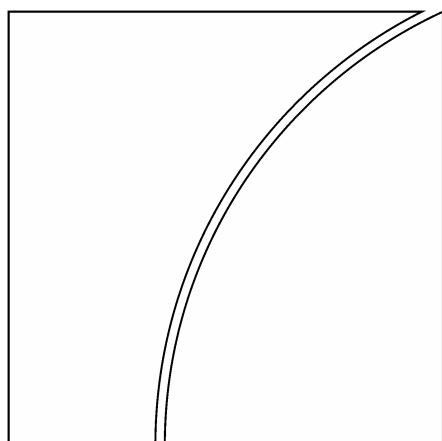


Basel Committee on Banking Supervision



Instructions for QIS 5

Updated 29 September 2005



BANK FOR INTERNATIONAL SETTLEMENTS

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Table of Contents

1.	Main changes to the workbook since QIS 3	1
1.1	Main changes from QIS 3 to QIS 4	1
1.2	Main changes from QIS 4 to QIS 5	2
2.	General.....	2
2.1	Workbook	2
2.2	Coverage.....	3
2.3	Units	3
2.4	Consolidated basis.....	3
2.5	Consistent portfolio	3
2.6	Reference date.....	3
2.7	Structure of worksheets	4
2.8	Approaches.....	5
2.8.1	General	5
2.8.2	Partial use of the Standardised approach.....	5
2.9	Assignment of exposures to portfolios	5
2.9.1	General	5
2.9.2	Credit protection (guarantees and credit derivatives)	6
2.9.3	Securitisation exposures.....	8
3.	Workbooks relevant for all participating banks.....	9
3.1	Input worksheet.....	9
3.1.1	Purpose.....	9
3.1.2	General information (panel A).....	10
3.1.3	Capital held and provisioning data (panel B)	10
3.1.4	Current accord, trading book and partial use risk-weighted assets (panel C).....	11
3.1.5	Exposure data.....	13
3.2	Checks and Results worksheets	15
3.3	Parameters worksheet	15
3.4	Related Entities worksheet.....	15
3.4.1	Information required.....	16
3.4.2	Inputs	16
4.	Current Accord	16
4.1	Current Accord worksheet.....	16
4.1.1	Basis for calculations	16
4.1.2	Structure of worksheet.....	17

4.1.3	Inputs for drawn exposures, other off-balance sheet exposures and undrawn lines	17
4.1.4	Counterparty exposures (repo-style transactions and OTC derivatives)....	17
4.1.5	Trading book	18
4.1.6	Netting arrangements.....	18
4.1.7	Credit risk mitigation.....	18
4.2	Current Accord Securitisation worksheet	18
5.	Standardised approach.....	19
5.1	Standardised approach worksheet.....	19
5.1.1	General	19
5.1.2	Credit risk mitigation.....	19
5.1.3	Eligible on-balance sheet netting agreements	20
5.2	Standardised approach securitisation worksheet.....	20
5.2.1	Securitisation exposures requiring deduction (panel A).....	20
5.2.2	Rated exposures (panel B)	20
5.2.3	Unrated exposures (panel C)	21
5.2.4	Investors' interest (panel D)	22
6.	IRB approaches	23
6.1	Foundation IRB approach worksheets	23
6.1.1	General	23
6.1.2	Structure of the worksheets	23
6.1.3	PD bands	23
6.1.4	LGD bands – Drawn, other off-balance sheet items and commitments.....	24
6.1.5	Treatment of repo-style transactions.....	26
6.1.6	Treatment of OTC derivative exposures	26
6.1.7	Netting agreements.....	27
6.1.8	Maturity	27
6.1.9	SME portfolio – size function.....	27
6.2	Advanced IRB approach worksheets (including Retail IRB).....	28
6.2.1	LGD.....	28
6.2.2	Retail	29
6.2.3	Maturity	29
6.3	IRB Equity worksheet.....	29
6.3.1	Materiality.....	29
6.3.2	Specific exclusions.....	29
6.3.3	Grandfathering	30
6.3.4	Treatment of excluded and non-excluded items	30
6.3.5	Scaling factor	30

