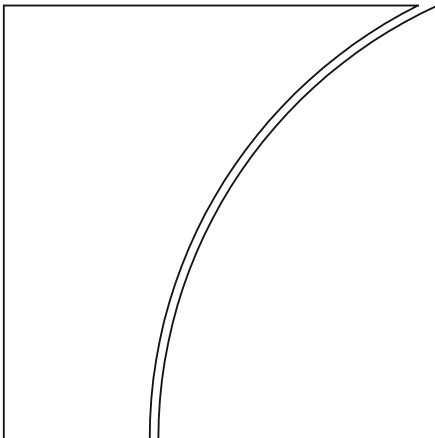
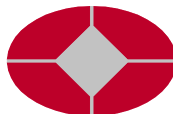
Basel Committee
on Banking Supervision



Finalising post-crisis reforms: an update

A report to G20 Leaders

November 2015



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Finalising post-crisis reforms: an update

1. Introduction

At its meeting in Washington DC in 2008, G20 Leaders agreed to an ambitious and comprehensive strengthening of international bank regulatory standards. The G20 has subsequently reaffirmed this commitment at each of its Summits, with a view to ensuring that the banking system can contribute to strong, sustainable and balanced growth.[1]

This report by the Basel Committee on Banking Supervision, endorsed by the Group of Central Bank Governors and Heads of Supervision (ie the Basel Committee's oversight body), updates G20 Leaders on progress made in strengthening the international regulatory framework for banks.

During 2015, the Basel Committee has made substantial progress towards finalising its post-crisis reforms, including reducing excessive variability in risk-weighted assets. In particular, the Committee:

- consulted on proposed revisions to the standardised approaches for credit risk, market risk and operational risk, and conducted quantitative impact studies on these proposals;
- consulted on the design of a capital floor based on the standardised approaches for credit risk, market risk and operational risk. Work on the calibration of the floor is ongoing and closely related to the finalisation of the overall package of reforms;
- will soon consult on a package of reforms to enhance the comparability of risk-weighted assets calculated using internal ratings-based approaches for credit risk;
- will finalise around the end of the year the revised market risk framework, which will include greater standardisation of traded market risk model requirements;
- finalised the revised Pillar 3 disclosure requirements, which includes the introduction of harmonised templates to improve comparability and consistency of banks' disclosures;
- completed its analysis and monitoring of the drivers of variability of risk-weighted assets in the banking book and trading book. These exercises have now covered all trading book models and all significant portfolios in the banking book. The analysis has resulted in policy proposals to address excessive variation in risk-weighted assets, and also provided important input for supervisory follow-up actions at individual banks.

Consistent with the recent call by the G20, the Committee is well on track to finalise the remaining core elements of the global bank regulatory reform agenda, building on the Basel III standards. In finalising its post-crisis reforms, the Committee will continue to be guided by three overarching principles:

- A firm commitment to its mandate, which is to strengthen the regulation, supervision and practices of banks worldwide with the purpose of enhancing financial stability. A banking system that is resilient will be able to support the real economy and contribute positively to growth over the medium and long term.

[1] G20 Summit communiqués are available at https://g20.org/about-g20/past-summits/.

- An extensive consultation process with a wide range of stakeholders, including academics, analysts, central banks and supervisory authorities, industry participants and the general public.
- A comprehensive and rigorous assessment of the impact of the Committee's policy reforms, both on the banking system and the wider macroeconomy, the output of which is reflected in the design, calibration and transitional arrangements of the Committee's policy measures.

