BASEL COMMITTEE ON BANKING SUPERVISION

BANK FOR INTERNATIONAL SETTLEMENTS

# QIS Frequently Asked Questions (as of 20 December 2002)

Supervisors and banks have raised the following issues since the distribution of the Basel Committee's Quantitative Impact Study 3 (QIS 3). **These FAQs are intended to facilitate the completion of the QIS survey and should not be construed as a definitive official interpretation of the final Accord.** The proposed Accord reforms, their interpretation and ultimate implementation by national supervisors remain subject to change from the on-going consultative process, of which QIS 3 is an essential component.

## A. General

1. *The QIS Instructions and Technical Guidance documents frequently refer to various qualifying criteria of one kind or another. For example, under the IRB approach banks' PD, LGD and/or EAD estimates must meet certain minimum data requirements, including minimum observation periods. Similarly, banks must demonstrate that the exposures they treat as qualifying revolving facilities show a high ratio of future margin income to expected losses. What is the relevance of such criteria for purposes of the QIS?*

**Answer:** QIS3 aims to ascertain a realistic assessment of banks' capital requirements after implementation of the new Accord. We realise that not all banks will currently be able to satisfy all of the qualifying criteria or will have the necessary data available to make all of the required estimates. Best-efforts estimates are therefore acceptable for the QIS; however, bilateral consultation with your supervisor should be used to determine an approach that leads to the most realistic approximation of the proposed capital requirements. Where estimates are used, this should also be reported in the 'Notes' worksheet of the QIS electronic workbook.

2. *We plan to use total principal balances owed excluding accrued fees and interest. Is this acceptable?*

**Answer:** Yes, for QIS purposes this would be an acceptable approximation; however, the exclusion of accrued fees and interest should be reported in the 'Notes' worksheet of the QIS electronic workbook.

3. *Should we use spot or average balances for the QIS?*

**Answer:** We anticipate that most banks will use spot balances (i.e. balances as at a particular date); however, as an exception, it might be appropriate for some banks with highly volatile credit portfolios to use monthly or quarterly averages of daily balances. This should be discussed with your supervisor and the use of average balances reported in the 'Notes' worksheet of the QIS electronic workbook.

4. *What is the appropriate treatment of residual items such as fixed assets and other debtors. In the FIRB and AIRB approaches we found no mention of a capital requirement for tangible fixed assets. Is this correct? If yes, it seems incongruent that tangible fixed assets in the standardised approach have a 100% risk weight (since they are included in other assets) but in the FIRB and AIRB there is no capital requirement at all?*

**Answer:** Section A5 of the 'Data' worksheet requests information on 'Other Assets', which includes fixed assets and other 'residual' items. Also, information relating to the risk weighted assets of these items, calculated under current national capital rules (typically using a 100% risk weight), should be included in the data entered in cells E129 and E130 of the 'Capital' worksheet. This information enters the calculation of required capital under all of the proposed approaches, including the IRB approaches.

5. *Why does the QIS-template contain an item for 'assets not included'? What is the definition of this asset type?*

**Answer:** Ideally banks should include all their assets in QIS. Due to data limitations, inclusion of some assets (e.g. the portfolio of a minor subsidiary) may turn out to be an unsurpassable hurdle. For some banks exclusion of such assets is acceptable, as long as the remaining assets are representative of the bank as a whole, and at least 80% of assets is included in QIS. In order to ensure that your QIS submission can still be reconciled with your published accounts and supervisory returns a separate item for such omitted assets has been included in the template.

*6. The technical guidance (paragraph 23) mentions a floor of 90% respectively 80% of current capital requirements for IRB banks. How should we include this into the QIS templates?*

**Answer:** You should not. QIS calculations are carried out as if the floor were non-existent.

*7. Who should fill in the dark grey cells in the templates?*

**Answer:** No one, they should remain empty.

*8. Should QIS data be reported in thousands or millions of Euro?*

**Answer:** As long as they use the same currency throughout the QIS-templates, banks are free to report in any currency they want. Generally we expect banks to report in millions of local currency, if you use another convention (e.g. reporting in thousands of Euro), you should indicate so in the notes section, in order to allow you supervisor to insert the correct conversion rate in cell E6 of the data worksheet.[1]

*9. If a bank intends to adopt the foundation IRB approach and completes the QIS templates following this approach, is it also necessary to fill out the standardised approach?*

**Answer:** Yes, all banks should complete the standardised approach templates. One of the purposes of QIS is to ensure that the 'incentive structure' of capital requirements is correct, i.e. the Committee wants to ensure that foundation IRB requirements are slightly lower than standardised approach requirements. In order to facilitate this calibration we do not only need information on foundation IRB, but also on standardised approach capital requirements, even if you do not intend to adopt the standardised approach.

*10. In some cases the definition of portfolios is not 100% identical under IRB and under the standardised approach. How should banks proceed in such cases?*

**Answer:** For QIS purposes, banks should including the same exposures in the same portfolio under all approaches. Thus, banks that are able to provide IRB data should use the IRB definition when calculating risk weighted assets under the current, standardised and IRB approaches. Banks providing data only for the standardised approach should use the standardised approach definition.

*11. Should uncommitted lines also be included in the data worksheet?*

[1] When a bank completes the templates using thousands, rather than millions of Euro the supervisor will simply enter 0.001 (i.e. 1,000/1,000,000) in this cell.

**Answer:** Yes, they should be included, but since they have a credit conversion factor of 0% the resulting risk weighted assets will equal zero in the current, the standardised, and the foundation IRB approach. Under advanced IRB, where banks have to estimate their own credit conversion factors (or EAD), banks' historical experience may suggest that part of these lines tends to be used upon default. In this case such exposures should also be included in part b) of the advanced IRB templates and a capital charge will result.

*12. After inserting new columns/rows in the templates, my formulae are no longer functioning correctly. Can you explain how this could happen?*

**Answer:** There are some caveats when enlarging the number of PD-grades (rows) or the number of LGD, EAD or maturity bands (columns). Firstly, always ensure that you insert rows/columns in the middle of the matrix, e.g. between the third and fourth row (or column). The first and the last row (column) may contain different formulae, so inserting new rows (columns) between e.g. the first and second row may corrupt the formulae surrounding the matrix or elsewhere in the template. Secondly, you must ensure that after inserting a row (or column) you copy the formulae immediately, before inserting elements elsewhere in the matrices. For example. if you inserted both columns and rows and then copied the formulae only after that empty spots could turn up in places that should contain formulae or other cell contents.

*13. In which portfolio(s) should exposures to public sector entities (PSEs) be included? Can we treat certain international PSEs that qualify as per the definition (revenue generation capability) as sovereign. In other words, is the definition of PSE equivalent to sovereign applicable only for domestic entities and all international PSEs are treated as claims on banks?*

**Answer:** For the standardised approach, guidance on the appropriate classification of exposures to PSEs is set out in paragraphs 31 and 32 of the Technical Guidance and paragraph 2.2 of the QIS 3 Instructions document.

Accordingly, claims on domestic (and foreign) PSEs should generally be risk weighted according to either option 1 or option 2 for claims on banks as advised by your national supervisor. (This is regardless of the option chosen by your supervisor for claims on banks in your country.) Option 2, should also be applied to PSEs without the preferential treatment that is available, at national discretion, for short-term claims on banks.

There are two exceptions:

- your supervisor may advise that claims on certain PSEs (ie those that function as corporates in competitive markets) should be treated as corporate exposures; and

- claims on certain domestic PSEs (e.g. those with revenue raising powers) may be treated as claims on the sovereign in whose jurisdiction the PSEs are established. Such PSEs in your country should be treated as advised by your national supervisor.

  Where the national discretion in the second dot point is exercised in a particular jurisdiction, other national supervisors may allow their banks to risk weight claims on such PSEs in the same manner. In order to lessen the burden for respondent banks, however, *for QIS purposes* it will be acceptable for banks to risk weight their exposures to such PSEs as for claims on banks (i.e. as described in the

second paragraph to this answer). That said, the aim of the QIS is to produce good quality estimates of banks' capital requirements. Therefore, where a bank considers that this simplification could lead to a sizeable misstatement, this should be raised with the bank's national supervisor and an alternative methodology agreed.

The Technical Guidance specifies no particular treatment for PSEs under the IRB approaches. Therefore, for QIS purposes banks should allocate their PSE exposures to particular portfolios according to the treatment described above for the standardised approach. This is in keeping with the QIS principle that exposures should not be shifted between portfolios under the different calculation approaches in order to facilitate analysis of the survey data.

*14. Does a bank that is completing the IRB-templates still have the opportunity of using the simple approach to CRM for completion of the standardised approach templates?*

**Answer:** It is important that all banks that apply foundation or advanced IRB use the *comprehensive* approach to CRM for completion of the standardised approach templates. Since under IRB the simple approach to CRM is not available, banks by definition have to apply the comprehensive approach to their IRB templates. Using the same method for the standardised approach improves the comparability of capital requirement, under the IRB and standardised approaches.

*15. Under the standardised approach not all portfolios include the full set of possible risk weights. When applying the substitution treatment for guarantees this sometimes makes it impossible to insert an appropriate risk weight for the exposures before credit risk mitigation. If I, for instance, had a retail exposure (original risk weight 75%) guaranteed by a sovereign, how should I input the risk weight before credit risk mitigation in templates?*

**Answer:** In such cases you should distribute the exposures over the available risk weight categories in order to ensure that the exposure is weighted appropriately. In the example you provided, you should put 50% of the exposure in the 50% risk weight category and 50% in the 100% risk weight category to create an average risk weight of 75%. Of course, you should only do this in the 'all exposures' column, in column G and beyond you should be able to allocate the exposure to a single category.

*16. When I enter a PD of 0% or 100% the templates generate an error message. How can I correct this?*

**Answer:** The functions used to calculate risk weights assume the existence of some uncertainty and consequently cannot deal with values equal to 0% or 100%. Using a PD of 0.000001%, respectively 99.999999%, solves this problem. The minor round off error introduced will not materially affect the results.

*17. The Technical Guidance (paragraphs 50 and 273) describes that certain commitments can be converted to credit equivalent amounts using a credit conversion factor of 0%. Effectively this means that there is no capital requirement for such commitments. Shouldn't banks use a higher credit conversion factor in cases were there is reason to assume that a 0% credit conversion factor is too low?*

**Answer:** No, for QIS purposes banks should use the 0% credit conversion factor, even if they or their supervisors think this is too low. Foundation IRB relies on round numbers for some of the parameters that drive capital requirements. Overestimates and

underestimates in such numbers offset each other. Consequently, using another than the 0% credit conversion factor would bias QIS results.

18. *Under the current Accord, foreign exchange contracts with an original maturity of 14 calendar days or less may be excluded from the capital calculations. How should these exposures be treated under the QIS?*

**Answer:** For QIS purposes, assume that the existing treatment continues, i.e. if your national supervisor currently excludes such exposures from regulatory capital, the exposures should be excluded from the standardised and IRB calculations.

19. *On the Data Sheet, Panel A5, there seems to be two different lines (87 and 90-92) to place fixed assets. Is there any difference between these two lines, and if so, what are they?*

**Answer:** Fixed assets that are specifically "fixed assets (own use)" and "fixed assets acquired through credit defaults" should be reported in cells 91 and 92, respectively. Put any other fixed assets in cell 87 unless there is a desire to specify them separately in the other assets section. The categories are not treated differently. The distinction is for information only.

## B. Trading Book

1. *For QIS purposes what exposures should be included in the trading book?*

**Answer:** Although there will be some refinement of the trading book definition under the new Accord, for purposes of QIS 3, banks should continue to use current national rules in defining their trading book exposures.

2. *The general market risk charge in cell E109 of the Capital sheet is placed under the heading 'trading book'. I assume, however, that the number to be reported there should also include the market risk capital charge for FX and commodity risk in the banking book.*

**Answer:** You are correct; this cell should include the full general market risk capital charge and should also include market risk capital charges related to the banking book, i.e. the general market risk capital charge as reported according to current regulation.

3. *In paragraph 648 of the Technical Guidance, the calculation of specific risk capital charges for positions hedged by credit derivatives is discussed. Is the cross-reference to paragraph 133(g) correct?*

**Answer:** The cross-reference is incorrect. It should refer to paragraph 156(g).

4. *In the specific risk section (section c) of the trading book spreadsheets there is a specific risk charge of 4% that appears among the other specific risk charges which is not described in the Technical Guidance. To which securities should the 4% charge be applied?*

**Answer:** The specific risk charges in section c of the spreadsheets apply to debt and equity securities in the trading book as described in the *1996 Amendment to the Capital Accord to Incorporate Market Risks* as well as the new charges for government paper

discussed in paragraph 643 of the Technical Guidance. Therefore, equity securities meeting certain conditions described in the 1996 Amendment may be eligible for a 4% specific risk charge. Paragraph 643 of the Technical Guidance only discusses changes to the specific risk charges (for government paper). Other applicable specific risk charges are found in the 1996 Amendment.

## C. Standardised Approach

*1. How should real estate leasing be treated in the standardised approach?*

**Answer:** For QIS3 purposes, real estate leasing is to be treated as claims secured by real estate mortgages. The risk weights applicable will depend upon whether the real estate leasing is residential or commercial. If the former, the real estate leasing can be eligible to the 40% risk provided the use of strict valuation rules for determining the value of the leased property. If the latter, then a risk weight of 100% should be applied to the claim derived from the real estate leasing (i.e. such claims would not, for QIS3 purposes, receive a preferential risk weight of 50%).

*2. The Technical Guidance indicates that past due retail claims cannot be included in the regulatory retail portfolios for risk-weighting purposes. What does this mean?*

**Answer:** As indicated in paragraphs 43 and 46, such claims should be slotted in the same way as any other past due assets in the standardised approach, i.e. they are risk weighted at 150% (or 100% if secured against residential real estate and if not past due would qualify for a 40% risk weight). Moreover, under the standardised approach past due exposures do not qualify as retail exposures for calculating the granularity limit as described in paragraph 43. (Refer also FAQ C.10)

*3. When data on the availability of external ratings for certain exposures are not readily available, can we allocate all these exposures to the 'unrated' bucket or should we proceed in another way (e.g. categorising them according to the mapping from our internal grades)?*

**Answer:** For QIS purposes we want to make sure that we approximate capital requirements as accurately as possible. Ideally each exposure should be classified according to its rating. When necessary sampling procedures should be used. Unrated exposures should never be included in any other but the unrated bucket.

*4. Does the 'past-due' concept include also overdrafts?*

**Answer:** If the overdraft is within limit and the bank has not sought repayment from the customer, then do not treat as past due. If the bank has sought repayment of funds and the account is not brought within the limit within 90 days, treat as past due. Also note that in the standardised approach it is possible to encounter situations where an exposure to a single counterparty is past due while other exposures to the same counterparty are not past due.

*5. Under the standardised approach, for non-mortgage retail exposures, what number of days counts as past due and what risk weight are past due exposures allocated to (100% or 150%)?*

**Answer:** For QIS, use 90 days and place the past due non-mortgage exposures in the 150% bucket. Note that for QIS purposes this applies even if your national supervisor has indicated that a longer past-due trigger should be used for the IRB approach.

