework for mergers, takeovers and acquisitions of equity interests, the possibility of foreign entry into the markets, and foreign-financed takeovers.

99.7 BCP assessors should not assess preconditions themselves, as this is beyond the scope of the individual standard assessments. Assessors should rely to the greatest extent possible on official IMF and World Bank documents and seek to ensure that the brief description and comments are consistent. Where relevant, assessors should attempt to include in their analysis the linkages between these factors and the effectiveness of supervision. As described in the next section, the assessment of compliance with individual Core Principles should mention clearly how it is likely to be primarily affected by preconditions that are considered to be weak. If shortcomings in preconditions are material to the effectiveness of supervision, they may affect the grading of the affected Core Principles. Any suggestions aimed at addressing deficiencies in preconditions are not part of the recommendations of the assessment but can be made into general FSAP recommendations within the scope of the FSAP exercise.

99.8 The fifth section contains a detailed principle-by-principle assessment, providing a "description" of the system with regard to each criterion within a principle; a grading or "assessment"; and "comments". The template for the detailed assessment is structured as follows.

Principle (x) (repeating verbatim the text of the Principle)	
Essential criteria (EC)	
Description and findings regarding EC1	
Description and findings regarding EC2	
Description and findings regarding EC3	
Additional criteria (AC) (only if the authorities choose to be assessed and graded against these too)	
Description and findings regarding AC1	
Description and findings regarding ACn	
Assessment of Principle (x)	Compliant / Largely compliant / Materially non-compliant / Non-compliant / Not applicable
Comments	

99.9 The "description and findings" section of each criterion should provide information on the practice as observed in the country being assessed. It should cite and summarise the main elements of the relevant laws and regulations. This should be done in such a way that the relevant law or regulation can be easily located, for instance by reference to URLs, official gazettes and similar sources. Insofar as possible and relevant, the description should be structured as follows:

(1) banking laws and supporting regulations;

(2) prudential regulations, including prudential reports and public disclosure;

(3) supervisory tools and instruments;

(4) the institutional capacity of the supervisory authority; and

(5) evidence of implementation and/or enforcement or the lack of it.

99.10 Evidence of implementation and/or enforcement is essential: without the effective use of the powers vested in the supervisor and implementation of rules and regulations, even a well designed supervisory system will not be effective. Examples of practical implementation should be provided by the authorities, reviewed by the assessors and mentioned in the report.[4]

Footnotes

[4] *For instance: how many times over the past years have the authorities applied corrective action? How frequently have banks been inspected on-site? How many licensing applications have been received, and how many have been accepted/turned down? Have asset quality reports been prepared by the inspectors, and how have the conclusions been communicated to senior bank and banking supervision management?*

99.11 The "assessment" section of the template should contain only one line, stating whether the system is "compliant", "largely compliant", "materially non-compliant", "non-compliant" or "not applicable" as described in BCP20.9 and BCP20.10. There are three assessment options:

(1) Unless the country explicitly selects another option, compliance with the Core Principles will be assessed and graded only with reference to the essential criteria.

(2) A country may voluntarily choose to be assessed against the additional criteria, in order to identify areas in which it could enhance its regulation and supervision further and benefit from assessors' comments on how this could be achieved. However, compliance with the Core Principles will still be graded only with reference to the essential criteria.

(3) To accommodate countries that seek to attain best supervisory practices, a country may voluntarily choose to be assessed and graded against both the essential and the additional criteria. It is anticipated that this will provide incentives to jurisdictions, particularly those that are important financial centres, to lead the way in the adoption of the highest supervisory standards.

99.12 The essential criteria set out minimum baseline requirements for sound supervisory practices and are universally applicable in all countries. An assessment of a jurisdiction against the essential criteria must, however, recognise that its supervisory practices should be commensurate with the risk profile and systemic importance of the banks being supervised. In other words, the assessment must consider the context in which the supervisory practices are applied. As with the essential criteria, any assessment against additional criteria should also adopt the principle of proportionality. This principle should underpin

assessment of all criteria even if it is not always explicitly referred to in the criteria. For example, a jurisdiction with many systemically important banks or banks that are part of complex mixed conglomerates will naturally have a higher hurdle to clear to obtain a "compliant" grading as compared to a jurisdiction which only has small and non-complex banks that are primarily engaged in deposit-taking and extending loans.