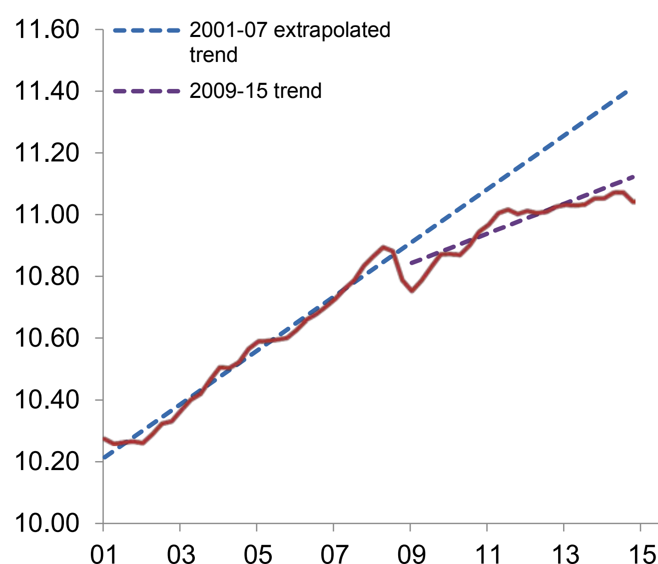
2. Background

The global financial crisis highlighted a number of weaknesses in the financial system, including:

- **too much leverage**, with insufficient high-quality capital funding banks' assets;
- **excessive credit growth**, fuelled in part by weak underwriting standards and an underpricing of credit and liquidity risk;
- a **high degree of systemic risk**, interconnectedness among financial institutions and common exposures to similar shocks;
- **inadequate capital buffers** for banks to mitigate the inherent procyclicality of financial markets and to maintain lending to the real economy in times of stress; and
- **insufficient liquidity buffers and excessive exposure to liquidity risk**, both direct and indirect (eg through the shadow banking system).

These fault lines, coupled with misaligned bank incentives, amplified the depth and severity of the crisis. At the peak of the crisis, the market lost confidence in the reported solvency and liquidity positions of many banks. The weaknesses in the banking sector were transmitted to the rest of the financial system and the real economy, resulting in a massive contraction of credit and liquidity. This, in turn, has had a significant negative impact on economic activity. For example, output for BCBS member countries is still 30% below its pre-crisis trend (Chart 1). Put differently, the loss in output for BCBS member countries as a result of the crisis amounts to over $76 trillion.[2]

Chart 1: Real GDP level (USD bn)[(a)(b)]



Sources: National data and BCBS calculations.
(a) Seasonally adjusted quarterly data, on a logarithmic scale, in billions of current US dollars.
(b) Sample consists of BCBS member countries: Argentina, Belgium, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Russia, Singapore, Spain, South Africa, Sweden, Switzerland, Turkey, the United Kingdom and the United States.

[2] Calculated based on current exchange rates.

3. Regulatory response: what has been done – and why?

The Basel III framework, developed by the Basel Committee, is a central element of financial reforms since the crisis.[3] It seeks to address the key weaknesses set out above, which in turn will provide the foundation for a resilient banking system that supports the real economy.

The new framework has two complementary objectives: (i) ensuring minimum standards of resilience so that financial firms are less likely to fail, and (ii) reducing the impact on the financial system and the economy in case they do. It sets significantly higher requirements for loss absorption and places greater emphasis on higher-quality capital (*increasing the quality and level of capital*), while better capturing the full scope of risks that banks face (*enhancing risk capture*). Key new aspects of the framework include a leverage ratio requirement (*constraining leverage*), capital buffers to mitigate various sources of systemic risk (*adding a macroprudential dimension*), and a set of standards limiting liquidity and maturity transformation (*mitigating liquidity risk*).

In addition to strengthening the regulatory framework, the Committee has introduced a range of measures to align incentives and strengthen banks' governance arrangements (*incentives and governance*). It has continued to improve the effectiveness of supervision and to promote full, timely and consistent implementation of its post-crisis reforms *(supervision and implementation),* consistent with one of the priorities of the Turkish G20 Presidency.

The Basel III framework is complementary to other post-crisis financial reforms. This includes measures to improve the resolvability of financial firms, to enhance the transparency and resilience of financial infrastructures and to address the risks posed by credit intermediation involving entities outside the regulated banking system (*complementary reforms*).

Each of these reforms is briefly summarised below.

Increasing the quality and level of capital

The cornerstone of the Basel III reforms is enhanced risk-weighted capital requirements. Changes have been applied to both the numerator of the capital ratio (ie the **definition and quality of bank capital**) and the denominator (ie the computation of risk-weighted assets – discussed below).