6.3.6	Floor for exposures subject to the market-based approach.....	30
6.4	IRB Specialised Lending worksheets.....	30
6.5	IRB Receivables worksheet	30
6.6	IRB Securitisation worksheets	31
6.6.1	Securitisation requiring deductions (panel A)	31
6.6.2	Securitisation exposures subject to ratings-based or internal assessment approach (panel B)	31
6.6.3	Unrated exposures – non IAA (panel C)	32
6.6.4	Investors' interest (panel D)	33
7.	Operational Risk worksheet	34
7.1	Introduction	34
7.2	Missing data	34
7.3	Gross income	34
7.4	Basic Indicator Approach	34
7.5	Standardised Approach.....	35
7.6	Alternative Standardised Approach.....	35
7.7	Advanced Measurement Approaches	35
Annex.....		37
1.	Significant changes from QIS 3 to QIS 4.....	37
1.1	Input worksheet.....	37
1.2	Parameters worksheet	37
1.3	Results worksheet.....	37
1.4	Related entities worksheet	37
1.5	1988 Accord worksheet.....	37
1.6	Standardised approach worksheet.....	38
1.7	IRB worksheets (general).....	38
1.8	Equity	38
1.9	Operational Risk.....	38
1.10	Other issues	39
2.	Significant changes from QIS 4 to QIS 5.....	39
2.1	Input worksheet.....	39
2.2	Parameters worksheet	39
2.3	Results worksheet.....	39
2.4	1988 Accord worksheet.....	39
2.5	Standardised approach worksheet.....	40
2.6	IRB worksheets (general).....	40
2.7	Equity	40
2.8	Securitisation worksheets	40

2.9 Operational Risk..... 40

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Instructions¹

These instructions refer to version 5.0.x of the workbook. If the workbook version shown in panel A of the Parameters worksheet is different, please obtain the appropriate instructions on the Basel Committee's website (<http://www.bis.org/bcbs/>) or from the respective supervisory agency.

The remainder of this document is organised as follows. Section 1 gives a brief overview of the changes since QIS 3 for those banks that already participated in an earlier data collection exercise. Section 2 discusses general issues, section 3 the worksheets relevant to all participating banks, section 4 the worksheets for the current Accord and section 7 operational risk. These sections are thus relevant to all participating banks. Section 5 discusses the Standardised approach worksheets, and section 6 discusses worksheets only relevant for banks providing data for at least one of the IRB approaches.

1. Main changes to the workbook since QIS 3

The structure of the workbook is similar to that used for the Quantitative Impact Study 3 (QIS 3) and national impact studies/field tests in 2004 and early 2005 (hereafter referred to as QIS 4). However, the workbook was improved in a number of ways to incorporate changes in the rules from the third consultative document (CP3) issued in April 2003 to the Basel II Framework issued in June 2004, especially the move to a UL-only framework and to the different treatment of provisions. These changes were already included in the workbook that formed the basis for QIS 4 in some countries. Afterwards, additional changes were implemented, in particular to gauge the impact of the Consultative Document on *The Application of Basel II to Trading Activities and the Treatment of Double Default Effects*² (hereafter and in the workbook referred to as the "Trading Book paper"). Additional changes were made in order to avoid the problems that emerged during the QIS 3 and QIS 4 data collection exercises and the subsequent analysis. The main changes are described in the following sections; a more detailed list of changes versus QIS 3 is contained in the Annex.

1.1 Main changes from QIS 3 to QIS 4

- The Input and Results worksheets (the latter mainly containing the calculations of the former Capital worksheet of QIS 3) have been modified in order to present the relevant information in a consistent manner. Furthermore, a new Parameters worksheet has been added, in which the values of the necessary parameters for the calculations are clearly illustrated, even though they cannot be modified by banks.
- In the worksheets for the advanced IRB approach as well as in the worksheets for IRB Retail, separate LGD values for non-defaulted and defaulted assets shall be entered, in order to reflect the requirements of the Basel II Framework.

¹ Unless stated otherwise, paragraph numbers given in the remainder of these Instructions refer to the document *International Convergence of Capital Measurement and Capital Standards: A Revised Framework*, published by the Basel Committee on Banking Supervision in June 2004, hereafter the "Basel II Framework".

² Basel Committee on Banking Supervision (2005), *The Application of Basel II to Trading Activities and the Treatment of Double Default Effects*, July.

- The PD/maturity matrix used in the IRB worksheets in QIS 3 has been replaced by a matrix requesting the average maturity for a given PD/LGD combination. This change will increase the accuracy of the risk-weighted asset calculations.
- In QIS 3, specialised lending exposures subject to the foundation or advanced IRB treatment were reported in the Corporate worksheets. There are now separate worksheets for HVCRE and other specialised lending exposures under both foundation and advanced IRB approaches.
- To the greatest extent possible, all IRB worksheets – for both foundation and advanced IRB approaches – now have the same basic structure, and in general all matrices appear in the same cell positions. This makes it easier for banks to fill in data automatically, and it also allows a more efficient analysis of the data. Therefore, various tables (e.g. the maturity adjustment) appear in some IRB worksheets for portfolios for which they are not really necessary. However, these parts are hidden and disabled insofar as they are not necessary and will not have any impact on the calculation of risk-weighted assets.
- An additional subtype of exposures called “e) Other off-balance sheet exposures” was created in order to separate the effects on off-balance sheet exposures which do not belong to one of the subcategories “b) Undrawn lines – committed and uncommitted”, “c) Repo-style transactions” or “d) OTC derivative exposures” from the effects on drawn exposures.