*6. Under the standardised approach, how will the risk weights for retail commitments be determined?*

**Answer:** Under the standardised approach undrawn retail exposures that are unconditionally cancellable receive no capital charge. Other retail commitments are converted to credit equivalent amounts at 20% or 50%, depending on whether the maturity of the commitment is up to or beyond one year. Next the credit equivalent amount is risk weighted at 75%.

*7. What are the criteria to be eligible for the preferential treatment (i.e. 40% risk weight) for residential mortgage loans?*

**Answer:** As specified in the Technical Guidance document, the 40% risk weight can be applied to loans that satisfy criteria, such as the requirement to have a 'substantial margin of additional security over the amount of the loan based on strict evaluation rules', mentioned in paragraph 44. The Technical Guidance document also specifies that:

a) Specific requirements left to national discretion.

These requirements, including any specific loan-to-value standards or valuation rules, are not prescribed by the Basel Committee but are instead left up to national supervisory agencies in order to account for the particular circumstances in domestic markets and, more generally, 'national arrangements for the provision of housing finance.'

b) Some implications of a restrictive application in accordance with strict prudential criteria.

However, the document also states that the concessionary risk weight is to be applied 'restrictively for residential purposes and in accordance with strict prudential criteria'.

The first implication of such a principle, which was also part of the 1988 Basel Accord (see paragraph 41 of this document), is that all claims secured by residential mortgages should not automatically qualify for the concessionary risk weight but should only qualify to the extent that they satisfy strict prudential criteria developed on a national basis.

c) Treatment of performing loans not 'fully secured' by residential mortgages.

Performing loans that are not regarded as being 'fully secured' by residential mortgages and therefore would not qualify for a 40% risk weight but that otherwise meet the general criteria for inclusion in the 'regulatory retail portfolio' would qualify for a 75% risk weight. The 75% risk weight should in such cases be applied to the whole loan, i.e. the loan would not be split into secured and unsecured positions.

*8. What risk weight should be applied to an SME loan that is secured by residential real estate?*

**Answer:** For QIS-purposes the following guidelines should be followed. If this loan satisfies the criteria for claims secured by residential property (set out in paragraph 44 of the

Technical Guidance) it obtains a 40% risk weight (unless it is more than 90 days past due, in which case the risk weight will be 100%). If it does not satisfy these criteria, a 75% risk weight may be applicable, as long as the loan is not past due and satisfies the criteria for the regulatory retail portfolio. In all other cases it would be treated as a corporate exposure.

9. *Does the € 1 million limit for the regulatory retail portfolio apply to the aggregate exposure to an individual counterpart? In other words if Mr X has multiple retail loans to a bank for a total amount of € 1.5 million, would this full amount obtain a 100%, rather than a 75% risk weighting?*

**Answer:** You are correct. Once the aggregate exposure to a counterpart—excluding exposures against this counterpart that are eligible for the residential mortgage asset class—exceeds the € 1 million limit, all exposures to this counterpart are excluded from the retail portfolio. Banks that experience difficulty in applying this rule to their QIS-submissions should contact their supervisor and try to come up with a reasonable approximation.

10. *Paragraph 46 of the Technical Guidance states that "past due retail claims cannot be included in the regulatory retail portfolio to calculate the granularity limit, as specified in paragraph 43, for risk-weighting purposes". Does this mean that past due claims should be excluded from both the denominator and numerator when determining whether an obligor's exposure falls below or above the granularity criterion of 0.2% of the overall regulatory retail portfolio?*

**Answer:** Paragraph 46 says that past due claims should be excluded from the overall regulatory retail portfolio when calculating the granularity limit in absolute terms (i.e. 0.2% x size of overall retail portfolio). This limit should then be compared with the obligor's total exposures (including any past due exposures) to determine whether the obligor's exposures belong in the retail portfolio.

The limit can identically be thought of in relative terms (i.e. size of obligor's exposure / size of overall retail portfolio). Again, past due exposures should be excluded from the overall retail portfolio (the denominator) but should remain in the obligor's total exposures (the numerator).

## D. National Discretion

1. *In many cases, host-country decisions on national discretion items will affect the appropriate capital treatment to be applied to certain exposures in banks' portfolios. How should these exposures be treated in QIS 3?*

**Answer:** For QIS purposes, banks should apply the national discretions provided by their home supervisor across all of their exposures (i.e. host-country decisions relating to national discretion items should not impact on banks' responses to the QIS questionnaire). Refer to paragraph 2.2 of the QIS Instructions document.

2. *On the issue of rollout, what is the permissible level of flexibility with respect to the all-or-nothing approach (i.e. in completing the QIS to what extent can banks opt to use the standardised approach for certain 'immaterial' subsidiaries/portfolios, including in other jurisdictions)?*

**Answer:** The concept of rollout does not apply to QIS. In completing the QIS, banks should not mix estimates based on the standardised and IRB approaches. To the extent possible, banks should try to apply the IRB approach to their entire book, even if this means that estimates for some blocks of business will not be up to the standards that will be expected when IRB is ultimately implemented. Banks may use estimates to provide PD distributions to give more complete calculations for QIS. Where this is not possible, the relevant exposures should be excluded from the QIS analysis (though the existence of such exposures should be reported in the relevant sections of the 'Data' worksheet).

*3. Could you please elaborate on the meaning of national discretion items 21, 22, and 44?*

**Answer:** Items 21 and 22 refer to the maturity adjustment under IRB. Within IRB it is possible to use either an assumed average maturity of 2.5 years (the so called implicit maturity adjustment), or to use the actual maturity of an exposure (the explicit maturity adjustment) following the criteria prescribed in the Technical Guidance. Whether banks should use an explicit or an implicit maturity correction extent depends on the national discretion exercised by their supervisor.

Under *advanced IRB*, banks application of an explicit maturity adjustment is mandatory for all exposures with the following exception: your national supervisor may decide (item 44) that exposures to domestic firms with a turnover of less than € 500 million must be exempted from the explicit maturity adjustment and that to such exposures an implicit maturity assumption of 2.5 years must be applied.

Under *foundation IRB* supervisors will prescribe whether banks should use the implicit 2.5 years assumption, or the explicit adjustment. In any case, banks must apply the correction consistently, i.e. they must stick to either the explicit or the implicit adjustment for all exposures.

## E. Credit Risk Mitigation

*1. When there is more than one type of collateral or when there is both collateral and guarantee covering an exposure, how should banks sub-divide the exposure in calculating the risk mitigation effect?*

**Answer:** When there is a difference in the risk-weighted assets depending on how the exposure is sub-divided, banks should calculate the effect of mitigation in a way that maximises the capital benefit of risk mitigation (i.e. the way that minimises the amount of risk weighted assets). Generally, for different types of collateral, this would mean calculating the effect of the risk mitigant in the same order as in the table presented in paragraph 256.

*2. Footnote 63 states that '(a) lower LGD may be substituted ... when the guarantee is supported by eligible collateral. Are there any conditions that such collateral must meet?*

**Answer:** The lending bank must have clear rights over the collateral, and must be able to liquidate or take legal possession of it, in a timely manner, in the event of default, insolvency or bankruptcy (or otherwise-defined credit event set out in the transaction

document) of the borrower, even if the guarantor is not in default. All the minimum requirements set out in paragraphs 80-81 and 86-89 need to be met.

3. *How should the maturity for repos governed by master-netting agreements be calculated under the IRB approach when there is an explicit maturity adjustment?*

**Answer:** The weighted average maturity of the transactions under the master-netting agreement should be used, with a 5-day floor applied to the average. The nominal value of each transaction should be used for weighting the maturity.

4. *The rules say that no transaction using CRM techniques should obtain a higher capital charge than the same transaction without such techniques would receive. In some cases, however, using the substitution treatment for guarantees may lead to higher capital charges (e.g. if a retail exposure is guaranteed by a bank with a relatively high PD). How should we proceed in such cases?*

**Answer:** In such cases you should ignore the guarantee. If using substitution treatment would result in higher capital charges, capital charges must be calculated as if the guarantee were not available.

5. *At multiple places the technical guidance indicates that banks must ensure that their adjustments to PD and/or LGD estimates do not reflect double default effects. What exactly does that mean?*

**Answer:** If a bank has an exposure to a counterparty with a PD of 1% that is guaranteed by a counterparty with a PD of 0.5% the risk mitigating effect of this guarantee is recognised by allowing the bank to treat this exposure as if it were an exposure to the guarantor rather than the original obligor. A truly risk sensitive model would also recognise the effect that default of the guarantor is only an issue when the original obligor is also in default. In an ideal case—when defaults of the obligor and the guarantor are fully independent—this would imply that capital requirements could be based on a PD that equals $PD_{obligor}$ X $PD_{guarantor}$, a number which would be considerably smaller than either the PD of the obligor or that of the guarantor and consequently there would be a considerable difference in capital requirements. The difference between both numbers is called the double default effect. The true double default effect is highly dependent upon the correlation between obligor and guarantor at the moment of default of the obligor. Estimation of this correlation is beyond the scope of the new capital accord, and consequently any double default effects should be ignored for purposes of calculating capital requirements.

6. *If a bank is using a credit risk mitigant, like insurance, that effectively functions like a guarantee is it allowed to treat such risk mitigants as an ordinary guarantee?*

**Answer:** Yes, provided that such a products meets the operational requirements for guarantees laid down in paragraph 154 to 165 of the Technical Guidance any product may be treated as a guarantee.

7. *Paragraph 171 of the Technical Guidance indicates for unrated first-to-default derivatives 'the risk weights of the assets included in the basket will be aggregated and multiplied by the nominal amount of the protection provided by the credit derivative to obtain the risk weighted asset amount.' What exactly does aggregation mean in this case?*

**Answer:** The term aggregation implies that you will have to use the sum of the risk weights on the individual assets. If there were three assets in the basket and each had a PD of

1%, the resulting risk weight would be 3 times 97.44% which equals approximately 292%.

8. *For the IRB approach: what exactly are the dividing lines between residential mortgages, real estate as collateral in the IRB approach, income producing real estate and high volatility commercial real estate?*

**Answer:** Unfortunately there is no clear answer to this question, borderline cases are unavoidable. Generally speaking a bank would first look whether the loan could be assigned to the retail portfolio. In order to be eligible (paragraph 194), the exposure should be secured by residential properties. In such cases the size of the loan is irrelevant, both first and subsequent liens qualify; the loan, however, has to be extended to an individual that is the owner-occupier of the property (paragraph 192). If the latter condition is not met, the loan should be treated as corporate. Supervisors, however, have some discretion regarding the inclusion of buildings containing only a few rental units or loans secured by a single or small number of condominium or co-operative housing units in a single building or complex (paragraph 192).[2]

When a loan is not eligible as a residential mortgage it should be treated as a corporate loan. Whether the real estate collateral reduces LGD depends on the extent of collateralisation (as described in paragraph 256 of the Technical Guidance) and on whether the set of eligibility criteria described in paragraphs 455–458 of the Technical Guidance has been met.

When the loan is collateralised by income producing real estate banks should use their own loss experience and supervisory prescription in order to determine whether the real estate involved should be treated as high volatility commercial real estate (HVCRE). If this is the case banks will be required to map their internal risk grades to five supervisory categories, each of which is associated with a specific risk weight. If this is the case, application of the special HVCRE is obligatory for both foundation and advanced IRB banks (see paragraph 215). If the exposure is not included in the HVCRE exposure class the exposure probably should be classified as income producing commercial real estate. For this category of exposures (see paragraphs 212–214), banks that do not meet the requirements for the estimation of PD under the corporate foundation approach will be required to map their internal risk grades to five supervisory categories, each of which is associated with a specific risk weight.[3] Banks that meet the requirements for the estimation of PD will be able to use the foundation approach to corporate exposures to derive risk weights for these exposures. Banks that meet the requirements for the estimation of PD and LGD and EAD will be able to use the advanced approach to corporate exposures to derive risk weights for these exposures.

9. *I have an exposure of € 100 against which the obligors pledges € 20 of eligible real estate and € 20 of eligible other collateral. My reading of the second bullet of paragraph 257 is that this collateral is eligible, since, although the individual amounts do not meet the 30% threshold, the sum (€ 40) does meet it. Is this interpretation correct?*

[2] For QIS-purposes, national supervisors may give more detailed prescriptions to their banks.

[3] When one of the supervisory slotting approaches has been applied, eligibility of collateral is no longer an issue, since the availability of collateral is reflected in the slotting criteria themselves.

**Answer:** Yes, you are correct. This exposure does meet the minimum required degree of collateralisation and consequently you can assign an LGD of 35% to € 20/140% (for the real estate collateral and an LGD of 40% to € 20/140% (for the other collateral). The remainder of the loan (€ 71.43) falls in the 45% LGD-band.

*10. In reviewing the table for the standard supervisory haircuts in paragraph 114 of the Technical Guidance, I've noticed what appear to be two different sets of ratings. Are both the Standard and Poor's and Moody's ratings used in this table?*

**Answer:** The ratings used in paragraph 114 are Standard and Poor's long-term and short-term rating grades. For example, the reference to 'AAA-AA–/A1' refers to a long-term rating range of 'AAA to AA–' and a short-term rating of 'A1.' Both long-term and short-term ratings are presented because the haircut is applied to collateral with varying residual maturities.

*11. A n-th-to-default swap on a pool of assets (e.g. 100 corporate loans, the nominal amount of each loan is € 10 million) fulfils the criteria of the definition in paragraph 486 of the Technical Guidance (specifically a) and c)). Should this swap be treated under the securitisation framework?*

**Answer:** No, a n-th-to-default swap should be treated according to the rules set for credit risk mitigation (paragraphs 170-173).

## F. Definition of Default/Loss

*1. We plan to use gross principal write-off adjusted for expected recovery as the definition of loss. Is this acceptable?*

**Answer:** Banks providing LGD information in QIS 3 should take account of all of the required loss elements, including unpaid principal and accrued interest, discount effects and the direct and indirect costs of collecting on defaulted exposures. Where this information is not (or is not easily) available, banks should incorporate estimates for each of these elements. Use of estimates for one or more of the required loss elements, and the basis of the estimates, should be reported in the 'Notes' worksheet of the QIS electronic workbook.

*2. We understand that data should be reported using the 90-days past due trigger except for credit cards, for which banks in our country will follow the national industry and accounting practice of 180-days past due. Will similar treatment be extended to non-retail exposures? For example, are the following cases considered acceptable: (i) for a loan which is fully (i.e. 100%) government guaranteed, a 365 days past due trigger will apply; (ii) for fully secured loans (where the collection of the debt is in process and the collection efforts are reasonably expect to result in the repayment of the debt or in restoring to current status), a 180-days past due trigger will apply.*

**Answer:** In the case of retail (i.e. not just credit cards) and PSE (Public Sector Entities) exposures, national supervisors may substitute figures of up to 180 days for the usual 90-days figure. Banks should refer to the National Discretions checklist (Item 28) provided by their national supervisor to see if they should apply a longer than 90-days definition to certain products.

For all other exposures, banks should follow the usual rule of 90 days. If this is not possible, disclose the definition used and discuss the effects of the non-compliant definition in the 'Notes' worksheet of the QIS electronic workbook.