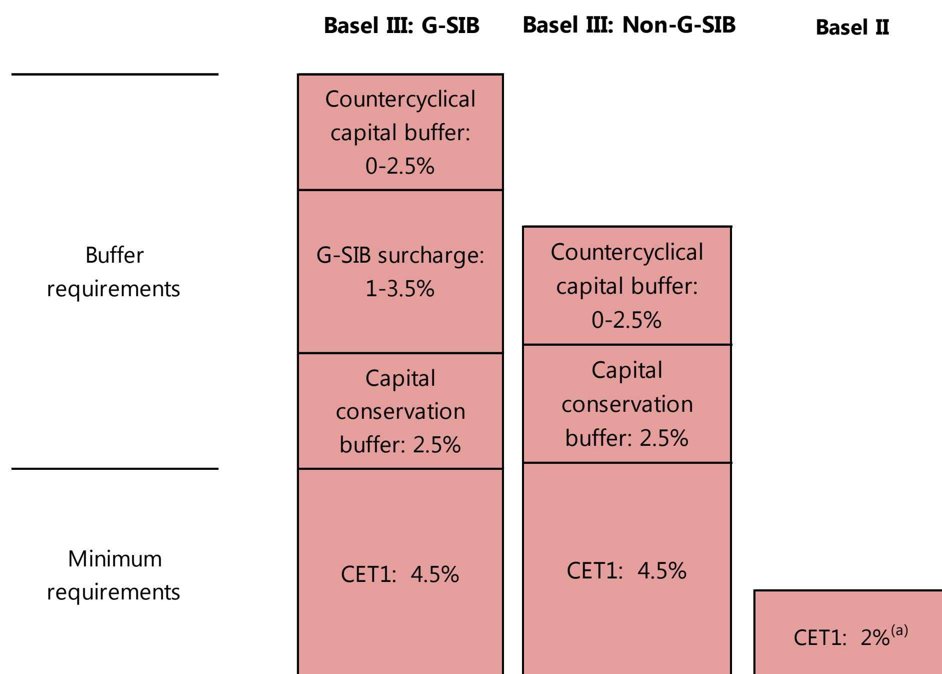
A key element of Basel III is the greater focus on going-concern loss absorbency and, hence, common equity tier 1 (CET1) capital. This has resulted in a much stricter definition of capital. Some so-called "hybrid" capital instruments are no longer recognised as regulatory capital, and assets that do not provide value when a bank fails (eg deferred tax assets that depend on the future profitability of the bank) are deducted from CET1 capital. Stricter criteria also apply to non-CET1 capital instruments, thereby strengthening the definition of Tier 1 and Tier 2 capital.

But better capital is not enough. As the financial crisis revealed, more capital was needed in the banking system. A key element of Basel III is an increase in the **level of capital.** The minimum CET1 capital ratio has been raised to 4.5% of risk-weighted assets, and the corresponding Tier 1 capital ratio set at 6%. Under Basel II, the minimum basic equity capital ratio was 2% of risk-weighted assets. That is

[3] The Basel Committee issued the Basel III framework in December 2010 (available at www.bis.org/bcbs/basel3.htm). Basel III sets out the global regulatory standards on bank capital adequacy and liquidity agreed by the Governors and Heads of Supervision, and endorsed by the G20 Leaders at their November 2010 Seoul Summit. For purposes of this report, the term "Basel III" is used in a broader context to capture the wider range of the Committee's post-crisis reforms.

equivalent to a ratio of around 1% of risk-weighted assets under the new, tighter definition of capital. When combined with the macroprudential buffers introduced by Basel III (discussed below), Basel III has significantly increased the level of high-quality capital in the banking system (Figure 1).

Figure 1: Summary of CET1 capital requirements under Basel III compared to Basel II



Source: BCBS.
(a) Assuming that the predominant part of Tier 1 capital comprised CET1 capital.