1.2 Main changes from QIS 4 to QIS 5

- The repo and OTC derivatives panels of all approaches as well as panel F of the Input worksheet have been amended to capture the new methods for calculation of exposure amounts/EADs according to the Trading Book paper.
- As for the Standardised approach, all exposures subject to the IRB approaches to credit risk now have to be entered after credit conversion.
- In the IRB Corporate and SME Corporate portfolios, additional worksheets have been included to capture exposures subject to the double default treatment. For exposures subject to the substitution treatment, one row has been added for exposures not subject to the PD floor due to the presence of a guarantee. The memo panels for lease residuals have been deleted.
- Additional rows are provided in the Current and Standardised approach worksheets to allow for specific risk weights in certain jurisdictions.

2. General

2.1 Workbook

Banks should only use the version of the QIS 5 workbook provided by their respective national supervisor to submit their QIS 5 returns. While the structure of the workbooks used for the QIS 5 data collection exercise will be the same in all participating countries and the common workbook template is also available on the Committee’s homepage, only the workbooks provided by national supervisors will be adjusted to reflect the national discretion choices and will be protected in a way such that they can be incorporated in the data aggregation process.

2.2 Coverage

Ideally banks should include all their assets in this exercise. However, due to data limitations, inclusion of some assets (for example the portfolio of a minor subsidiary) may turn out to be an unsurpassable hurdle. Exclusion of such assets is acceptable, as long as the remaining assets are representative of the bank as a whole, i.e. their risk profile and regulatory treatment is broadly comparable to the risk profile of all exposures, and at least 80% of the worldwide assets are included in the capital calculation of this exercise. The remaining exposures should be reported as “assets not included”.

It is, however, recognised that banks may not have exact data on all the requested elements due to, for example, the roll-out of the IRB approaches and, therefore, qualified estimates are acceptable for the purpose of this exercise as long as they are representative of a bank’s portfolio and can be justified. Estimates should be discussed with the national supervisor and set out in a separate note.

For exposures of IRB banks which will be subject to temporary partial use of the Standardised approach after implementation it would be preferable if banks could provide qualified estimates for the IRB capital requirements within the respective worksheets also. Only if this should not be possible, banks should report such exposures in the partial use panel of the Input worksheet or exclude them from this exercise (i.e. report them under “assets not included”). In both cases these exposures will not count towards the minimum coverage.

2.3 Units

Banks should report data in the most convenient currency and record which currency has been used in the Input worksheet. Supervisors will provide the relevant exchange rate for converting the reporting currency to Euros. If banks use 1,000 or 1,000,000 currency units for reporting, this must also be indicated in the Input worksheet. When choosing the reporting unit, it should be considered that the worksheet shows all amounts as integers.

Percentages should be reported as decimals and will be converted to percentages automatically. For example, 1% should be entered as 0.01.

2.4 Consolidated basis

Unless otherwise specified by their supervisor, banks are asked to complete the worksheets for consolidated group exposures on a worldwide basis. All operating entities with material exposures should be included.

2.5 Consistent portfolio

It is extremely important that banks use a consistent portfolio throughout the calculations of capital requirements under the current Accord and the new Standardised and/or IRB approaches. This ensures the comparability of results across approaches and relative to the current capital requirements.

2.6 Reference date

Banks should note the reporting date in the Input worksheet and use the same reporting date for credit, market and operational risk. (Different rules apply for the Standardised and Basic

Indicator approaches to operational risk, where the information about the relevant years is contained in the respective worksheets.)

2.7 Structure of worksheets

Banks need only enter data in the yellow and blue shaded cells. All other cells are either automatically calculated or are linked to cells in other parts of the worksheet. These unshaded cells cannot be changed.

There are separate worksheets (generally more than one) for each approach. The worksheets calculate risk-weighted assets using information linked to the Input worksheet and banks' own inputs that are entered in yellow or blue cells.

In addition, some worksheets contain **green** shaded cells. These are for information only; they are designed to provide further information for analysing the results. Banks should provide this information, although such information does not feed directly into the calculation of capital.