3. *The IRB definition of default introduces the term 'material' credit obligation. The 90-days past due trigger is supposed to be a backstop. So if the credit obligation is considered immaterial, then the obligor or obligation in question would not be in default. If this is correct, will the level of materiality be determined by the Basel Committee, national supervisors or the banks themselves?*

**Answer:** It is unlikely that the Committee will provide an exact definition of materiality. The fact that the word materiality is mentioned mainly functions as a safety valve that ensures that it is not necessary to declare default in situations where a default definitely is not in order (e.g. a corporate obligor who is € 1 over its overdraft limit for more than 90 days but also has a performing multimillion euro facility). Banks should explain what definition of material they used for QIS purposes.

4. *In the proposed 'Definition of Default', the 'elements to be taken as indications of unlikeliness to pay' include 6 items (refer QIS 3 Technical Guidance para. 400). Does this mean that if one or more of the conditions are met, then the borrower is to be classified as in 'default'?*

**Answer:** Since the publication of the second consultative paper the Committee has interacted intensively with industry in order to improve the definition of default. The definition of default published in the Technical Guidance is the result of that process. The new definition of default gives more flexibility to reflect the particular circumstances of each jurisdiction. The definition requires that any assets past due more than 90 days are classified as in default, i.e. the 90 days only function as a backstop. But in other respects national supervisors are given freedom to give guidance to banks on how the 'unlikely to pay' leg applies in their jurisdiction, taking account of the particularities of that jurisdiction. In framing such guidance they will include at least the local application of the six indicators. That does not mean that data histories of each event need to be maintained separately but it does mean that the bank will need to know if any of the six events has happened with respect to an exposure.

It is recognised that for QIS purposes (and during the transitional period) banks may not be able to change their default definitions, but banks should indicate how much the capital requirements could be affected by using the different definition.

## G. Maturity

1. *Will the maturity adjustment in both the Foundation and Advanced IRB approaches now definitely be Mark to Market (MTM) based, rather than the choice of MTM or Default Mode that existed in CP2?*

**Answer:** There is no longer a Default Mode-based option as contemplated in CP2. The explicit maturity adjustments being used for both the FIRB and AIRB are based on a mark to market methodology.

2. *The maturity adjustment in paragraph 235 of the instructions contains a LOG-function. Is this a power 10 log ($^{10}$log) or a natural logarithm ($^{e}$log)?*

**Answer:** The IRB maturity adjustment function uses the natural logarithm (i.e. $^{e}$log which in Excel is the LN() function).

3. *We understand that there can be a maturity adjustment exemption for smaller corporates (i.e., domestic firms) that have less than € 500 million in consolidated sales and consolidated asset. Must both of these conditions be met individually? That is, sales must be less then € 500 million and assets less than € 500 million? It does not mean the combination of sales and assets must be less than € 500 million, correct?*

**Answer:** Although banks using advanced IRB generally are required to use the explicit maturity adjustment, national supervisors may exempt facilities to certain smaller domestic corporate borrowers from this adjustment. Both sales and assets for the consolidated group of which the firm is a part should be less that € 500 million, i.e. both criteria have to be met individually. Also note that if your supervisor uses this option you are required to use it, i.e. if this exemption is applicable *all* eligible domestic firms should be risk weighted using an implicit maturity correction.

4. *Could you please indicate in which cases your proposals rely on maturity at origination and in which cases they use remaining maturity?*

**Answer:** In general, the Technical Guidance relies on the remaining maturity of a facility. Some preferential treatments refer to the nature of a transaction, rather than its remaining maturity and consequently rely on the maturity at origination. For your convenience, a list of definitions relying on maturity at origination is provided below:

1) Paragraphs 36 and 38 of the Technical Guidance describe a preferential treatment for short-term exposures to banks that subject to national treatment may be available. The definition of short-term exposures relies on maturity at origination (which should be 3 months or less).

2) Credit conversion factors for off-balance sheet items (paragraph 50) also rely on maturity at origination: 'Commitments with an original maturity up to one year and commitments with an original maturity over one year will receive, respectively, a credit conversion factor of 20% and 50%.'

3) Paragraph 239 describes a national discretion for the application of lower risk weights to certain short-term specialised lending exposures. This preferential treatment is only available for exposures with an original maturity of less than 2.5 years.

4) Where applicable, maturity adjustment under IRB is based on remaining maturity subject to a floor of one year. However, a carve-out exists for some exposures with an original maturity of less than three months (*note that the carve-out depends on maturity at origination, whereas the maturity used for the maturity adjustment is the remaining maturity*—see paragraphs 282–283 of the Technical Guidance).

5) The definition of receivables eligible for treatment as 'pools of receivables' relies on maturity at origination (see paragraph 459 of the Technical Guidance).

5. *If a bank is using the explicit maturity adjustment, is it acceptable to put all exposures into a single maturity band and to assign the average maturity of all exposures within the exposure class to this band?*

**Answer:** Unfortunately no. The maturity adjustment depends both on PD and on maturity. Banks should at least calculate the average maturity per rating grade. If they employ such an approach the PD maturity matrix may look similar to the one presented below.

| PD bands | | |
|---|---|---|
| Lower bound | Upper bound | Estimated PD |
| 0.01% | 0.03% | 0.03% |
| 0.03% | 0.10% | 0.05% |
| 0.10% | 0.30% | 0.20% |
| 0.30% | 0.50% | 0.40% |
| 0,50% | 1.00% | 0.70% |
| 1.00% | 3.00% | 2.00% |
| 3.00% | 10.00% | 5.00% |
| etc | etc | 0.00% |
| etc | etc | 0.00% |
| etc | etc | 0.00% |
| In default | | 100.00% |

| | | Maturity bands - enter amount of exposures in each maturity band | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Maturity band (add bands as appropriate) | Exposures exempted from explicit maturity adjustment | Less than 3 months | | | | | | |
| Effective maturity | 2.5 | 0.2 | 4.7 | 3.1 | 2.3 | 2.5 | 1.7 | 1.0 |
| | | 100 | 1,500 | | | | | |
| | | 10 | | 2,300 | | | | |
| | | | | | 4,700 | | | |
| | | | | | | 4,100 | | |
| | | | | | | | 2,400 | |
| | | | | | | | | 1,100 |
| | 20 | | | | | | | |
| | 20 | 110 | 1,500 | 2,300 | 4,700 | 4,100 | 2,400 | 1,100 |

6. *Paragraph 280 of the Technical Guidance discusses the potential for an exemption from a maturity adjustment for certain smaller domestic corporate borrowers if the reported sales (i.e.turnover) as well as total assets for the consolidated group of which the firm is a part of is less than € 500 million. However, paragraph 236 allows for loans to small- and medium-sized entities to be distinguished from other corporate borrowers if the sales for the consolidated group of which the firm is a part is less than € 50 million. Were these two thresholds intended to be the same?*

**Answer:** There are different thresholds and exemptions, including discretion by national supervisors, in many areas of the Technical Guidance. The €50 mm turnover (i.e. sales) criterion is used to determine whether a corporate enterprise qualifies for the preferential capital treatment afforded 'SMEs.' There is a separate 'maturity adjustment' exemption for corporate exposures that have less the € 500 million in consolidated sales and less than € 500 million in consolidated assets. These criteria are separate and distinct. The former is used to identify SMEs that qualify for preferential capital treatment, and the latter is used to determine if a maturity adjustment exemption can be applied to the capital calculation of certain exposures.

## H. Operational Risk

**Please note, these operational risk FAQs are intended to facilitate the completion of the QIS survey and operational risk loss data collection exercises and, as with other FAQs, must not be construed as an official interpretation of the final Accord.**

### (i) Gross income

1. *Under the Standardised Approach, can banks use internal pricing methods to allocate gross income (revenue and/or expenses) across business lines?*

**Answer:** For the QIS, banks may use established internal pricing methods to allocate gross income provided that total gross income for the bank (as recorded under the Basic Indicator Approach) still equals the sum of gross income for the eight business lines.

Principles for mapping business lines are set out in more detail in Paragraph 605 and Annex 6 of the *QIS 3 Technical Guidance.*

2. *Should income from participations be included in gross income? If so, which business line?*

**Answer:** For purposes of the QIS, income from participations should be included in gross income. For guidance on the business line classification of a particular participation, banks should contact their national supervisor.

3. *The wording of the definition of gross income used in the QIS instructions is slightly different from the wording used in the 2002 Operational risk loss data collection exercise. Does this mean that the scope of gross income has changed?*

**Answer:** No. The new phrasing of the definition of gross income in the QIS instructions is intended to clarify the definition of gross income, rather than to change it. As such, gross income data reported in the QIS3 exercise should generally be the same as equivalent data reported in the 2002 loss data collection exercise. Where the data are different, banks may be contacted by their supervisor to confirm the reasons for the difference.

4. *How should gross income be recorded under the Basic Indicator Approach or the Standardised Approach where a bank has incurred an overall gross loss or a gross loss in respect of some of its business lines?*

**Answer:** For the purposes of the QIS, the bank should report its actual gross income figures under the Basic Indicator Approach and/or for each business line under the Standardised Approach whether the amounts are positive or negative. Where the 3-year average gross income under the BIA is negative, the spreadsheet automatically calculates zero capital (Table D, Column 6). However, under the Standardised Approach, where the 3-year average gross income for a particular business line is negative (Table F, Column 4), the bank should manually input zero required capital for that business line (Table F, Column 6).

**(ii) Operational risk loss data**

5. *What date should be used for the reporting of an operational risk loss event? For example, should banks use the date of the occurrence of the event, the date of discovery, the date the loss is registered in the accounts?*

**Answer:** For the purposes of the loss data surveys, losses should be reported according to their 'date of discovery', i.e. the date that the event is recorded in internal reporting systems (not the financial statement). All subsequent loss effects relating to the event should be recorded at this date, regardless of exactly when they crystallised.

6. *How should losses from multiple impact events be recorded (i.e. an event that reflects a number of different event types and/or affects a number of different business lines)?*

**Answer:** For the purposes of the loss data surveys, banks should allocate the gross loss amounts to the different relevant business lines and/or event types but report the same reference number for each of these separate loss events. Thus, the loss is considered to be one event and is given one reference number but it is allocated to the appropriate business lines and event types.

*7. Some operational risk events result in net gains to the bank. How should these be treated?*

**Answer:** For the purpose of the loss data surveys, these occurrences are near misses and thus should not be included as an operational risk loss.

*8. Should losses that have elements of both credit risk and operational risk be included in the operational risk loss data survey?*

**Answer:** Yes, losses that have elements of credit risk and operational risk should be reported in the loss data survey. However, any loss that is not purely operational risk should be clearly identified as such in the survey. A similar approach should be used for losses that have elements of both market risk and operational risk.

## I. IRB-Inputs: PD, LGD and EAD

*1. For purposes of IRB can overdraft facilities be considered uncommitted (with a 0% conversion factor)?*

**Answer:** Not automatically. In order to be eligible for the 0% conversion factor such overdraft facilities should be unconditionally and immediately cancellable. For retail exposures banks always have to estimate EAD (or include usage of lines in their estimates of LGD). See paragraph 275 of the instructions for further guidance.

*2. The Retail IRB framework makes reference to asset maturity being 'subsumed in the correlation assumption,' suggesting the risk weight functions have been calibrated for maturity. Does this have any impact on the way PDs should be calculated?*

**Answer:** No. The fact that the maturity is subsumed in the correlation assumption just implies that for retail mortgages no explicit maturity adjustment is required. This decision was based on the consideration that the introduction of a separate maturity adjustment for retail mortgages would be too complicated since this would require a separate analysis of prepayment risk and transition behaviour of mortgage counterparties, etc.

*3. A common method of deriving PD is to use monthly or quarterly data from a particular pricing segment within a portfolio. A potential issue arises if the observations are drawn from a growing portfolio. The loss information will be biased to the early portion of the loss vintage curve, and the early portion of the loss vintage curve is not fully ramped. Therefore, losses will be lower and PD will be understated. Is this acceptable?*

**Answer:** In general, the Committee wants to look to strong internal bank practices as a guidepost. Where a bank believes the issue identified here is material, presumably the bank is considering whether additional steps (i.e. segmentation by vintage) are necessary to achieve appropriate estimates of risk and economic capital. The Committee has stepped back from explicit mandatory segmentation requirements in areas such as this because of concerns with excessive burden and complexity, but with the understanding that banks will take the appropriate steps to deliver unbiased estimates of PD. Over time, of course, approaches that do not deliver unbiased estimates will be shown to be inadequate through the results that they produce.

*4. To which maturity band should banks allocate default items in foundation IRB tables? What does maturity mean in such a case?*

**Answer:** For the purpose of calculating correct capital requirements, banks can assign defaulted exposures to any maturity band they like since the maturity correction is a function of PD and when PD equals 1 (as is the case for defaulted loans) the maturity correction becomes nil, i.e. for defaulted assets capital requirements do not depend upon maturity. The QIS-templates automatically take account of this and include such exposures in the column 'maturities exempted from the explicit maturity adjustment'.

*5. In some portfolios (e.g. smaller leasing transactions) individual PD estimates may not be available. How should banks deal with such transactions?*

**Answer:** For purposes of QIS the bank should first determine whether the portfolio meets the retail definition. In that case it should be included in the retail portfolio using average PD, LGD and EAD figures for homogeneous buckets of this pool of assets (for purposes of QIS the bank may treat the whole portfolio as a single bucket if completing QIS otherwise would not be possible). If the portfolio does not satisfy the retail criteria, it should be included in the corporate portfolio. All eligible collateral, if any, should be taken into account for calculating (foundation) IRB LGDs. Although corporate exposures should be rated individually, we realise that such a requirement may not be realistic for QIS. Consequently, for this exercise some concept of an average PD may suffice. In addition, banks can use estimates.

*6. What does the Committee mean by time weighted versus default weighted LGDs and EADs?*

**Answer:** A time weighted LGD is calculated by first calculating LGDs for individual years, then averaging these LGD estimates. It gives disproportionate weight to a default that occurs in a year when few other credits default. If LGD is correlated to the number of defaults, then a time weighted LGD is a biased estimate of the cycle average LGD. A simple illustration may help to clarify this issue. Assume we have the following loss history:

year 1: 10 defaults of € 1, average loss 10 cents

year 2: 1000 defaults of € 1, average loss 90 cents

year 3: 10 defaults of € 1, average loss 10 cents

LGD is obtained by dividing total losses by the total amount of assets in default (or a process that results in that outcome), not by adding 10, 90 and 10 and dividing by 3 (or a similar procedure), i.e. we would obtain a number closer to 90 then to 10 (in this case 88.4%). This is what we call a default weighted LGD. Ceteris paribus the same logic should be applied when calculating EAD.

*7. Are banks allowed to correct PD and LGD estimates in order to reflect the impact of credit derivatives?*

**Answer:** Only advanced IRB banks are allowed to do so, although they should ensure that their estimates do not take into account any effect of double default (see question E.5).

*8. What are the PDs associated with external ratings?*

**Answer:** Unfortunately, it is not possible for the Committee to say what PDs are associated with external ratings. Banks which seek to align or map their internal grades to the rating scale of an external credit assessment institution will need to be able to demonstrate the reasonableness of their mapping to the external benchmark. It will not be sufficient for a bank to simply assert that its internal grades align with an external agency's grades. Some guidance on how this might be achieved is provided in paragraphs 409 and 410 of the Technical Guidance document.