Enhancing risk capture

In addition to improving the quality and level of capital, the Committee has revised aspects of the risk-weighted framework to better capture the risk in bank's activities. These reforms were targeted at the major sources of losses in the crisis. These comprise:

- revising the **market risk framework**, including the introduction of a stressed value-at-risk (VaR) requirement and the incorporation of an incremental risk capital charge, which supplements the current VaR framework. These Basel 2.5 revisions quickly addressed weakness revealed during the crisis. As recognised by the Committee at the time, they did not fully address the shortcomings of the framework, which are being addressed as part of the fundamental review of the trading book (see below);
- better capturing the risk of off-balance sheet exposures and **securitisation activities**, including higher risk weights for resecuritisation exposures and the use of (higher) banking book risk weights for securitisations held in the trading book; and
- strengthening capital requirements for **counterparty credit exposures** arising from banks' derivatives, repo and securities financing transactions. This includes the incorporation of a capital charge for credit valuation adjustment risk, capital requirements for banks' exposures to central counterparties, and enhanced standards for collateral management and margining for non-centrally cleared derivatives.

Constraining leverage and excessive concentration

A recurring and defining cause of financial crises is the excessive build-up of on- and off-balance sheet leverage in the banking system. In many cases, banks built up excessive leverage while reporting strong risk-weighted capital ratios. While providing some general protection against such build-ups, risk-weighted capital requirements, whether determined by standardised approaches or internally modelled approaches, can significantly understate the actual risks on banks' balance sheets, and hence the amount of leverage indicated by risk-weighted capital ratios. This is for a variety of reasons, including model choice, estimation errors, supervisory practices and banks' "gaming" of model parameters. As a result, at the height of the crisis, the banking system reduced its leverage in a manner that amplified the downward pressure on asset prices. This deleveraging process exacerbated the feedback loop between losses, bank capital and credit availability.

To constrain leverage in the banking sector and to provide additional safeguards against model risk and measurement error, Basel III introduced a **leverage ratio** to supplement the risk-weighted measure with a simple, transparent and independent measure of risk. The leverage ratio is defined as the ratio of Tier 1 capital to total exposures. The measure of total exposures is the sum of all on-balance sheet exposures, derivative exposures, securities financing transactions and off-balance sheet items. The leverage ratio is also simpler than the ratio of capital to risk-weighted assets and is therefore more easily understood by market participants and more comparable across banks – though at the cost of not providing information about banks' underlying risk profiles. Both measures have their strengths and weaknesses, which highlights the importance of a regulatory framework with multiple constraints.

The impact of excessive leverage on financial crises is exacerbated by concentrated exposures to individual counterparties. As a result, in 2014, the Committee introduced a **large-exposures framework**. This is intended to limit 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.

Adding a macroprudential dimension

The financial crisis demonstrated the need for the prudential framework to address systemic risk. This has two principal sources. First, there is a strong collective tendency for financial institutions to take on excessive risk in the upswing of a credit cycle, and to become overly risk-averse in the subsequent downswing. This is referred to as procyclicality. Second, banks typically fail to take account of the spillover effects that their distress might have on the stability of the rest of the financial network and the wider economy. The distress or failure of the world's largest banks, in particular, has large spillover effects.

In guarding against these risks, Basel III represents a fundamental turning point in the design of financial regulation, with an explicit macroprudential dimension supplementing the microprudential elements of the regulatory framework. The macroprudential features of the post-crisis reforms can be grouped into three broad categories:

- First, Basel III introduces the concept of the **capital conservation buffer**. This additional layer of capital, set above the minimum requirement, can be drawn down in times of stress to absorb losses and maintain lending to the real economy. Banks operating at levels below the buffers are subject to restrictions on capital distributions, such as dividends and bonuses.
- Second, it explicitly recognises the systemic risk arising from **interlinkages across financial institutions**. In particular, systemically important banks (at a global or domestic level) are subject to an additional capital buffer to help internalise the externalities associated with their size, complexity and interconnectedness. In addition, Basel III increases the minimum capital requirement for banks' exposures to large financial institutions, and the large-exposures regime

applies a more restrictive limit for exposures between global systemically important banks (G-SIBs).