99.13 The "comments" section of the template should be used to explain why a particular grading was given. In case of a grading below "compliant", this section should be used to highlight the materiality of the observed shortcomings and indicate which measures would be needed to achieve full compliance or a higher level of compliance. This should also be included in the table on "recommended actions" (see below). This reasoning could be structured as follows:

(1) the state of the laws and regulations and their implementation;

(2) the state of the supervisory tools and instruments, for instance reporting formats, early warning systems and inspection manuals;

(3) the quality of practical implementation;

(4) the state of the institutional capacity of the supervisory authority; and

(5) enforcement practices.

99.14 The "comments" should explain the cases where, despite the existence of laws, regulations and policies, weaknesses in implementation contributed to the principle being graded as less than "compliant". Conversely, when a "compliant" grading was given, but observance was demonstrated by the country through different mechanisms, this should be explained. The "comments" section should also highlight when and why compliance with a particular criterion could not be adequately reviewed, such as where certain information was not provided or where key individuals were unavailable to discuss important issues. Requests for information or meetings should be documented in the "comments" section to clearly demonstrate the assessor's attempts to adequately assess a principle.

99.15

Assessors may also include "comments" where they find particularly good practices or rules in some field that might serve as examples and best practice to other countries. Planned initiatives aimed at amending existing or adopting new regulations and practices but which are not yet in effect can receive favourable mentions in this section. Recent legislative, regulatory or supervisory initiatives for which implementation could not be verified should be mentioned in this section as well.

99.16 The assessment and accompanying grades should solely be based on the regulatory framework and supervisory practices in place at the time of the assessment and should not reflect planned initiatives aimed at amending existing regulations and practices or adopting new ones. This would be applicable in the case where actions are in process that would result in a higher compliance rating but have not yet been effected or implemented.

99.17 When linkages between particular principles are evident, or between preconditions and principles, this section should be used to caution the reader that, although the regulation and practices in principle (x) seem compliant, a "compliant" grading cannot be given because of material deficiencies in the implementation of principle (y) or precondition (z).[5] While recognising that there could be common deficiencies which are both relevant and material enough to affect the rating of more than one principle, assessors should avoid double-counting as far as possible. If the deficiencies found in linked principles or preconditions are not material enough to warrant a downgrade, this should still be brought out in this section of the template.

Footnotes

[5] *For example, the regulation and supervision of capital adequacy may seem compliant, but if material deficiencies are found in another principle, such as provisioning, that will mean capital may be overstated and ratios unreliable.*

99.18 Grading should be given to a principle regardless of the level of development of a country. If certain criteria are not applicable given the size, nature of operations and complexity of a country's banking system, grading of the principle should be based on the level of compliance with the applicable criteria only. This must be clearly explained in the relevant section of the report so that a future review can reconsider the grading if the situation changes. The same applies to a "not applicable" grading of a principle.

99.19

The sixth section of the report comprises a compliance table, summarising the assessments, principle by principle. This table has two versions: the one that does not include explicit grading (Table 2) is to be used in reports on the observance of standards and codes (or ROSCs; see BCP99.22,[6] the version with grading (Table 1) is to be used in the detailed assessment only. This table should convey a clear sense of the degree of compliance, providing a brief description of the main strengths and, especially, weaknesses with respect to each principle. The template is as follows:

Summary compliance with the Core Principles – Detailed Assessment Report (DAR)		Table 1
Core principle	Grade (column not used in ROSCs)	Comments
1. Responsibilities, objectives and powers		
2. Independence, accountability, resourcing and legal protection for supervisors		
3. Cooperation and collaboration		
4. Permissible activities		
5. Licensing criteria		
6. Transfer of significant ownership		
7. Major acquisitions		
8. Supervisory approach		
9. Supervisory techniques and tools		
10. Supervisory reporting		
11. Corrective and sanctioning powers of supervisors		
12. Consolidated supervision		
14. Home-host relationships		
15. Risk management process		
16. Capital adequacy		
17. Credit risk		
18. Problem exposures, provisions and reserves		
19. Concentration risk and large exposure limits		
20. Transactions with related parties		
21. Country and transfer risks		