For QIS-purposes, we advise such banks to use appropriate long-range historical default rates of the relevant rating agency and apply adjustments where necessary, i.e. to make your own 'best-efforts' PD estimates using whatever information is available to you. Even limited internal data series may be helpful in deriving PD estimates that are more meaningful than estimates that would be based on information of the rating agencies alone (the process used should be included in the answers to the data quality questionnaire submitted by your supervisor).

9. *What effect will loan covenants have on a loans maturity or status (committed vs. uncommitted)?*

**Answer:** Loan covenants do not affect maturity. Maturity refers to contractual payments. As long as a covenant has not been breached contractual maturity is not affected. Similarly status depends on a facility being unconditionally cancellable. If there is a covenant, cancellation of the facility is, by definition, conditional and consequently the facility cannot be considered uncommitted. In this case (provided that banks satisfy the criteria mention in paragraph 274 of the Technical Guidance), however, covenants may influence the amount to which the credit conversion factor is applied. Advanced IRB banks should incorporate the effect of covenants in their estimates of EAD.

10. *There seems to be an inconsistency between the foundation IRB templates and paragraph 251 of the Technical Guidance. If I have a loan of € 100 with financial collateral worth € 88, paragraph 251 instructs me to apply the haircuts mentioned in paragraph 110 in the Technical Guidance and calculate LGD*. Assuming a collateral haircut of 10% applies, I calculate LGD* as follows: LGD* = 45% * (100-(100%-10%)*88)/100 = 45% * 20/100 = 9%. I do not see how I should input this LGD-value in your templates.*

**Answer:** You are correct, the templates take an approach that is slightly different from the approach described in paragraph 251 but that arrives at the same answer. In order to input your example into the templates, you must do the following. You have a loan of € 100 with financial collateral of € 88. After application of haircuts (10%), the collateral is worth € 80. Following the approach taken in the templates, you enter an amount of € 80 under the heading financial collateral (LGD = 0%) and the remaining € 20 under the heading senior unsecured (LGD = 45%). As you will see this generates an average LGD for your exposure equal to (80*0%+20*45%)/100 = 9%. The presentation used in the templates gives us more data on the kind of collateral you are using.

11. *What is the time horizon over which PD is intended to represent the likelihood of an asset entering default?*

**Answer:** The PD associated with a rating grade is meant to be a one-year PD. When assigning exposures to a rating grade, however, banks are expected to take into account the borrower's ability and willingness to contractually perform despite adverse economic conditions or the occurrence of unexpected events.

*12. How should advanced IRB banks input their EAD estimates in the templates? Is there a difference between (undrawn) committed lines and other off-balance sheet items reported in panel a) of the AIRB templates?*

**Answer:** The concept of EAD applies to both undrawn committed and other off-balance sheet exposures in AIRB. However, *within the spreadsheets* banks are *only* required to split *committed* undrawn exposures by EAD bands. In order to reflect their own estimates of EAD for undrawn commitments—including commitments that would receive a 0% Credit Conversion Factor under Foundation IRB—banks should use the PD/EAD matrix in panel b) of the AIRB templates.

PD/EAD matrices are not included for other off-balance sheet items in panel a). This is because banks must apply (their own) credit conversion factors to these exposures *outside* the spreadsheets, as is the case in the standardised and FIRB approaches for other off-balance sheet items. The resulting exposure amounts (which reflect internal estimates of EAD) should be entered in the appropriate yellow cell in panel a) within the IRB sheets. Further information on the EADs used for these off-balance sheet items should be included in the notes section.

Note that repos and OTC derivatives reported in panels c) and d) continue to be treated according to the existing rules (replacement cost plus potential future exposure) as set out in paragraph 278 of the Technical Guidance.

*13. Under foundation IRB, what is the LGD that I should use for a subordinated loan against which an amount of eligible collateral in excess of the minimum collateralisation requirements mentioned in paragraph 256 of the Technical Guidance has been pledged?*

**Answer:** Whether collateralised or not, the full amount of a subordinated loan would receive a 75% regulatory LGD under foundation IRB (see footnote 61 of the Technical Guidance).

*14. Under IRB, if I have given a commitment to provide a counterparty with a short-term self-liquidating trade letter of credit (that would satisfy the criteria mentioned in paragraph 276 of the Technical Guidance), may I apply the relevant credit conversion factors successively? In other words, may I first apply the 50% conversion factor for the facility and next the 75% conversion factor in order to reflect that I only provided a commitment and not the facility itself?*

**Answer:** Yes, the overall credit conversion factor for such a commitment would be 50%*75% = 37.5% under the IRB approach. Similarly, under the standardised approach the overall credit conversion factor would be 20%x20% (for an undrawn trade finance facility of less than 12 months) or 20%x50% (for an undrawn trade finance facility of 1 year or more).

*15. The AIRB spreadsheets provide an EAD input grid only for (undrawn) commitments. What about other off-balance sheet items?*

**Answer:** The concept of EAD applies to both committed and other off-balance sheet exposures in AIRB. However, *within* the spreadsheets banks are only required to split *undrawn committed* exposures by EAD bands. In order to reflect their own estimates of EAD for commitments—including commitments that would receive a 0% Credit Conversion Factor under Foundation IRB (refer FAQ A.11)—banks should use the PD/EAD grid in panel b) of the AIRB templates.

PD/EAD grids are not included for other off-balance sheet items. This is because banks must apply credit conversion factors to these exposures *outside* the spreadsheets (as is the case in the standardised and FIRB approaches for other off-balance sheet items). Except for OTC derivatives, banks should use their own credit conversion (i.e. EAD) factors. The resulting exposure amounts (reflecting internal estimates of EAD) should be entered in the appropriate yellow cell in panel a) within the IRB sheets. Further information on the EADs used for off-balance sheet items should be included in the notes section.

In the case of OTC derivatives, banks are not permitted to use their own internal assessments of credit equivalent amounts. Instead, the rules for the standardised approach continue to apply (refer paragraph 298 of the Technical Guidance).

## J. Provisions

*1. How should specific provisions against non-defaulted assets be treated?*

**Answer:** Most specific provisions will be created against defaulted assets. The Committee realises, however, that in some cases relatively small specific provisions will be created against non-defaulted assets. For QIS-purposes, such provisions should be allocated to the pool for general provisions (such amounts must be separately identified in the 'Notes' spreadsheet). The QIS-treatment differs from the Technical Guidance, which indicates that a specific provision on a non-defaulted asset will be used to offset the EL-charge on this asset. Surpluses will not be eligible to offset the capital charges on any other asset (see paragraph 331 of the Technical Guidance). If a bank or supervisor is of the opinion that treating all specific provisions on non-defaulted assets, as surplus general provisions will result in a material misrepresentation of QIS-findings for this bank, only the portion of such provisions eligible upon implementation can be included.

*2. If an obligor only defaults on part of an exposure, wouldn't it be more consistent to declare only this part of the exposure in default and create a specific provision against it?*

**Answer:** The proposed capital accord uses a PD-definition that is obligor-specific. Each obligor should have one, unique PD. This automatically implies that all exposures of an obligor will go into default simultaneously.[4] Consequently, the amount in default and the exposure size will be identical. Exposures must be measured as the amount legally owed, i.e. gross of any provisions. The provisions will be used to offset the capital charge on the defaulted asset.

An example may clarify this. If an obligor defaulted on a total loan amount of 100 with an LGD of 45% and the bank creates a provision of 45 the risk weighted assets equal 12.5 X ((45% X 100) - 45) = 0, which reflects the fact that any expected losses have been provisioned for. If we would have corrected exposure size rather than capital

[4] As indicated in paragraph 343 of the technical instructions there are two exceptions two this rule. 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.

charges risk weighted assets would have equalled 12.5 X 45% (100 - 45) = 12.5 X 24.75 which would have been too high.

3. *In some jurisdictions provisions exist that are specific to a certain portfolio (e.g. all loans to a specific industry or loans to obligors in a specific country). How should such portfolio specific provisions be treated?*

**Answer:** For purposes of QIS you may treat such provisions as if they were general provisions (indicate the amounts involved in the 'Notes' spreadsheet). The QIS-treatment differs from the Technical Guidance, which indicates that such provisions are available to offset the EL-portion of the capital charge against the portfolio to which they relate. If a bank or supervisor is of the opinion that treating all portfolio specific provisions as surplus general provisions will result in a material misrepresentation of QIS-findings for this bank, only the portion of such provisions eligible according to the Technical Guidance can be included.

4. *What does the item 'general provisions not included' in capital mean?*

**Answer:** General provisions are only eligible as tier 2 capital up to a maximum of 1.25% of risk weighted assets. Some banks may have an amount of provisions above this limit. Moreover, some banks may not be able to include general provisions in tier 2 capital since they would otherwise breach the limit of tier 2 to tier 1 capital. The amount of provisions not included in capital (i.e. any amount in excess of one of the caps mentioned in the previous sentence) should be reported here and will be used to offset the EL-component of capital requirements under the IRB-approaches.

5. *Under IRB a new treatment for specific and general provisions has been introduced. Is there also a special treatment for provisions under the standardised approach?*

**Answer:** No. As under the 1988 Accord, under the standardised approach exposures are measured net of specific provisions and charge offs. In this regard, nothing has changed (more information on the treatment of specific provisions under the IRB approaches is available on the BIS website http://www.bis.org/publ/bcbs_wp5.htm).

## K. Purchased Receivables

1. *Are banks obliged to apply the receivables treatment (top-down approach) even if they have data that allows them to calculate requirements on the individual loans (bottom-up approach)?*

**Answer:** Banks are not obliged to apply the 'top-down' approach for receivables when they can and choose to apply 'bottom-up' approach. However, even under 'bottom-up' approach, banks are required to include capital charges for both default risk and dilution risk. Dilution risk may be excluded if banks can demonstrate to its supervisor that it is immaterial.

2. *In the Technical Guidance (paragraph 204) you refer to a concentration limits for pools of purchased receivables. What is the meaning of such concentration limits?*

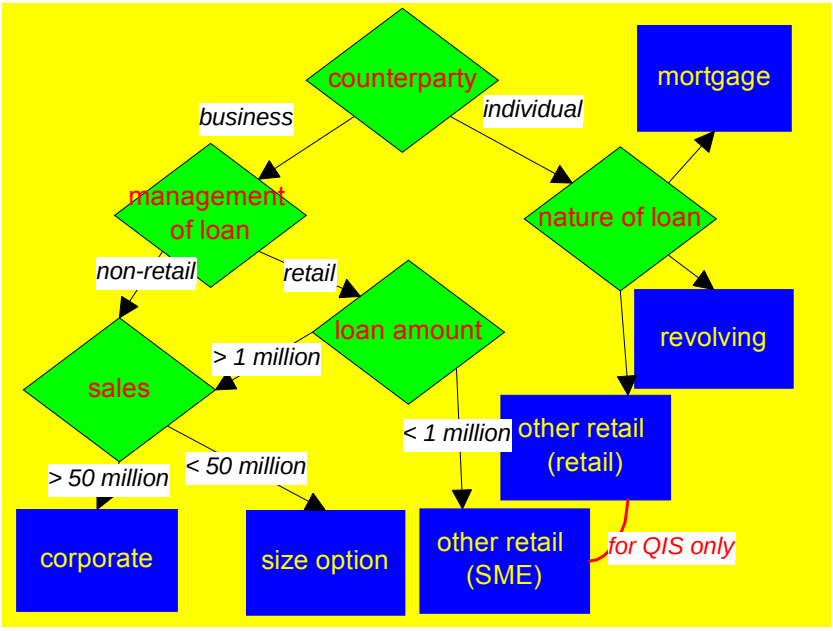
**Answer:** The pools of receivables treatment is a top-down approach that makes it possible to calculate capital requirements without having to look at the properties of the individual items in a pool of receivables. The Committee is of the opinion that generally

speaking good risk management requires banks to look at the properties of individual exposures, but also realises that in some cases this may be impossible or prohibitively expensive and consequently introduced this top-down treatment. The Committee, however, wants to ensure that application of this treatment will not undermine good risk management practice. For this reason national supervisors must set concentration limits above which banks should look at the individual items in a pool. Such concentration limits may refer to the granularity of the pool (e.g. no item in the pool should be larger than x% of the total pool), to the size of pools of receivables as a percentage of regulatory capital, to the maximum size of an individual item in the pool or a combination of such criteria.

## L. Retail Exposures

1. *In assessing whether a small business qualifies for retail treatment, should banks determine its total exposure or that of its banking group to the small business?*

**Answer:** Loans extended to small businesses are eligible for retail treatment provided the total exposure of the *banking group* (and NOT the bank) is less than €1 million. See the decision tree underneath for additional information.




2. *Should overdrafts be included under revolving facilities, or is this treatment limited to credit card exposures?*

**Answer:** Application of the revolving facilities treatment is not limited to credit cards. All revolving facilities that meet the requirements laid down in paragraph 195 of the Technical Guidance document can be included in this portfolio. Note that in order to make an decision on this issue you should contact your supervisor, since your supervisor has to concur that treatment as a qualifying revolving exposure is consistent with the underlying risk characteristics of the sub-portfolio.

3. *In the standardised approach the concept of 'counterparty' to which the € 1 million limit applies seems to be applicable to the group of borrowers, in the IRB approach the text refers to 'exposure to an individual small business', does this imply that for IRB purposes we do not have to look at the group of borrowers?*

**Answer:** In both cases the text should be interpreted as referring to a group of borrowers.

4. *Under IRB, should 'dormant' overdrafts within limit, where no payment has been received within 90 days be treated as defaulted exposures?*

**Answer:** If the account is within limit and the bank has not sought repayment from the customer, then there is no requirement to treat this exposure as defaulted (unless of course you consider it to be in default based on other information available to you).

5. *Can derivatives be included in the retail portfolio?*

**Answer:** Technically this is possible in the so-called 'other retail' portfolio. It is important, however, to ensure that we are really dealing with a retail exposure and not with an exposure that actually belongs in the corporate portfolio.[5]

6. *Paragraph 195 of the Technical Guidance states that "if a bank can demonstrate that its sub-portfolio of revolving exposures exhibits a high ratio of future margin income (FMI) to expected loss, it may use the treatment for qualifying retail exposures. In general, FMI should cover the sum of expected losses and two standard deviations of the annualised loss rate on the sub- portfolio. This target is not expected to be used as a hard limit that would lead to ineligibility in the case of small or transient deviations. Some supervisors may apply this criterion by disallowing a portion of FMI recognition (i.e. increasing the EL component of the capital requirement) in line with shortfalls in meeting this condition." For QIS purposes, does this imply that in cases where FMI covers less than sum of expected losses and two standard deviations of annualised loss rates, banks may adjust the EL coverage by reducing the 90% EL factor and continue to be on the qualifying revolving curve or is it a hard limit in which case if banks do not meet the appropriate requirements, the exposures have to be classified under 'other retail'?*

**Answer:** For QIS 3 purposes, banks MUST treat the qualifying factors as a hard limit so that if the exposures do not meet this requirement, they need to be classified under 'other retail'.

## M. Scope of Application

1. *Banks are asked to complete the worksheets for consolidated group exposures on a worldwide basis. Does this mean that we should not report by country or region?*

**Answer:** Banks may collect the data for their own purposes in any fashion they choose. However, for the final output banks should submit only a single, consolidated set of QIS spreadsheets.