- Third, it promotes the build-up of additional capital cushions in good times to further enhance resilience and limit procyclicality through the **countercyclical capital buffer**. To help mitigate the risk of regulatory spillovers and thereby to increase the effectiveness of the buffer, a key feature of this buffer regime is the mandatory reciprocity mechanism, whereby Basel Committee member jurisdictions are expected to match the countercyclical capital buffer rate set by other Committee member countries for their banks' exposures in those countries.

In summary, Basel III provides a strong macroprudential framework that takes account of both sources of systemic risk. It also introduces innovative features, including the use of capital buffers, the differentiation of regulatory standards by the systemic importance of banks, and an automatic reciprocity mechanism.

Addressing liquidity risk

In addition to the build-up of unsustainable leverage, a major driver of financial crises is excessive liquidity risk. Banks offer short-term liquidity to depositors and longer-term lending to borrowers; this fundamental role makes them inherently vulnerable to liquidity risk. But there was no international framework for limiting liquidity risks before the crisis. The Committee has now adopted two minimum liquidity standards with complementary objectives:

- The **liquidity coverage ratio**, which requires banks to hold a stock of high-quality liquid assets that can be used to cover their net cash outflows over a 30-day stress period.
- The **net stable funding ratio**, which requires banks to support their business activities with appropriate sources of stable funding.

Incentives and governance

Effective corporate governance is critical to the proper functioning of the banking sector and the economy as a whole. To reflect key lessons regarding deficiencies in bank corporate governance that became apparent during the financial crisis, the Committee has revised its principles for sound **corporate governance practices at banking organisations**. The Committee's guidance assists banking supervisors and provides a reference point for promoting the adoption of sound corporate governance practices by banking organisations. The principles also serve as a reference point for banks' own corporate governance efforts.

Ensuring that remuneration is effectively aligned with risk and performance is an essential element in reducing incentives for excessive risk-taking. The Committee's report on the range of methodologies for **risk and performance alignment of remuneration**, published in 2011, analyses the methods used by banks for incorporating risk into bonus pools and individual compensation schemes.

Supervision and implementation

In parallel to its work to strengthen the regulatory framework, the Committee has continued to improve the effectiveness of supervision. For example, the Committee enhanced the ***Core Principles for effective banking supervision*** to strengthen supervisory practices and risk management. To enhance information-sharing among supervisors, the Committee issued a set of principles for **effective supervisory colleges**, which promote and strengthen the operation of colleges. And to strengthen risk data capabilities and internal risk reporting practices, the Committee published a set of principles for **effective risk data aggregation and risk reporting** for G-SIBs. In addition, the Committee updated its

guidelines for **identifying and dealing with weak banks** to help ensure that supervisors are prepared to mitigate the incidence of weak banks and to deal with them when they occur. Going forward, the Committee will focus on supervisory practices related to **stress testing**, which is increasingly being used by jurisdictions as a supervisory tool and as a method for determining bank capital requirements.

To ensure full, consistent and prompt implementation of agreed reforms, the Committee established the **Regulatory Consistency Assessment Programme** (RCAP) to monitor progress in introducing domestic regulations, assessing their consistency and analysing regulatory outcomes. As part of this programme:

- the Committee periodically monitors the adoption status of Basel III standards;[4]
- the Committee has published assessment reports on the consistency of regulatory implementation for 22 of its members; and
- the Committee has conducted analytical work on the consistency of regulatory outcomes, with a particular focus on the variability of risk-weighted assets in the banking book, trading book and counterparty credit risk framework.

Complementary reforms

As noted above, the Committee's post-crisis reforms have been complemented by reforms developed in other international fora. These include reforms related to the resolvability of banks, the robustness of financial market infrastructures and the oversight of the shadow banking system.