There are also pink cells which should be completed by supervisors. In general, these refer to areas where there is national discretion in the current Accord or in the Basel II Framework, or where parameters can be changed to conduct stress tests.

All other cells – including those that have been “greyed out” or shaded orange to highlight some of the results – must not be changed by banks and are therefore locked. The structure of the whole workbook is locked as well. **It is important to note that any modification to the worksheets might render the workbook unusable both for the validation of the final results and the subsequent aggregation process.**

The worksheets have in-built checks (in red). Underneath each check, cells indicate whether the inputs tally with the relevant data (“Yes” or “No”). Banks are asked to look at these checks to ensure the data input is consistent – if it is not, they should understand why and make the necessary adjustments.

In particular the worksheets relating to the IRB approaches were designed in a way such that their structure (e.g. the positions of cells and tables) is the same for all portfolios to the extent possible. In cases in which certain items are not necessary (e.g. the size adjustment in non-SME portfolios or matrices particular to the advanced IRB approach in foundation IRB worksheets) these items are hidden but nevertheless existent. It is therefore intentional that numbering of columns and rows is not always continuous.

For many portfolios in the IRB approaches, banks can specify the number of PD and LGD bands they wish to use. Additional columns or rows can be left empty. Banks can, however, neither add nor remove columns or rows since the worksheets are protected. If adding columns or rows should become necessary, the national supervisor should be contacted.

Where banks have not been able to comply with any of the instructions, they must clearly set out these areas in a separate note to their supervisor.

2.8 Approaches

2.8.1 General

Banks are requested to provide data for the approach they will most likely implement as well as for the current Accord. Furthermore, data for the foundation IRB approach from banks intending to implement the advanced IRB approach and data for the Standardised approach from banks intending to implement the foundation IRB approach will allow the Committee to compare capital requirements across approaches.

The worksheets for the other approaches can be used for this comparative analysis only and **not** for reporting data on exposures subject to partial use of that approach.

2.8.2 Partial use of the Standardised approach

In general, the workbook does not allow banks to use different approaches for different parts of their portfolios. However, partial use of the Standardised approach can be included in the calculations in case a bank can separate out all exposures and general provisions subject to the partial use of the Standardised approach, e.g. because the Standardised part of the banking group is a separate legal entity and these figures are readily available from that entity's balance sheet.

2.9 Assignment of exposures to portfolios

2.9.1 General

For the purposes of this exercise, eleven broad categories of exposures are identified. However, not all of them will be relevant for all banks. The eleven categories are:

- Corporate (not including SMEs and Specialised Lending);
- Specialised lending (SL). Within the SL portfolio the categories “HVCRE” and “Other” are distinguished where the latter category comprises Project Finance, Income Producing Real Estate, Object Finance and Commodity Finance;
- Sovereign;
- Banks;
- Retail (not including SMEs), including
 - Other Retail,
 - Qualifying revolving retail, and
 - Mortgage retail.
- SMEs
 - treated as corporate,
 - treated as retail;
- Equity;
- Purchased receivables;
- Securitised assets;
- Trading book; and

- Investments in related entities.

Definitions for all exposure classes are given in the Basel II Framework. It is important that banks use consistent categories across the various approaches (i.e. exposures designated as sovereign under the IRB approaches must also be designated as sovereign under the current Accord and the Standardised approach). A particular case is for the retail portfolio, where the definition of retail is different for the Standardised and IRB approaches. Banks completing one or both of the IRB approaches must use the IRB definition for the current Accord and **both** Standardised and IRB approaches if they also provide data for the Standardised approach. This is to ensure that the results for the current Accord and the Standardised and IRB approaches are comparable. Banks **only** completing the Standardised or one of the IRB approaches should follow the definition of that specific approach; this definition then also applies to the current Accord.

2.9.2 Credit protection (guarantees and credit derivatives)

Overview

In the Basel II Framework, the recognition of the additional protection afforded by having credit protection in place is recognised through a substitution approach. This means that, in the standardised approach, a bank may substitute the risk weight of the protection provider for that of the obligor, whereas, in the IRB approaches, the PD or LGD of the obligor are revised. This treatment does not fully reflect the additional benefit obtained from the presence of credit protection, i.e. both the underlying exposure and the protection provider must default for a loss to be incurred (double default). The Committee has, therefore, developed, jointly with the IOSCO, a framework to reflect the additional comfort generally given by the presence of a protection provider within the IRB approaches.