2. *How should we report within-group bank exposures in the QIS templates?*

**Answer:** QIS is to be completed on a consolidated basis, consequently exposures between entities within the consolidated group should not be taken into account. If any entities

[5] Some national supervisors explicitly exclude derivatives from the retail portfolio.

are non-consolidated, exposures to such entities should be treated as ordinary interbank exposures (ceteris paribus the same holds for any other within-group exposures).

## N. SMEs

1. *Does the firm size adjustment for SMEs in the banking book also apply to SME exposures in the trading book?*

**Answer:** Since this is unlikely to be a material issue, for purposes of QIS, the firm size adjustment will be ignored in the trading book (according to the Technical Guidance, however, trading book exposures will be eligible for application of this adjustment, as it should not matter in which book the credit exposure resides).

2. *Should the turnover criterion of € 50 million for determining whether a corporate is an SME be based on the latest turnover or the average turnover of the past three years?*

**Answer:** For purposes of QIS, specifying more detailed regulation is left to the national supervisor.

3. *If a bank lacks the turnover data necessary to apply the firm size adjustment, can assumptions be made?*

**Answer:** Yes, for QIS purposes a bank that lacks the relevant data should do this. Without making such assumptions its QIS-results could be seriously biased.

4. *May we apply the firm size adjustment to exposures to counterparties like special purpose vehicles, managed funds and (high net-worth) individuals that are managed as corporates?*

**Answer:** For QIS purposes, the firm size adjustment applies to corporate borrowers; it does not apply to sovereign, interbank or specialised lending exposures (including specialised lending exposures which may be risk weighted using the corporate risk weighting function—refer QIS 3 Instructions, paragraph 13.14).

Within the corporate portfolio, while it is not intended for the firm size adjustment to be applied to non-bank financial entities (such as insurance companies, pension funds and other managed funds), there is room for discretion with regard to the treatment of exposures to individuals managed as corporates. In the latter case, it may be difficult for banks to determine an appropriate turnover figure; however, the Technical Guidance (paragraph 237) indicates that, at national discretion, total assets may be substituted for total sales when total sales is not a meaningful indicator of firm size.

5. *Some of my banks are able to generate more detailed data on the size correction than can be inputted in the templates. Would the Committee appreciate us adding columns to the size correction part of the SME-templates in order to give a more granular picture of the revenues of the counterparties involved?*

**Answer:** Banks should not add columns to the PD/size matrix. As you can see in the templates the cells on top of this matrix are white in order to indicate that they may not be modified. Adding columns would cause problems since we depend upon the prescribed categories for further analysis of the data submitted by your banks. Consistent categorisation is necessary in order to be able to aggregate the results of

individual banks. More detailed data can be presented in the 'Notes' section of the templates.

6. *May we apply the firm-size adjustment calculated based on total sales of € 5 million to exposures to individuals that do not meet the retail definition under the IRB, when it is difficult for banks to determine an appropriate turnover figure (or an alternative total assets figure?)*

**Answer:** Yes. For QIS 3 purposes, such an assumption is acceptable. (Refer also to FAQ N.3)

## O. Equities and Investments

1. *In order to apply the PD/LGD approach to equity we need to determine a credit rating for the counterparty concerned. Could you indicate how we should assign credit ratings if we do not have a line of credit to this counterparty?*

**Answer:** In assigning 'credit ratings' for equity positions banks generally should proceed as if they were rating for the purpose of making a loan. If a bank does not hold debt of the company, however, and does not have sufficient information on the position of that company to be able to use the applicable definition of default in practice but meets the other standards, a 1.5 scaling factor will be applied to the risk weights derived from the corporate curve, given the PD set by the bank. If, however, the bank's equity holdings are material and it is permitted to use a PD/LGD approach for regulatory purposes but the bank has not yet met the relevant standards, the simple risk weight method under the market-based approach will apply.

2. *Many companies have multiple credit ratings depending on the type and seniority of the debt. Which rating should we use for equity positions?*

**Answer:** The IRB requirements prescribe that each obligor should have one, unique rating,[6] this rating should also be used for the PD/LGD approach. Factors like seniority should be reflected in the facility dimension rather than the obligor dimension of a banks rating structure, i.e. seniority should only affect LGDs, not PDs. In case of equity the 90% LGD reflect the (inherent) supersubordinated nature of equity holdings.

3. *How should we treat preferred equities in the PD/LGD approach?*

**Answer:** In the PD/LGD approach preferred equity should be treated like any other kind of equity. The preferred status of such equities could only be reflected in a better LGD than that of other equities, the PD/LGD approach, however, does not allow this kind of fine-tuning.

[6] As indicated in paragraph 343 of the technical instructions there are two exceptions two this rule. 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.

*4. How should mutual funds be treated (e.g. equity funds, bond funds, money market funds, mixtures) under the PD/LGD approach?*

**Answer:** Preferably banks should look at the underlying assets of such a pool in order to determine capital requirements. Alternatively they could assign a PD to the pool as if it were a single equity. Where assigning such a PD is not possible, they should apply the simple approach.

*5. What is the definition of private equity?*

**Answer:** Everything that satisfies the definition of equity positions in paragraph 197–200 of the Technical Guidance and that is not publicly traded.

*6. How should non-significant investments in financial corporations be treated?*

**Answer:** When such investments are not deducted according to scope of application rules the bank should treat them as ordinary equity positions.

*7. Where should undrawn commitments to private equity funds be recorded?*

**Answer:** Please convert them to a credit equivalent amount and risk weight this amount.

*8. Could you confirm that the internal risk measurement models that may be used to calculated risk-based capital requirements for equity (paragraph 306 of the Technical Guidance) should use book values? How does excess over book value factor in?*

**Answer:** Paragraph 316 of the Technical Guidance instructs banks to use the 'value presented in the financial statements', i.e. the book value. Excess over book value does not factor in; whether book values are based on fair values or the lower of cost or market depends on the financial accounting rules the bank uses.

*9. To what exposure class should I assign investments in a fund containing both equity investments and other non-equity types of investments?*

**Answer:** Preferably you should apply a look-through approach and assign the individual assets to the appropriate exposure class. If this is not possible such an investment can be treated as a single investment based on the majority of the fund's holdings (following paragraph 317 of the Technical Guidance).

*10. Is there a special treatment for hedges under the PD/LGD approach to equity?*

**Answer:** Generally speaking, hedging—including netting requirements—for PD/LGD equity exposures is the same as for corporate exposures, although for equities of course the relevant IRB-parameters have to be applied. In other words, the hedge provider gets an LGD of 90% and the equity position is treated as having a five-year maturity. Moreover the relevant floors (100% for not for capital gain positions, 200% for publicly traded equities and 300% for private equities) have to be applied. When the bank does not have sufficient information on the position to be able to use the applicable definition of default a 1.5 scaling factor must be applied to the risk weights.

## P. Securitisations

*1. Paragraph 546 of the Technical Guidance contains a reference to a paragraph x. Could you tell me what paragraph it refers to?*

**Answer:** The reference is to paragraphs 517 and 520.

*2. The 'solver' embedded in the SFA Calculator does not seem to work properly. What should I do?*

**Answer:** An alternative version of the SFA Calculator, which uses the 'goal seek' function embedded into the worksheet, is available from your supervisor. Please note that this is the only revision to the calculator—none of the calculations, cell references, etc. have been changed. The worksheet was created simply to assist those that may be having problems with the existing SFA Calculator.

*3. Paragraph 570 of the Technical Guidance contains a reference to a paragraph 96. This reference seems to be incorrect. Could you give the correct reference?*

**Answer:** The reference should be to paragraph 580.

*4. We are having problems reporting securitisation exposures where credit risk has been transferred to a third party by way of guarantees or credit derivatives (e.g. in the case of synthetic securitisations). The QIS Instructions (footnote 17) indicate that where a bank "holds credit protection (e.g. a guarantee) against a securitisation exposure, the exposure [should] be included in the portfolio of the protection provider". Exposure amounts must be entered pre- and post-protection into the relevant worksheet. However, given that the applicable risk weights can vary anywhere up to a full deduction from capital (i.e. a risk weight of 1250%), there are insufficient available cells within the standardised approach worksheets in which to enter the pre-protection amounts. In the IRB worksheets, additional PD rows can in principle be inserted to accommodate the pre-protection exposures. However, a problem still arises in trying to decompose the pre-protection risk weight produced under the securitisation proposals into an appropriate PD/LGD that can be used to enter the pre-protection amount into the relevant IRB worksheet. How then should securitised (or tranched) exposures that are covered by guarantees or credit derivatives be entered into the QIS spreadsheets?*

**Answer:** You are correct. Securitised exposures covered by guarantees or credit derivatives should be entered into the portfolio of the protection provider as described in the QIS Instructions (paragraphs 15.23-24 and footnote 17). As you indicate, there is a problem entering the pre-protection amounts of these transactions into the QIS worksheets, particularly for pre-protection amounts to which very high risk weights should be applied. This problem does not extend to the post-protection amounts, so the final capital calculations will not be affected nor does the issue extend to non-securitised exposures that are covered by guarantees/credit derivatives.

Thus, for securitisation structures originated by the respondent bank where credit risk is transferred to a third party via a guarantee or credit derivative follow the usual procedure laid down in the QIS Instructions. However, it will be necessary to make an adjustment when entering the relevant pre-protection amount into the portfolio of the protection provider. The full procedure is:

- Record the securitisation structure in full in the "Originators" securitisation worksheet.

- Within the securitisation worksheet, against the relevant tranches, record any amounts that are retained or repurchased by the bank.[7]

- Thus, for each tranche in the securitisation structure, to the extent that credit risk has been transferred from the respondent bank, zero should be recorded in the "retained" column of the securitisation worksheet. Where credit risk has been transferred by way of the sale of securities issued by a special purpose entity (i.e. a traditional securitisation) no further exposures need be recorded in the QIS workbook. However, to the extent that the bank has transferred credit risk by way of a guarantee or credit derivative on the underlying assets or against asset-backed securities that have been retained or repurchased, the respondent bank must still record its exposure to the protection provider.

- For all calculation methods reported by the bank, this latter exposure should be recorded in the portfolio of the protection provider.

- As with other guarantees and credit derivatives, under the standardised approach, the bank should report the protected amount against the risk weight of the protection provider in the post-protection column, e.g. if the protection provider is a AA-rated bank the post-protection risk weight would be 20% under the standardised approach. The bank should also enter the protected amount in the pre-protection column against the same risk weight. Note that although this departure from the usual procedure for protected exposures will mean the loss of some information about the magnitude of the credit mitigation effect, the post-protection capital calculation will still be correct.

- Likewise, under the IRB approaches, the bank should simply enter the protected amount against the estimated PD of the protection provider in both the pre- and post-protection columns rather than attempt to decompose the pre-protection risk weight into an appropriate PD/LGD.

- Finally, the respondent bank should be careful to avoid any double counting of exposures in the "Data" worksheet, i.e. in this worksheet the bank should be careful to report any protected securitisation exposures in the portfolio of the protection provider and only report retained, non-protected securitisation exposures in the securitisation portfolio.

Also, under the IRB approach the originator's maximum capital charge is capped at $K_{IRB}$. The cap is given effect by a formula embedded in the summary table at the top of the "Originator" worksheet. As a simplification, however, this formula does not take account of the bank's exposures to third parties that have provided protection against its securitisation exposures. Where a significant misstatement of a bank's capital position results, this should be noted, together with an indication of the magnitude of the effect, in the "Notes" section of the QIS workbook.

[7] In addition to synthetic securitisations, in some cases, an originator or sponsor bank may have retained or repurchased asset-backed securities issued by one of its "traditional" securitisation structures and subsequently obtained protection from a third party through a guarantee or credit derivative. Such amounts should not be recorded as "retained" in the securitisation worksheet but rather as guaranteed exposures in the portfolio of the protection provider in the manner described below.

*5. Paragraph 539 explains how to calculate the capital charge when there is a maturity mismatch in the context of synthetic securitisation. How should the maturity of the underlying pool be determined when the assets in the pool have different maturities?*

**Answer:** The longest maturity of the underlying assets should be taken as the maturity of the pool.

*6. Please clarify how banks are to determine whether a position straddles $K_{IRB}$? It would also be helpful to understand when the RBA or SFA are to be used.*

**Answer:** Paragraph 560 indicates that the credit enhancement level (L) is important for determining whether a position exceeds the $K_{IRB}$ threshold. To be precise, a bank should look to both the sum of L and the thickness of the exposure (T). For QIS 3 purposes, the SFA calculator has been programmed to make the following calculations once a bank has provided the necessary inputs.

If $L+T \leq K_{IRB}$ (that is the securitisation exposure is less than the $K_{IRB}$ threshold), a bank must deduct the securitisation exposure. If $L \geq K_{IRB}$ (i.e. the position exceeds the $K_{IRB}$ threshold), a bank should apply the RBA or SFA depending on whether the position has an external or inferred rating. If $L < K_{IRB}$ and $K_{IRB} < L+T$ (i.e. the position straddles the $K_{IRB}$ threshold), a bank is to treat the position as two separate exposures divided at $K_{IRB}$, as explained in paragraph 561.

*7. If a bank applying the IRB approach for its retail portfolio is incorporating the likelihood of additional draws in its LGD estimates, can the capital requirement go down to 0 if it securitises all of the drawn amount?*

**Answer:** No. Separate EAD estimates must be calculated for drawn and undrawn amounts. In general only drawn amounts are treated as securitised exposures. The originating bank will assume the entire IRB capital charge for the undrawn exposures. The IRB securitisation framework would be available for the undrawn amount only to the extent that investors are obligated to cover losses on it. In this case, funded investor positions cannot simultaneously be used to cover drawn and undrawn exposures. See footnote 16 of the Second Working Paper on Securitisation (October 2002) for an additional discussion of this concept.

*8. In the IRB treatment, what is the credit conversion factor for an eligible liquidity facility that is not meant to cover only a general market disruption?*

**Answer:** Banks applying the IRB treatment of securitisations are to assign a 100% credit conversion factor (CCF) to eligible liquidity facilities that are available in events other than a general market disruption. This means that the bank must recognise 100% of the capital requirement generated under the supervisory formula approach (SFA) or ratings-based approach (RBA), as specified.

*9. What is the treatment of off-balance sheet exposures that overlap and are provided to ABCP conduits and similar structures under the IRB treatment?*

**Answer:** A bank may provide several types of facilities that can be drawn under various conditions. Some of these might qualify as "eligible" while others would be treated as credit enhancements. The same bank may be providing two or more of these facilities. Given the difference of triggers incorporated in these facilities, it may well be the case that this bank provides duplicative coverage to the underlying credit exposures. In other words, the facilities are to an extent overlapping since a draw on one facility precludes (in part) a draw under the other facility.

For QIS 3 purposes, in the case of overlapping facilities provided by the same bank, the bank does not need to hold double the amount of capital for the overlap. Rather, it is only required to hold capital once for the position covered by the overlapping facilities (whether they are eligible facilities or credit enhancements). Where the overlapping facilities are subject to different conversion factors, the bank should attribute the overlapping part to the facility with the highest conversion factor. If overlapping facilities are provided by different banks, however, each bank should hold capital for the maximum amount of the facility.

*10. How should an originating bank treat the seller's interest arising from a securitisation of revolving credits?*

**Answer:** The seller's interest must be treated as an ordinary part of the seller's portfolio and must be risk weighted according to the rules applying to that category of exposure and recorded in the appropriate QIS spreadsheet. For example, if the underlying pool comprises retail exposures, banks using the IRB treatment for securitisation are required to capture the originator's interest in the spreadsheet pertaining to the minimum capital charges for retail loans.