Weaknesses in resolution mechanisms and procedures for banks, especially for those with more complex business models and international operations, significantly increased the cost of the global financial crisis. **Resolution regimes** that enable authorities to quickly deal with failing financial institutions would reduce the costs of bank failure and the exposure of taxpayers to losses. In 2011, the Financial Stability Board (FSB) published the *Key attributes of effective resolution regimes for financial institutions.*[5] More recently, it has introduced an international standard for total loss absorption capacity (TLAC) in resolution. This would require G-SIBs to issue a sufficient amount of debt or capital that could be credibly and feasibly exposed to loss in resolution. In cases where supervisors judge a bank to be non-viable, it must enter the process of resolution, during which TLAC debt is converted into equity or written down. This would allow the authorities to recapitalise the bank in a timely and orderly manner such that it continues to provide key financial services without exposing taxpayers to losses.

Another complementary area of regulatory reform focuses on **financial market infrastructure**. The crisis revealed major shortcomings in the post-trade processing of over-the-counter (OTC) derivatives, notably the inadequate reporting of transactions and an insufficient collateralisation of bilateral counterparty exposures. Measures to improve standards in OTC derivatives markets have covered three principal areas. First, robust legal and regulatory frameworks that place a central counterparty (CCP) between transacting parties for standardised contracts reduce interconnectedness across the financial system. Second, mandatory reporting to trade repositories of transactions not channelled through a CCP, to improve transparency in OTC markets. Third, subjecting non-centrally cleared contracts to more exacting requirements, such as minimum margining arrangements.

[4] The most recent report is available at www.bis.org/bcbs/publ/d338.pdf.

[5] This and other FSB documents are available at www.financialstabilityboard.org.

Other reforms focus on the **shadow banking system**, which provides financial services that complement those of regulated banks. Reforms focused on banks may prompt certain activities to move to the shadow banking sector, producing a build-up of systemic vulnerabilities in the form of leverage and liquidity mismatches. The Committee is reviewing possible spillover risks stemming from banks' interactions with shadow banking entities. The FSB has provided policy recommendations and guidance for further regulatory steps aimed at mitigating this risk. Specific areas include the identification of systemically important non-bank financial institutions, money market fund regulation, and measures to address risks in particular markets or market segments, such as repurchase agreements and securities lending.

4. The Basel Committee's regulatory response: what is left to do?

The reforms summarised above aim to tackle major weaknesses in the pre-crisis regulatory framework. The new framework that has emerged is one with several regulatory ratios intended to complement one another. In addition to the risk-weighted ratio, it now includes a leverage ratio, large-exposure limits, the liquidity coverage ratio and the net stable funding ratio. It also includes loss-absorbing capacity requirements for G-SIBs in resolution. The result is a more robust regulatory framework that seeks to set prudential capital and liquidity requirements that are aligned with risk and that combines risk-weighted measures with gauges of bank strength to deal with the inherent uncertainties of risk measurement and risks not sufficiently captured by a single measure.

Yet, notwithstanding these enhancements, the framework remains centred on risk-weighted capital requirements. In particular:

- the way in which risk is measured – and in particular, extensive reliance on banks' own estimates of risk – has remained the same following the crisis; and
- the specific risk-weighted approaches are essentially the same as they were before the crisis.

In addition to the calibration of the leverage ratio, the main elements of the Committee's remaining policy reform agenda are targeted at addressing fault lines emerging from these features (Figure 2).

Figure 2: Overview and status of reforms[(a)]

	Risk-weighted capital ratio	Leverage ratio	Net stable funding ratio	Liquidity coverage ratio
Numerator	Finalised	Monitoring	Finalised (ASF)	Finalised (HQLA)
Denominator	Ongoing work	Monitoring	Finalised (RSF)	Finalised (net stressed cash outflows)
Disclosure	Finalised[(b)]	Finalised	Finalised	Finalised
Calibration	Finalised	Ongoing work	Finalised	Finalised

(a) Status does not reflect review clauses.
(b) Ongoing revisions to the regulatory framework will be accompanied by Pillar 3 standards where relevant.

The architecture of the risk-weighted framework

In parallel to developing its post-crisis reforms, the Committee has conducted a strategic review of the risk-weighted capital framework to assess whether it strikes the right balance in terms of simplicity, comparability and risk sensitivity.