22. Market risk		
23. Interest rate risk in the banking book		
24. Liquidity risk		
25. Operational risk and operational resilience		
26. Internal control and audit		
27. Financial reporting and external audit		
28. Disclosure and transparency		
29. Abuse of financial services		

Summary compliance with the Core Principles – ROSC	Table 2
Core principle	Comments
1. Responsibilities, objectives and powers	
2. Independence, accountability, resourcing and legal protection for supervisors	
3. Cooperation and collaboration	
4. Permissible activities	
5. Licensing criteria	
6. Transfer of significant ownership	
7. Major acquisitions	
8. Supervisory approach	
9. Supervisory techniques and tools	
10. Supervisory reporting	
11. Corrective and sanctioning powers of supervisors	
12. Consolidated supervision	
14. Home-host relationships	
15. Risk management process	
16. Capital adequacy	
17. Credit risk	
18. Problem exposures, provisions and reserves	
19. Concentration risk and large exposure limits	
20. Transactions with related parties	
21. Country and transfer risks	
22. Market risk	

23. Interest rate risk in the banking book	
24. Liquidity risk	
25. Operational risk and operational resilience	
26. Internal control and audit	
27. Financial reporting and external audit	
28. Disclosure and transparency	
29. Abuse of financial services	

Footnotes

[6] *The ROSC does not include the grading in the table because the grades cannot be fully understood without the description and detailed comments (which are available only in the DAR).*

99.20 The seventh section comprises a "recommended actions" table providing principle-by-principle recommendations for actions and measures to improve the regulatory and supervisory framework and practices. This section should list the suggested steps for improving the compliance and overall effectiveness of the supervisory framework. Recommendations should be proposed on a prioritised basis in each case where deficiencies are identified. The recommended actions should be specific in nature. An explanation could also be provided as to how the recommended action would assist in improving the level of compliance and strengthening the supervisory framework. The institutional responsibility for each suggested action should also be clearly indicated to prevent overlaps or confusion. Recommendations can also be made regarding deficiencies in compliance with the additional criteria and to principles which are fully compliant but where supervisory practice can still be improved. The table should indicate only those principles for which specific recommendations are being made. The template for the recommended actions is as follows.

Recommended actions to improve compliance with the Core Principles and the effectiveness of regulatory and supervisory frameworks	
Reference principle	Recommended action
Principle (x)	Example: suggested introduction of regulation (a), supervisory practice (b)
Principle (y)	Example: suggested introduction of regulation (c), supervisory practice (d)

99.21 The eighth section describes the authorities' response to the assessment.[7] The assessor should provide the supervisory authority or authorities being assessed with an opportunity to respond to the assessment findings, which would include providing the authorities with a full written draft of the assessment. Any differences of opinion on the assessment results should be clearly identified and included in the report. The assessment should allow for greater dialogue, and therefore the assessment team should have had a number of discussions with the supervisors during the assessment process so that the assessment should also reflect the comments, concerns and factual corrections of the supervisors. The authority or authorities should also be requested to prepare a concise written response to the findings ("right of reply"). The assessment should not, however, become the object of negotiations, and assessors and authorities should be willing "to agree to disagree", provided the authorities' views are represented fairly and accurately.

Footnotes

[7] *If no such response is provided within a reasonable time frame, the assessors should note this explicitly and provide a brief summary of the initial response provided by the authorities during their discussion with the assessors at the end of the assessment mission ("wrap-up meeting").*

99.22 The presentation of assessment results in ROSCs is different from the presentation of the outcome of the DAR described above. The ROSC should comprise all of Section 1 and summaries of Sections 2, 3, 4, 7 and 8. There should be no Section 5 (detailed assessment), and the summary table in Section 6 should be amended to remove the "grades" column. All sections should remove references to the grades. An ROSC is a mandatory attachment to the FSAP reports if a full DAR is not published.