*11. When applying the IRB securitisation framework to a transaction with a 'seller's interest,' how should $K_{IRB}$ be calculated?*

**Answer:** $K_{IRB}$ should be calculated as indicated in paragraph 501 and then multiplied by the percentage of the pool that represents the investor's interest.

*12. How should the credit conversion factors for early amortisation features be applied under the IRB treatment?*

**Answer:** Banks using the IRB treatment for securitisation will be required to apply a credit conversion factor to the proportion of $K_{IRB}$ for the off-balance sheet receivables (also referred to as the investors' interest) within a given securitisation. Banks will also be expected to hold capital against any retained exposures arising from the securitisation involving the assets comprising the investor's interest.

*13. As originator do I have to include information about all the tranches in each securitisation, even those that are held by someone else?*

**Answer:** Yes. The Committee is seeking to calibrate the approaches within the securitisation proposals and therefore would like tranche information on the whole transaction.

*14. How should the effect of credit risk mitigation obtained on a specific securitisation exposure be calculated under the IRB treatment?*

**Answer:** For QIS purposes, the following treatment would apply.

When using the RBA, banks are required to apply the CRM techniques as specified in Part 2 Section II.B (Standardised Approach) of the Technical Guidance.

A similar methodology applies under the SFA. The bank may reduce the capital charge proportionally when the credit risk mitigant covers first losses or losses on a proportional basis. For all other cases, the bank must assume that the credit risk mitigant covers the most senior portion of the securitisation exposure (i.e. that the most junior portion of the securitisation exposure is uncovered).

Two examples of the proportional cover as well as two examples of credit risk mitigants covering the most senior portions are provided below for determining how collateral and guarantees are to be recognised under the SFA.

**Illustrative Example Involving Collateral - proportional cover**

Assume an originating bank purchases a € 100 securitisation exposure with a credit enhancement level in excess of $K_{IRB}$ for which an external or inferred rating is not available. Additionally, assume that the SFA capital charge on the securitisation exposure is € 1.6 (when multiplied by 12.5 results in risk weighted assets of € 20). Further assume that the originating bank has received € 80 of collateral in the form of cash that is denominated in the same currency as the securitisation exposure. The capital requirement for the position is determined by multiplying the SFA capital requirement by the ratio of adjusted exposure amount and the original exposure amount, as illustrated below.

**Step 1**: Adjusted Exposure Amount (E*) = max {0, [E x (1 + He) - C x (1 - Hc - Hfx)]}

E* = max {0, [100 x (1 + 0) - 80 x (1 - 0 - 0)]} = € 20

Where (based on the information provide above):

E* = the exposure value after risk mitigation (€ 20)

E = current value of the exposure (€ 100)

He = haircut appropriate to the exposure (This haircut is not relevant because the originating bank is not lending the securitisation exposure in exchange for collateral).

C = the current value of the collateral received (€ 80)

Hc = haircut appropriate to the collateral (0)

Hfx= haircut appropriate for mismatch between the collateral and exposure (0)

**Step 2:** Capital requirement = E* / E x SFA capital requirement

Where (based on the information provide above):

Capital requirement = € 1.6 * 20 / 100 = € 0.32.

**Illustrative Example Involving a Guarantee - proportional cover**

All of the assumptions provided in the illustrative example involving collateral apply except for the form of credit risk mitigant. Assume that the bank has received an eligible, unsecured guarantee in the amount of € 80 from a bank. Therefore, a haircut for currency mismatch will not apply. The capital requirement is determined as follows.

- The protected portion of the securitisation exposure (€ 80) is to receive the risk weight of the protection provided. The risk weight for the protection provider is equivalent to that for an unsecured loan to the guarantor bank, as determined under the IRB approach (Section III of the QIS 3 Technical Guidance). Assume that this risk weight is 10%. Then, the capital charge on the protected portion would be; € 80 *10%*0.08= € 0.64.

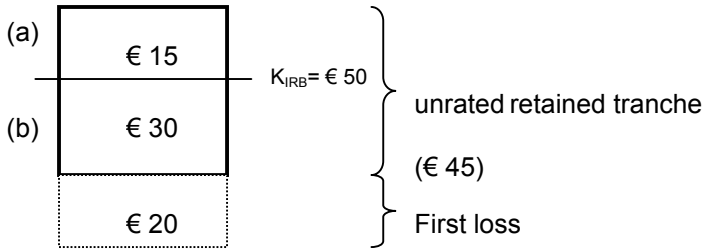
- The capital charge for the unprotected portion (€ 20) is derived by multiplying the share of the unprotected portion to the original capital charge. The share of the unprotected portion is: € 20 / € 100 = 20%. Thus, the capital requirement will be; € 1.6 * 20% = € 0.32.

The total capital requirement for the protected and unprotected portions is:

€ 0.64 (protected portion) + € 0.32 (unprotected portion) = € 0.96 .

**Illustrative example - the case of credit risk mitigants covering the most senior parts**

Assume an originating bank that securitises a pool of loans of € 1000. The $K_{IRB}$ of this underlying pool is 5%. There is a first loss position of € 20. The originator retains only the second most junior tranche: an unrated tranche of € 45. We can summarise the situation as follows:




1. Capital charge without collateral or guarantees

According to this, the capital charge for the unrated retained tranche, that is straddling the $K_{IRB}$ line is sum of (a) and (b):

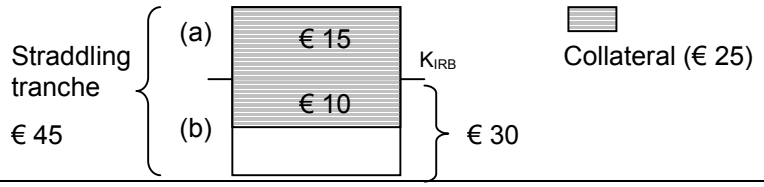
(a) Assume the SFA risk weight for this subtranche is 820%. Thus, risk weighted assets are € 15 x 820% = € 123. Capital charge is € 123 x 8%= € **9.84**

(b) The subtranche below Kirb must be deducted. Risk weighted assets: € 30 x1250% = € 375. Capital charge of € 375 x 8% = € **30**

**Total capital charge for the unrated straddling tranche** = 9.84 + 30 = € **39.84**

2. Capital charge with collateral

Assume now that the originating bank has received 25 Euros of collateral in the form of cash that is denominated in the same currency as the securitisation exposure. Because the tranche is straddling the $K_{IRB}$ level, we must assume that the collateral is covering on first place the subtranche above $K_{IRB}$ ((a) subtranche) and, only if there is some collateral left, the coverage will be applied proportionally to the subtranche below $K_{IRB}$ ((b) subtranche). Thus, we have:



The capital requirement for the position is determined by multiplying the SFA capital requirement by the ratio of adjusted exposure amount and the original exposure amount, as illustrated below. We must apply this for the two subtranches.

(a) The first subtranche has an initial exposure of € 15 and collateral of € 15, so in this case it is completely covered. In other words:

Step 1: Adjusted Exposure Amount

E* = max {0, [E x (1 + He) - C x (1 - Hc - Hfx)]} = max {0, [15 - 15]} = € 0

Where:

E* = the exposure value after risk mitigation (€ 15)

E = current value of the exposure (€ 15)

C = the current value of the collateral received (€ 15)

He = haircut appropriate to the exposure (not relevant here, thus € 0)

Hc and Hfx = haircut appropriate to the collateral and that for the mismatch between the collateral and exposure (to simplify, € 0)

Step 2: Capital requirement = E* / E x SFA capital requirement

Capital requirement = 0 x € 9.84 = € **0**

(b) The second subtranche has an initial exposure of € 30 and collateral of € 10, which is the amount left after covering the subtranche above $K_{IRB}$. Thus, these 10 euros must be allocated in a proportional way to the 30 euros subtranche.

Step1: Adjusted Exposure Amount

E* = max {0, [30 x (1 + 0) - 10 x (1 - 0 - 0)]} = € 20

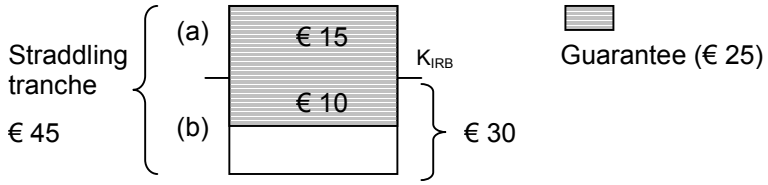
Step 2: Capital requirement = E* / E x SFA capital requirement

Capital requirement = 20/30 x 30 = € **20**

**Total capital charge for the unrated straddling tranche = 0 + 20 = € 20**

3. Guarantee

Assume now that instead of collateral, the bank has received an eligible, unsecured guarantee in the amount of 25 Euros from a bank. Therefore the haircut for currency mismatch will not apply. The situation can be summarised as:




The capital requirement for the two subtranches is determined as follows:

(a) The first subtranche has an initial exposure of € 15 and a guarantee of € 15, so in this case it is completely covered. The € 15 will receive the risk weight of the protection provider. The risk weight for the protection provider is equivalent to that for an unsecured loan to the guarantor bank, as determined under the IRB approach (Section III of the QIS 3 Technical Guidance). Assume that this risk weight is 20%.

capital charge on the protected portion is € 15 x 20% x 8%= € **0.24**

(b) The second subtranche has an initial exposure of € 30 and guarantee of € 10. Accordingly, the protected part is € 10 and the unprotected part is € 20.

- Again, the protected portion of the securitisation exposure is to receive the risk weight of the guarantor bank.

  capital charge on the protected portion is € 10 x 20% x 8%= € **0.16**

- The capital charge for the unprotected portion is derived by multiplying the share of the unprotected portion to the original capital charge. The share of the unprotected portion is: € 20 / € 30 = 66.7%.

  capital charge on the unprotected portion is 66.7% x € 30 = € **20**

  (or equivalently € 20 x 1250% x 8%= € 20)

**Total capital charge for the unrated straddling tranche =**

**€ 0.24** (protected portion, above $K_{IRB}$) **+ € 0.16** (protected portion, below $K_{IRB}$) **+ € 20** (unprotected portion, below $K_{IRB}$) **= € 20.4**

*15. How should CMBS be treated in QIS3 where the underlying assets are not loans but physical assets?*

**Answer:** For QIS3 purposes, banks should look to their internal classification to decide whether this should fall under securitisation or any other exposure class. Banks should clarify how these transactions have been treated in the notes in the QIS spreadsheets.

*16. If the underlying pool of assets is composed of specialised lending exposures and the bank is using the supervisory categories under the IRB approach to calculate the capital requirements for them, what LGD should the bank use under the SFA?*

**Answer:** The bank should assume an LGD of 50% for purposes of calculating the capital charges under the SFA.

*17. How should currency swaps and interest rate swaps transactions entered into with an SPE within a securitisation structure be treated?*

**Answer:** They should be treated as securitisation exposures and placed into the waterfall depending on their seniority.

In measuring the size of the exposure, the swap providing bank needs to incorporate the potential future exposure. If the current value of the swap is non-negative, the exposure size should be measured by the current value plus the add-on as in the current Accord. If the current value is negative, the exposure should be measured by using the potential future exposure part only.

Banks holding positions more senior than these swaps may measure the size of these swaps at their current values (without the potential future exposures) in calculating the enhancement level of their positions (L). If such a bank cannot measure the current value of the swap, it should ignore the existence of the swap.

In deciding whether or not a position is most senior for the purposes of applying the "look-through" approach in paragraphs 522-523, the existence of these swap transactions can be ignored.

*18. When the underlying assets of a securitisation transaction are tranches in other securitisations (i.e. resecuritisations), how should a bank calculate $K_{IRB}$? Does the bank have to go back to the underlying assets of the original securitisation, or can it use the capital requirement for the securitisation exposures which are in the pool of the latest securitisation?*

**Answer:** For QIS3 purposes, the bank should use the capital charge for the securitisation exposures underlying the latest securitisation to calculate $K_{IRB}$. In other words, it does not have to go back to the underlying assets of the original securitisation. Thus, if there

are ratings on the underlying securitisation exposures, the bank should use the RBA to calculate $K_{IRB}$. Also, in calculating the effective number of exposures (N) both in the RBA and the SFA, the bank should look to the effective number of exposures in the pool of assets underlying the latest securitisation transaction. Under the SFA, the bank should assume an LGD of 50%.

19. *In paragraph 528 e, there is a requirement for eligible liquidity facilities that they should contain a term that requires the facility to be reduced/terminated in the event of the average pool quality falling below investment grade. However, this is not a standard term currently. For the purposes of QIS, should we assume that facilities without such a term meet or fail the eligibility test?*

**Answer:** Assume that they fail the test but please annotate your return to indicate that this is the reason.

20. *In some securitisations, a reserve account is funded with the receipts from the underlying credit exposures. Usually this reserve account is in the first loss position. Depending on the performance of the underlying credit exposures, the amount that is actually on the reserve account may vary. How should these reserve accounts be treated in the IRB securitisation framework for originators?*

**Answer:** Future receipts from the underlying credit exposures that funds the reserve account are not recognised as credit risk mitigants for the more senior securitisation exposures. In other words, an unfunded reserve account is ignored if it is to be funded from future receipts from the underlying credit exposures.

If the reserve account is already funded by accumulated cash flows from the underlying credit exposures, it will be treated as follows under the IRB framework. (Any other funded reserve accounts will be treated in the same way.)

First, the $K_{IRB}$ for the securitisation should be measured as the sum of (a) the IRB capital charge against the underlying pool of credit exposures and (b) the IRB capital charge against the assets in which the reserve account is invested.

Next, the reserve account should be positioned in the waterfall of payments depending on its level of subordination (usually a reserve account is the most subordinated position). The SFA and the RBA can then be applied to calculate the risk weights for the reserve accounts and the more senior positions. If the reserve account is recorded as an asset by the originating bank, this asset is to receive an appropriate capital treatment. However if it is not carried as an asset, the originator would not incur a capital charge.

21. *What amount should be reported in "Total nominal amounts of underlying facilities in pool" in the "Securitisation - Originators" worksheet? Should this amount include the seller's interest? Similarly, should the item "What was the capital charge pre-securitisation (under the standardised approach)" reflect the capital requirement for the seller's interest?*

**Answer:** The seller's interest in a revolving retail securitisation is not subject to the securitisation framework and should be recorded in the appropriate parts of the standardised and IRB spreadsheets. In other words, the, inputs related to a particular securitisation should not reflect the seller's interest. These inputs should reflect only the investor's interest. As a consequence, the line item "Investors portion of underlying

pool" should be reported at 100%. Banks should, however, include the size of the seller's interest as an annotation.

*22. What do I have to insert in D169 in the "Securitisation - Originators" worksheet?*

**Answer:** The number of basis points between the spread-trapping trigger and the trigger for commencing early amortisation.