The high-level design of the risk-weighted framework has generally remained largely unchanged since Basel II. The framework makes use of internally modelled approaches, which were introduced in 1996 for market risk, and in 2006 for credit and operational risk. The rationale was clear: to encourage improved risk measurement and to improve risk sensitivity. This was based on the premise that banks' incentives were aligned with regard to enhancing the accuracy of their risk measurement, and that banks' risk-weighted capital ratios would more accurately measure risk if they were based on banks' own estimates of risk.

The financial crisis has raised questions about the rationale of the existing architecture. As noted in the Committee's 2013 discussion paper on balancing risk sensitivity, simplicity and comparability,[6] the Committee's own empirical analyses, supported by the views of a range of external stakeholders, have raised concerns with regards to these three dimensions:

- **Simplicity**: As the Basel framework has evolved, some parts have become unduly complex. Complexity has rendered aspects of the supervision of large and complex financial institutions more difficult. As capital adequacy calculations have become more complex and employ more sophisticated mathematical models, increasingly high demands are placed on a relatively small pool of supervisors with expert knowledge of advanced modelling methodologies. This is particularly acute in the case of large and complex financial institutions, where the use of models is extensive. And as this complexity has increased, it has also challenged the ability of a bank's board to understand and oversee the way in which the bank manages its risks.
- **Comparability**: A number of studies have found material variation in risk-weighted assets across banks. Complexity associated with the use of internal models, the degree of discretion provided to banks in modelling risk parameters and the use of national discretions have all contributed to this variation. This has highlighted the difficulty of comparing capital ratios. The failure of consistent disclosure to keep pace with these changes has eroded the comparability of banks and challenged the effectiveness of market discipline provided by Pillar 3.
- **Risk sensitivity**: In principle, internal models allow for more accurate risk measurement. But if they are used to set minimum capital requirements, banks have unintended incentives to underestimate risk. Furthermore, some asset classes are inherently difficult to model. This undermines the assumption underlying the current architecture that internal models are always more accurate. A number of empirical studies have suggested that simpler metrics are at times more robust than complex ones. This suggests that the blanket use of internally modelled approaches may not always measure and differentiate risk accurately and appropriately for all portfolios and risk types.

The Committee's ongoing reforms aim to address these fault lines, and can be grouped into three broad categories: (i) enhancing the risk sensitivity and robustness of standardised approaches; (ii) reviewing the role of internal models in the capital framework; and (iii) finalising the design and calibration of the leverage ratio and capital floors.

Enhancing standardised approaches

Standardised approaches facilitate the comparability of banks' capital ratios, but the crisis highlighted a range of shortcomings with the existing approaches. The Committee is working on revising the

[6] Available at www.bis.org/publ/bcbs258.pdf.

standardised approaches across the regulatory framework to enhance their robustness and risk sensitivity. This includes revisions to the standardised approaches for:

- **Credit risk**: The Committee consulted on proposals to revise the standardised approach for credit risk in December 2014; it will consult on revised proposals around the end of the year and conduct a quantitative impact study in early 2016. In choosing the way forward for the revised approach, the Committee will follow the path of simplification, which may include the use of external credit ratings in a non-mechanistic manner.
- **Market risk**: The Committee's fundamental review of the trading book, which will be finalised by the end of 2015, will include a revised standardised approach that is sufficiently risk-sensitive to act as a credible fallback to internal models while still being appropriate for banks that do not require a more sophisticated measurement of market risk.
- **Operational risk**: The Committee consulted last year on revising the standardised approach for operational risk. The Committee is considering changes to its proposal and will consult on a revised standardised approach by the end of the year.

Reviewing the role of internal models

The Committee will soon consult on, or finalise, a set of measures arising from its strategic review. These include the following:

- Credit risk: The Committee is continuing to review possible modifications to the IRB framework to narrow the modelling choices available to banks, particularly in areas for which the use of models may not be suitable for calculating regulatory capital. These reforms will be finalised by the end of 2016.
- Market risk: As part of the Committee's fundamental review of the trading book, the internally-modelled approach (IMA) for market risk will be enhanced. The standardised approach for market risk has also been significantly enhanced and will serve as a credible fall-back to the modelled approach. These reforms will be finalised around the end of 2015.
- Operational risk: The Committee will consult on removing the use of the Advanced Measurement Approach for operational risk. Capital requirements for all banks will be based on the revised standardised measurement approach for operational risk. The consultation will begin around the end of 2015 and will be finalised by the end of 2016.