*23. In the data worksheet, line 52 requests on-balance sheet information for originated securitisations, does this line represent retained balances and recourse-related items that are currently on the balance sheet, or does it represent the amount of the underlying exposures (which would not be on-balance sheet)?*

**Answer:** Banks should insert all securitisation positions (including recourse items and the like). For originators, all retained/repurchased positions recorded in the originator spreadsheet except trading book positions should be included. For investors, all positions recorded in the investor spreadsheet except trading book positions should be included.

| New (20 December 2002) |
|---|

## Q. Specialised Lending

*1. There seems to be some inadvertent repetition between Tables 3 and 4 on Annex 4, 'Supervisory Slotting Criteria for Specialised Lending.' Is this true?*

**Answer:** Correct. The ratings beginning with the 'Financial strength' section on the bottom of page 153 through page 156 should be ignored.

*2. Where should I include Specialised Lending (SL) exposures that I can calculate a PD/LGD estimate for? Are SL exposures that I include in the corporate portfolio separately identified in the data sheet (and other QIS spreadsheets)?*

**Answer:** SL exposures for which banks can estimate PD/LGD should be included in the corporate portfolio and treated as corporate exposures. These exposures are not separately identified in the data sheet (or other QIS spreadsheets) and should be included with corporate exposures - not in the separate SL section provided in the data sheet. The only exception to this is high volatility commercial real estate (HVCRE) lending which must be included within the SL portfolio. HVCRE exposures are only eligible for the simplified foundation IRB methodology - no other foundation or advanced treatment is available (also refer to section 13 of the QIS instructions).

Note, however, that for QIS purposes any SL exposures that are included in the corporate portfolio are not eligible for firm-size adjustments nor should banks exempt SL exposures from the explicit maturity adjustment where it is applied (refer paragraph 13.14 of the QIS Instructions document). In other words, SL exposures should not be included in the SME spreadsheets even if some SL exposures would meet the relevant size criteria. Similarly, in the AIRB corporate spreadsheet explicit maturity adjustments should be applied to all SL exposures (even in the case of those banks whose national supervisor has exempted exposures to (smaller) corporates from the explicit maturity adjustments).

Refer also FAQ Q.4

*3. Do the supervisory categories for specialised lending have external rating equivalents?*

**Answer:** Although banks should map their ratings to the supervisory categories for specialised lending using the slotting criteria set out in Annex 4 of the Technical Guidance, yes, each supervisory category broadly corresponds to a range of external ratings as outlined below. The Committee relied on these external rating equivalents in calibrating the associated risk weights.

| | |
|---|---|
| Strong | BBB- or better |
| Good | BB+ or BB |
| Satisfactory | BB- or B+ |
| Weak | B to C- |

*4. In the case of specialised lending exposures that I include in the corporate portfolio in accordance with paragraphs 240 and 241 of the Technical Guidance, what LGD should I use under each of the foundation and advanced IRB approaches?*

**Answer:** In principle, all types of collateral that are recognised under the FIRB approach are also recognised for SL exposures included in the corporate portfolio, provided that the relevant eligibility requirements are met. Among these requirements are those set out in paragraph 455 of the Technical Guidance relating to real estate collateral. Thus, under the FIRB approach, the risk of the borrower should not be materially dependent on the performance of any real estate collateral securing the loan and the value of the real estate collateral should not be materially dependent on the performance of the borrower, if the supervisory LGD is to be reduced below 45%. As specialised lending-type real estate exposures are unlikely to meet these eligibility requirements, paragraph 456 of the Technical Guidance specifies that a supervisory LGD of 45% should be applied to such loans.

Where a bank is applying the AIRB approach, in all cases, the appropriate internal LGD estimate should be applied.

## R. Examples

### Credit Risk Mitigation Examples

We have received a range of questions relating to the credit risk mitigation proposals and how guarantees, credit derivatives and eligible collateral should be treated for QIS purposes. The following examples have been constructed to help clarify how credit protected exposures should be entered into the QIS spreadsheets under the standardised and IRB approaches.

*Please note that in order to facilitate analysis an important tenet of the QIS is that banks should avoid reporting the same exposure in different portfolios on the different worksheets. This is to ensure comparability of the results calculated under the different approaches. Thus:*

- *for guaranteed and similar exposures, pre- and post-protection amounts should generally be reported in the portfolio of the guarantor (as in example 1) in all approaches (i.e. current, standardised and IRB). The exception is in the AIRB (and/or IRB retail) approach where a bank may choose to reflect the effect of a guarantee by*

*adjusting its LGD rather than PD estimate. In this case, pre- and post-protection amounts should be reported in the portfolio of the underlying obligor in all approaches (also shown in example 1);*

- *similarly, where the Technical Guidance calls for an exposure to be included in different portfolios under the various calculation approaches, banks should use a consistent portfolio throughout the QIS spreadsheets - generally this should be the portfolio that would be applicable under the most sophisticated approach reported by each bank.[8] For example, the definition of a retail exposure differs between the standardised and IRB approaches. Banks completing the IRB approach should use the IRB definition for the current, standardised and IRB approaches while banks completing only the standardised approach should follow the standardised definition. Likewise, where banks that reflect the effect of a guarantee by adjusting their LGD rather than PD estimates under the AIRB (and/or IRB retail) approach, the protected exposure (both pre- and post-protection) should be reported in the portfolio of the underlying borrower for all calculation approaches. All other respondent banks should report the exposure in the portfolio of the guarantor (again refer example 1).*

*Please also note that where default probabilities have been associated with external ratings in these examples this has been done for exposition purposes only and has no significance of a more general nature (refer FAQ I.8 for more information).*

**(i) Credit protection (guarantees, credit derivatives etc)**

**Example 1:** *€ 100 million loan to unrated corporate (PD=1%) fully guaranteed by AA-rated bank (PD=0.05%)*

**Answer:** As shown below, under all calculation approaches (with the exception of where the bank chooses the option under AIRB (and/or IRB retail) approach to reflect the effect of the guarantee by adjusting its LGD rather than PD estimate), both the pre-protection and post-protection amounts should be entered under the portfolio of the guarantor rather than the underlying obligor. Refer also to example 5, which shows how to enter partially guaranteed exposures.

*Standardised approach*

Post-protection, substitute the risk weight of the guarantor for that of the underlying obligor.

| Risk weight category | All exposures | Exposures w/o CRM | Exposures with credit protection | |
|---|---|---|---|---|
| | | | Pre-protection | Post-protection |
| **Corporates** | | | | |
| 20% | | | | |
| 100%, unrated | | | | |
| **Banks** | | | | |
| 20% | | | | 100 |
| 100%, not including unrated | 100 | | 100 | |

[8] A minor exception to this general rule applies to exposures to public sector enterprises (refer FAQ A.13).

*FIRB approach*

Post-protection, substitute the PD of the guarantor for that of the underlying obligor.

**Corporates**

| PD | Effects of credit protection | |
|---|---|---|
| | Exposures before credit protection | Exposures after credit protection |
| 0.05% | | |
| 1.00% | | |

**Banks**

| PD | Effects of credit protection | |
|---|---|---|
| | Exposures before credit protection | Exposures after credit protection |
| 0.05% | | 100 |
| 1.00% | 100 | |

As the guarantor bank has not posted any collateral in this example, in the LGD grid within the Banks spreadsheet, also enter 100 in the PD=0.05% row and LGD=45% column.

*AIRB approach*

Under the AIRB approach, banks may reflect guarantees either by adjusting borrower grades or LGDs, but not both. Under both options, the risk weight must not be less than that of a comparable direct exposure to the protection provider (refer paragraph 267 of the Technical Guidance).

*(i) the bank reflects the guarantee by adjusting PD*

In this case, enter the exposure as in the FIRB example. The only difference is that when completing the LGD grid the bank's own LGD estimate for an unsecured corporate exposure should be used instead of the FIRB 45% LGD assumption.

*(ii) the bank reflects the guarantee by adjusting LGD*

In this case, further assume that the bank's LGD estimate for an unsecured direct exposure to the corporate obligor is 50% and to the bank guarantor it is 30%. The bank's loss history also suggests a 5% LGD for its bank-guaranteed corporate exposures.

Compare the risk weight obtained using PD=1% and LGD=5% (i.e. 11%) with the risk weight for a direct exposure to the guarantor bank, PD=0.05% and LGD=30% (i.e. 13%). As the risk weight of the guaranteed exposure cannot be less than the risk weight of a direct exposure to the guarantor bank, a risk weight of 13% would apply in this example. To enter this information into the QIS spreadsheet it is first necessary to calculate the LGD that when combined with a PD=1% results in a risk weight of 13%. As LGD impacts on risk weights linearly, the adjustment is as follows: LGD = 13% / 11% * 5% = 6%. The exposure can now be entered into the corporate spreadsheet as shown below.

**Corporates**

| PD | Effects of credit protection | |
|---|---|---|
| | Exposures before credit protection | Exposures after credit protection |
| 0.05% | | |
| 1.00% | 100 | 100 |

| LGD | | 6% | |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | 100 | |

Remember, for QIS purposes the bank should avoid shifting exposures from one portfolio to another between approaches. Thus, in this case the exposure should be reported within the corporate portfolio (i.e. the portfolio of the underlying obligor) for all calculation approaches, not just for the AIRB approach.

**Example 2:** *€ 10 million short-term self-liquidating trade finance exposure to unrated corporate (PD=1%) fully guaranteed by AA-rated sovereign (PD=0.05%)*

**Answer:**

*Standardised approach*

Apply standardised approach trade finance credit conversion factor of 20%

| Risk weight category | All exposures | Exposures w/o CRM | Exposures with credit protection | |
|---|---|---|---|---|
| | | | Pre-protection | Post-protection |
| **Corporates** 100%, unrated | | | | |
| **Sovereign** 0% | | | | |
| Unrated 100% | 2 | | 2 | 2 |

*FIRB/AIRB approaches*

Under FIRB, a trade finance credit conversion factor of 50% should be applied as shown below.

| **Corporates** | Effects of credit protection | |
|---|---|---|
| | Exposures before credit protection | Exposures after credit protection |
| PD | | |
| 0.05% | | |
| 1.00% | | |

| **Sovereigns** | Effects of credit protection | |
|---|---|---|
| | Exposures before credit protection | Exposures after credit protection |
| PD | | |
| 0.05% | | 5 |
| 1.00% | 5 | |

Under AIRB, the bank should apply its own credit conversion factor (or EAD) but otherwise should complete the QIS spreadsheets following the general procedure outlined in example 1.

**Example 3:** *€ 100 million undrawn commitment with original maturity < 1 year to unrated corporate (PD=1%) fully guaranteed by A-rated parent (PD=0.2%)*

**Answer:**

*Standardised approach*

Apply the standardised approach credit conversion factor for undrawn commitments with original maturity of under 1 year of 20%

| Risk weight category | All exposures | Exposures w/o CRM | Exposures with credit protection | |
|---|---|---|---|---|
| | | | Pre-protection | Post-protection |
| **Corporates** | | | | |
| 50% | | | | 20 |
| 100%, unrated | 20 | | 20 | |

*FIRB approach*

Apply the FIRB 75% EAD for undrawn commitments

| **Corporates** | Effects of credit protection | | | | |
|---|---|---|---|---|---|
| | Exposures before credit protection | Exposures after credit protection | | | |
| PD | | | | | |
| 0.20% | | 75 | | | |
| 1.00% | 75 | | | | |

*AIRB approach*

In the AIRB spreadsheets undrawn commitments should be entered **before** credit conversion. The bank should also complete the EAD grid appearing to the far right of the spreadsheet using its own EAD bands.

The table below shows the entries for banks that under AIRB reflect guarantees by adjusting their PD estimates. Refer also example 1 for more information for banks that reflect guarantees by adjusting their LGD estimates.

| **Corporates** | Effects of credit protection | | | | |
|---|---|---|---|---|---|
| | Exposures before credit protection | Exposures after credit protection | | | |
| PD | | | | | |
| 0.20% | | 100 | | | |
| 1.00% | 100 | | | | |

**Example 4:** *As in Example 3 but assume BBB-rated parent (PD=0.7%)*

**Answer:**

*Standardised approach*

| Risk weight category | All exposures | Exposures w/o CRM | Exposures with credit protection | |
|---|---|---|---|---|
| | | | Pre-protection | Post-protection |
| **Corporates** | | | | |
| 100%, not including unrated | | | | |
| 100%, unrated | 20 | 20 | | |

ie the parent guarantee is not recognised in this case as a corporate guarantor must be externally rated A- or better under the standardised approach credit risk mitigation proposals (refer paragraph 159 in the QIS Technical Guidance). In any case, in this example, non-recognition of the guarantee makes no practical difference as both unrated and BBB-rated entities receive a 100% risk weight.

*FIRB approach*

| **Corporates** | Effects of credit protection | | | | |
|---|---|---|---|---|---|
| | Exposures before credit protection | Exposures after credit protection | | | |
| PD | | | | | |
| 0.70% | | | | | |
| 1.00% | 75 | 75 | | | |

Again, the parent guarantee is not recognised as the corporate guarantor must be rated the equivalent of A- or better under the FIRB credit risk mitigation proposals.

*AIRB approach*

| **Corporates** | Effects of credit protection | | | | |
|---|---|---|---|---|---|
| | Exposures before credit protection | Exposures after credit protection | | | |
| PD | | | | | |
| 0.70% | | 100 | | | |
| 1.00% | 100 | | | | |

Under AIRB there is no restriction on the rating of the guarantor. However, again note that in the AIRB spreadsheets undrawn commitments should be entered before credit conversion as described in example 3. Also note that the table above shows the entries for banks that under AIRB reflect guarantees by adjusting their PD estimates. For banks that reflect guarantees by adjusting their LGD estimates refer also example 1.

**Example 5:** *€ 100 million loan to unrated corporate (PD=1%) protected by € 50 million credit default swap with the same remaining maturity from AA-rated bank (PD=0.05%)*

**Answer:** Split the exposure into a covered and uncovered amount. For all calculation approaches (with the exception of the AIRB approach where the bank chooses the option to reflect the effect of the guarantee by adjusting its LGD rather than PD estimate), enter the uncovered amount into the corporate portfolio and the covered amount into the portfolio of the guarantor (which in this case is a bank). More generally, when calculating the covered amount the bank would also need to take into account any maturity and/or currency mismatches between the guarantee and the underlying exposure.

*Standardised approach*

| Risk weight category | All exposures | Exposures w/o CRM | Exposures with credit protection | |
|---|---|---|---|---|
| | | | Pre-protection | Post-protection |
| **Corporates** | | | | |
| 20% | | | | |
| 100%, unrated | 50 | 50 | | |
| **Banks** | | | | |
| 20% | | | | 50 |
| 100%, not including unrated | 50 | | 50 | |

*FIRB/AIRB approaches*

**Corporates**

| PD | Effects of credit protection | |
|---|---|---|
| | Exposures before credit protection | Exposures after credit protection |
| 0.05% | | |
| 1.00% | 50 | 50 |

**Banks**

| PD | Effects of credit protection | |
|---|---|---|
| | Exposures before credit protection | Exposures after credit protection |
| 0.05% | | 50 |
| 1.00% | 50 | |

**(ii) Collateralised exposures**

**Example 6:** *€ 10 million loan to an unrated corporate (PD=1%) secured by commercial real estate valued at € 12 million*

**Answer:**

*Standardised approach*

Generally speaking, the credit risk mitigation effect of commercial real estate collateral is not recognised under the standardised approach. The exception is that in some countries certain loans that meet the strict criteria set out in footnote 18 of the QIS Technical Guidance may receive a preferential risk weight. Assuming that the preferential risk weight does not apply, the loan in the example should be reported in the risk weight category labelled 'Corporate lending collateralised with commercial real estate, 100%' as shown in the table below. (Please note that no figures should be entered in the columns headed 'Collateralised exposures' as these columns should only be used for exposures secured against eligible financial collateral.)

| Risk weight category | All exposures | Exposures w/o CRM | Collateralised exposures | |
|---|---|---|---|---|
| | | | Pre-collateral | Post-collateral |
| **Corporates** | | | | |
| Corporate lending collateralised with residential real estate, 40% | | | | |
| Corporate lending collateralised with CRE, 50% | | | | |
| Corporate lending collateralised with CRE, 100% | 10 | 10 | | |

As noted above, subject to national discretion, in some countries, certain loans secured against commercial real estate may qualify for a 50% risk weight for that part of the loan that does not exceed the lower of 50% of the market value or 60% of the mortgage lending value of the property securing the loan. The qualifying portion of such loans should be reported in the risk weight category labelled 'Corporate lending collateralised with commercial real estate, 50%' with any excess reported in the risk weight category labelled 'Corporate lending collateralised with commercial real estate, 100%'.