Finalising the leverage ratio and risk-weighted capital floors

In parallel with the revisions outlined above, the Committee is working on finalising the design and calibration of a Pillar 1 leverage ratio and the use of risk-weighted capital floors based on standardised approaches. These measures help mitigate the risks stemming from excessive variability of risk-weighted assets, gaming of internally-modelled approaches, and modelling errors from standardised and internally-modelled approaches. They form part of the post-crisis multiple constraints framework, with each measure offsetting the shortcomings of the other.

Revisions to the risk-weighted framework

In addition to the revisions related to RWA variability outlined above, the Committee is on track to finalise its key revisions to the risk-weighted framework. These include:

- **Simple, transparent and comparable securitisations**: The Basel Committee and the International Organisation of Securities Commissions finalised the criteria for simple,

transparent and comparable (STC) securitisations earlier this year.[7] More recently, the Committee initiated a consultation proposing the incorporation of these criteria in the revised securitisation framework. The final treatment of STC securitisations will be finalised by the first half of 2016.

- **Interest rate risk in the banking book**: The Committee is reviewing the regulatory treatment of interest rate risk in the banking book. This is particularly important in light of the current exceptionally low interest rate environment in many jurisdictions. The aim of this review is: (i) to ensure that banks have appropriate capital to cover potential losses from exposures to changes in interest rates; and (ii) to limit capital arbitrage between the trading book and banking book, as well as between banking book portfolios subject to different accounting treatments. The Committee consulted on a set of measures earlier this year, and intends to finalise its approach in 2016.

In addition, the Committee has initiated a review of the existing regulatory treatment of sovereign risk and will consider potential policy options. The review is being conducted in a careful, holistic and gradual manner.

Timeline and implementation

The Committee is mindful of the need to finalise the regulatory reform programme, and intends to issue final standards covering the outstanding revisions to the regulatory framework by end-2016.

A summary of the implementation dates of the Committee's completed reforms is provided in the annex.

[7] Available at: www.bis.org/bcbs/publ/d332.pdf.

Annex: Phase-in arrangements of completed post-crisis reforms

	2015	2016	2017	2018	2019
Capital					
Leverage ratio	Disclosure			**1 January (Pillar 1)**	
Minimum CET1 ratio	**4.50%**				
Capital conservation buffer		0.625%	1.25%	1.875%	**2.50%**
G-SIB buffer		0.25 - 0.875%	0.5 - 1.75%	0.75 - 2.625%	**1 - 3.5%**
Countercyclical capital buffer		Reciprocity provisions phased in between Jan 2016 and end-2018			**Full reciprocity**
Phase-in deductions from CET1	40%	60%	80%	100%	**100%**
Minimum T1 ratio	5.50%	**6%**			
Minimum total capital ratio	**8%**				
Capital instruments that no longer qualify	Phased out by 2022				
Liquidity					
Liquidity coverage ratio (LCR)	60%	70%	80%	90%	**100%**
Net stable funding ratio (NSFR)				**1 January**	
Large exposures					**1 January**
Risk-weighted framework					
Capital requirements for equity investments in funds			**1 January**		
Standardised approach for counterparty credit risk (SA-CCR)			**1 January**		
Securitisation framework				**1 January**	
Interim capital requirements for CCP exposures	Effective				
Final capital requirements for CCP exposures			**1 January**		
Margin requirements for OTC derivatives					
Margin requirements for OTC derivatives: IM		Phased in from 1 September 2016 - 1 September 2020			
Margin requirements for OTC derivatives: VM		Phased in from 1 September 2016 - 1 March 2017			
Pillar 3 revisions		**Year-end**			