*FIRB approach*

As the collateral to loan ratio is 120% the loan in the example does not meet the FIRB overcollateralisation requirement of 140% for loans secured against commercial property. Therefore split the loan into a covered and uncovered amount:

- Covered amount = (% covered by security / overcollateralisation requirement) * exposure

  = 120 / 140 * €10 m

  = € 8.6 million $\Rightarrow$ LGD = 35%

- Uncovered amount = €10 m - €8.6 m = € 1.4 million $\Rightarrow$ LGD = 45%

| **Corporates** | Collateral type | Unsecured subordinated | Unsecured senior | | Commercial real estate | |
|---|---|---|---|---|---|---|
| PD | LGD | 75% | 45% | | 35% | |
| | | | | | | |
| 1.00% | | | 1.4 | | 8.6 | |

Note that if the value of the security had been < € 3 million then the 30% minimum collateralisation requirement for loans secured against commercial property would not have been met and the covered amount would have been set to zero despite the presence of some security.

*AIRB approach*

Enter the whole exposure amount into the appropriate bank-specified band of the LGD grid in the AIRB spreadsheet.

**Example 7:** *€ 10 million loan to unrated corporate (PD=1%) secured by debt securities of AA-rated bank with remaining maturity of 3 years and a market value of € 9.9 million. For standardised and FIRB approaches. Also assume daily revaluation of the collateral and remargining.*

**Answer:**

*Standardised approach*

Assume that the lending bank is using the comprehensive rather than simple approach for recognising eligible financial collateral (together with supervisory rather than internal haircut estimates).

Split the loan into a covered amount and an uncovered amount (E*) by applying the relevant standard supervisory haircut ($H_c$) of 4% to the collateral value (C):

- Covered amount = C * (1-$H_c$)

  = €9.9 m * (1 - 0.04)

  = € 9.5 million

- Uncovered amount (E*) = €10 m - €9.5 m = € 0.5million

Enter the gross exposure (E) into the pre-collateral column and the uncovered amount (E*) into the post-collateral column.

| Risk weight category | All exposures | Exposures w/o CRM | Collateralised exposures | |
|---|---|---|---|---|
| | | | Pre-collateral | Post-collateral |
| **Corporates** | | | | |
| 100%, unrated* | 10 | | 10 | 0.5 |

*FIRB approach*

The simple approach to recognising collateral is not available under the FIRB approach. As in the standardised approach example, split the loan into a covered and uncovered amount:

- Covered amount = C * (1-$H_c$)

  = €9.9 m * (1 - 0.04)

  = € 9.5 million $\Rightarrow$ LGD = 0%

- Uncovered amount = €10 m - €9.5 m = € 0.5million $\Rightarrow$ LGD = 45%

Enter the covered and uncovered amounts into the appropriate LGD columns in the LGD grid.

| **Corporates** | Collateral type | Unsecured subordinated | Unsecured senior | | | Financial collateral |
|---|---|---|---|---|---|---|
| PD | LGD | 75% | 45% | | | 0% |
| | | | | | | |
| 1.00% | | | 0.5 | | | 9.5 |

*AIRB approach*

Enter the whole exposure amount into the appropriate bank-specified band of the LGD grid in the AIRB spreadsheet.

**(iii) Specific risk capital charges for positions hedged by credit derivatives**

The following examples should be read in conjunction with paragraphs 642-652 of the QIS Technical Guidance.

**Example 8:** *€ 10 million BB-rated corporate bonds with remaining maturity of 3 years, hedged by a 3-year, € 10 million total return swap referenced against the same bonds, provided by a AA-rated bank (PD=0.05%)*

**Answer:** The exposure meets the requirements set out in paragraph 646 of the QIS Technical Guidance for full recognition of the hedge, i.e. a 0% specific risk charge will apply for both legs of the hedged position.

| Specific risk charge | Exposures |
|---|---|
| 0% | 20 |
| 0.25% | |
| 1.00% | |
| 1.60% | |
| 4.00% | |
| 8.00% | |

The add-on factor for counterpary risk for the credit derivative = €10m * 10% = € 1 million (refer paragraph 652 of the QIS Technical Guidance). The counterparty risk exposure (replacement cost + new add-on using the current approach method) should be reported in the panel for "Trading book counterparty exposures: OTC derivatives" in the "Standardised", "FIRB Trading Book", and "AIRB Trading Book" worksheets. Also in the "Current" and "Data" worksheets using existing rules.

**Example 9:** *€ 10 million A-rated government bonds with remaining maturity of 3 years, hedged by a credit default swap with the same reference obligation and the same remaining maturity provided by a AA-rated bank (PD=0.05%)*

**Answer:** The exposure meets the requirements set out in paragraph 647 of the QIS Technical Guidance for partial recognition of the hedge, i.e. an 80% offset will apply for one leg and a 0% charge for the other leg of the hedged position. Note that the proposed specific risk charge for A-rated government paper with residual maturity > 24 months is 1.6% (refer paragraph 643 of the QIS Technical Guidance).

| Specific risk charge | Exposures |
|---|---|
| 0% | 18 |
| 0.25% | |
| 1.00% | |
| 1.60% | 2 |
| 4.00% | |
| 8.00% | |

The add-on factor for counterpary risk for the credit derivative = €10m * 10% = € 1 million (refer paragraph 652 of the QIS Technical Guidance). The counterparty risk exposure (replacement cost + new add-on using the current approach method) should be reported in the panel for "Trading book counterparty exposures: OTC derivatives" in the "Standardised", "FIRB Trading Book", and "AIRB Trading Book" worksheets. Also in the "Current" and "Data" worksheets using existing rules.

**Example 10:** *€ 10 million BBB-rated corporate bonds with remaining maturity of 3 years, hedged by a 1.5-year credit default swap with the same reference obligation, provided by a AA-rated bank (PD=0.05%)*

**Answer:** The exposure meets the requirements in paragraph 648(b) of the QIS Technical Guidance for partial recognition of the hedge (though recognition is lower than in the previous example because of the mismatch between the maturity of the credit swap and the maturity of the underlying bond exposure). In this case, only the higher of the two legs' capital charges will apply. Note that disregarding the hedge the specific risk charges would be 1.6% for the bonds and 1.0% for the credit swap (unchanged from the existing specific risk charges set out in the current Accord). Thus, according to paragraph 648(b):

| Specific risk charge | Exposures |
|---|---|
| 0% | 10 |
| 0.25% | |
| 1.00% | |
| 1.60% | 10 |
| 4.00% | |
| 8.00% | |

The add-on factor for counterpary risk for the credit derivative = €10m * 10% = € 1 million (refer paragraph 652 of the QIS Technical Guidance). The counterparty risk exposure (replacement cost + new add-on using the current approach method) should be reported in the panel for "Trading book counterparty exposures: OTC derivatives" in the "Standardised", "FIRB Trading Book", and "AIRB Trading Book" worksheets. Also in the "Current" and "Data" worksheets using existing rules.

**Example 11:** *€ 10 million BB-rated bonds with remaining maturity of 5 years, hedged by a 3-year total return swap with 3-year bonds from the same issuer as the reference obligation, provided by a AA-rated bank (PD=0.05%)*

**Answer:** The exposure meets the requirements set out in paragraph 648(a) of the QIS Technical Guidance that only the higher of the two legs' capital charges will apply. Note that the charge for the bond holding = 8% and for the credit derivative = 8%. Thus:

| Specific risk charge | Exposures |
|---|---|
| 0% | 10 |
| 0.25% | |
| 1.00% | |
| 1.60% | |
| 4.00% | |
| 8.00% | 10 |

The add-on factor for counterpary risk for the credit derivative = €10m * 10% = € 1 million (refer paragraph 652 of the QIS Technical Guidance). The counterparty risk exposure (replacement cost + new add-on using the current approach method) should be reported in the panel for "Trading book counterparty exposures: OTC derivatives" in the "Standardised", "FIRB Trading Book", and "AIRB Trading Book" worksheets. Also in the "Current" and "Data" worksheets using existing rules.

**Other Examples**

**Example 1:** *Within a certain PD band, a bank has the following exposures. (1) a loan of € 100 that will be fully paid back in 6 months time; (2) a loan on which one € 25 payment will be received in 6 months time and a second, equal, payment will be received in 18 months time, (3) a loan on which one € 25 payment will be received in 2*

*years time and another, equal payment in 10 years time. What is the maturity that should be used for this PD-band?*

**Answer:** First we have to calculate the maturities for the individual loans. Loan 1 has an economic maturity of 0.5 years. Maturities in IRB, however, are subject to a one year floor. Consequently $M_1$=1. The maturity of loan 2 equals (25*0.5+25*1.5)/50 (floors are not applicable to individual cash flows). Consequently $M_2$=1. The maturity of loan 3 would equal (25*2+25*10)/50=6. In this case the 5-year gap on maturity is binding. Consequently, $M_3$=5, rather than 6. The combined maturity of the three loans equals ($100*M_1+50*M_2+50*M_3$)/200 = (100*1+50*1+50*5)/200 = 2.

**Example 2:** *Assume we have a € 100 loan to an unrated corporate. Under the standardised approach, using the simple approach, what risk weight would apply in the following scenarios (1) no collateral, (2) € 100 securities issues by a AAA-rated sovereign as collateral, (3) € 125 securities issues by a AAA-rated sovereign as collateral, (4) € 100 cash collateral, (5) € 115 gold as collateral*

**Answer:** The five cases result in the following risk weights:

(1) Unless the national supervisor decides otherwise, exposures to unrated corporates are risk weighted 100%.

(2) Paragraph 150 of the Technical Guidance indicates that the market value of this kind of collateral should be discounted by 20% (i.e. we use € 80 in our calculations, rather than € 100). Consequently, € 80 is risk weighted at 0%, € 20 is risk weighted at 100%, resulting in a total risk weight of 20% for this exposure.

(3) In our third case, a 0% risk weight would apply. After discounting, the € 125 of collateral still is worth € 100, no floor does apply, and consequently the corporate risk weight can be substituted by that of the collateral.

(4) The fourth case, assumes the availability of € 100 cash collateral. Neither a discount factor, nor a floor applies and consequently the risk weight is 0%.

(5) In the final case, € 115 of gold has been pledged, discounting is no applicable—paragraph 114 is only relevant for the comprehensive approach—but the 20% floor mentioned in paragraph 146 is applicable. Consequently, the risk weight is 20%.

**Example 3:** *What would the answers to the previous example be for a bank using the comprehensive approach (using the standard supervisory haircuts)?*

**Answer:** The five cases result in the following risk weights:

(1) Unless the national supervisor decides to apply a higher risk weight, exposures to unrated corporates are risk weighted 100%.

(2) In this case, we should discount the value of the collateral. In order to be able to calculate the appropriate haircut, we need to make some assumptions. Let's assume the residual maturity of the securities pledged as collateral is more than 5 years and that the bank revaluates the collateral every 20 working days. Using paragraphs 114 and 130–132 is turns out that the

appropriate supervisory haircut equals $4\% \times \sqrt{\frac{20+(20-1)}{10}} \approx 7{,}9\%$. After application of the haircut, we have € 92.1 worth of collateral (risk weighted at 0%); € 7.9 of the exposure still is un-collateralised and is risk weighted at 100%. The average risk weight equals 7.9%.

(3) In the third case, the same haircut would apply. In this case the value of the collateral after discounting would still exceed the value of the exposure and the total risk weight would be 0%.

(4) Cash collateral obtains a 0% risk weight.

(5) The haircut for gold, assuming that the bank revaluates the collateral every 30 working days, equals $15\% \times \sqrt{\frac{30+(20-1)}{10}} \approx 33.2\%$. Consequently, the collateral would be worth € 76.8 (115*(1–0.332)). Of the collateralised exposure € 76.8 would be risk weighted at 0% and the remaining € 23.2 at 100%, the average risk weight would be 23.2%.

**Example 4:** *When using multiple types of collateral on a single exposure, banks should use the treatment that results in the largest possible recognition of collateral. Generally this implies that collateral should be recognised in the sequence indicated by the table in paragraph 256 of the Technical Guidance. The following (somewhat unrealistic) example illustrates how one should proceed. We assume a € 100 loan to a corporate obligor with a PD of 1%. A bank (PD = 0.05%) guarantees € 30 of this loan and pledges real estate collateral worth € 14 to support this guarantee. The guarantee satisfies the requirements set out in the Technical Guidance. Apart from the guarantee, the loan is supported by € 20 (after haircuts) financial collateral and € 28 of real estate collateral. All collateral meets all the necessary requirements.*

**Answer:** In this example, we first look at the guarantee. Thanks to the guarantee, € 30 is assigned to the 0.05% PD-band. The collateral pledged to support the guarantee equals more than 30% of the guarantee and is eligible, although we should take into account the overcollateralisation requirement set out in paragraph 256 of the Technical Guidance (i.e. divide the value of the collateral by 140%). Consequently, we assign € 10 (14/140%) to the 35% LGD-band and the remainder (€ 20) to the 45% LGD-band.

On the remainder of the loan (€ 70) we first take into account the financial collateral by assigning € 20 to the 0% LGD-band. Next we check whether the real estate pledged as collateral satisfies the 30% criterion (it does now, it would not have been eligible without recognising the other forms of CRM first). We discount the € 28 by the overcollateralisation requirement (140%, i.e. of the € 28, € 20 will be recognised), assign € 20 to the 35% LGD-band and the remaining € 30 to the 45% LGD-band.

**Corporates**

| | Effects of credit protection | | | | | |
|---|---|---|---|---|---|---|
| | Exposures before credit protection | Exposures after credit protection | Collateral type: | Unsecured senior claims | Real estate | Financial collateral |
| | | | LGD: | 45% | 35% | 0% |
| PD | | | | | | |
| 0.50% | | | | | | |
| 1.00% | 70 | 70 | | 30 | 20 | 20 |

**Bank**

| PD | Effects of credit protection | | Collateral type: | Unsecured senior claims | Real estate | Financial collateral |
|---|---|---|---|---|---|---|
| | Exposures before credit protection | Exposures after credit protection | | | | |
| | | | LGD: | 45% | 35% | 0% |
| 0.50% | | 30 | | 20 | 10 | |
| 1.00% | 30 | | | | | |