In order to gauge the capital impact of the double default treatment, all portfolios which might contain exposures eligible for this treatment are now captured within three instead of only one worksheet:

- An aggregation worksheet allows banks to specify their PD bands and sums up the risk-weighted assets calculated separately for those exposures which are subject to the double default framework and those which are not.
- A worksheet for exposures which are either not protected or subject to the substitution approach with the protection provider being assigned to that particular portfolio. This worksheet closely resembles the IRB worksheets used for portfolios to which double default does not apply, with the exception that PD bands are defined in the aggregation worksheet and not in this worksheet itself.
- A worksheet for exposures subject to the double default treatment.

Further details are provided in the following sections.

Guarantees and credit derivatives subject to the substitution approach

As a general rule, in completing the worksheets banks should assign exposures for which credit protection is provided by another counterparty (e.g. in the form of a guarantee) and that are subject to the substitution approach **according to the characteristics of the provider of protection**. Thus, if a bank has an exposure to a corporate guaranteed by

another bank, this exposure must be treated as a bank exposure and included in the claims on banks portfolio. This should apply throughout the approaches.³ Exposures should not be moved between portfolios – thus if a corporate exposure has been guaranteed by a bank, it should always be shown in the bank portfolio (in the Input worksheet and throughout the approaches). An exception must be made in the case of credit default swaps guaranteeing a pool of assets. If the CDS provides full protection for the entire portfolio and the protection seller is an eligible guarantor then the treatment is as described above. If the eligible guarantor provides only partial coverage, the covered portion of the pool must be treated according to the substitution approach as described above. The remaining uncovered part must be treated as a retained first loss piece which is to be entered accordingly in the Securitisation worksheets.

Supervisors may choose not to ask for data on credit protection. If this is the case only exposures “post protection” should be recorded. Conversely, banks might be requested to enter their exposures before and after the effects of credit protection. Thus, in the current Accord and Standardised approach worksheets, banks should first slot exposures with a credit protection according to the risk weighting of the initial obligor in the column headed “pre-protection” and then slot exposures according to the risk weighting of the guarantor or credit protection provider in the column “post-protection”.

Banks should adopt a similar approach in the IRB worksheets: banks should assign exposures with a guarantee or credit protection according to the PD band of the initial obligor in the column headed “exposures before credit protection” and then assign these exposures according to the PD of the guarantor in the column headed “exposures after credit protection”.

A further option is available in the advanced IRB approach, where banks can make their own internal assessment of the degree of risk transfer and can accordingly adjust either the PD or LGD.

- If a bank chooses to adjust the PD, it should follow the same approach as described above and assign exposures to PD bands before and after the effects of credit protection.
- If the bank chooses to adjust its LGD estimates, it should enter the same quality distributions in both the “before” and “after” credit protection columns. If a bank chooses this option, exposures must also be shown in the portfolio of the underlying obligor in the foundation IRB, the Standardised approach and the current Accord worksheets. Under the foundation IRB approach, the exposure may then have to be reported in the separate row for exposures not subject to the PD floor – see section 6.1.3 for further details.

On an exceptional basis, national supervisors may decide not to require banks to assign protected exposures to the portfolio of the protection provider for the purposes of this exercise. In this case, the protected exposure should be assigned to the PD band of the guarantor within the portfolio of the original obligor, and the exposure must remain in the portfolio of the original obligor also under the current Accord and the Standardised approach.

³ Credit risk mitigants other than collateral (e.g. a guarantee) provided by a securitisation special purpose vehicle to a securitisation exposure are not eligible for CRM treatment and should not be recorded in the portfolio of the protection provider – it should be recorded in the Securitisation worksheet. However, if the guarantee is collateralised, the effects of such collateralisation must be recorded in the appropriate table of the Securitisation worksheet.

Guarantees and credit derivatives subject to the double default framework

The application of the double default framework is subject to certain operational requirements set out in the Trading Book paper, and banks are free to decide on an exposure-by-exposure basis whether or not they want to apply the double default framework instead of the substitution approach, considering that the double default framework may for certain exposures require higher capital charges than the substitution approach.

The double default treatment is only relevant for banks also providing data for at least one of the IRB approaches. Exposures subject to the double default framework must remain assigned to the portfolio of the original obligor, with the only exception that the portion of SME Retail exposures to which the double default framework is applied must be shifted to the SME Corporate worksheet.⁴ In order to ensure portfolio consistency, the same rule must be applied under the IRB approaches as well as under the current Accord and, if applicable, under the Standardised approach. However, these exposures must be entered in a separate worksheet specifically designed to capture the double default effect.

If a bank opts for the substitution approach for exposures which would in principle be eligible for the double default framework (e.g. because the substitution approach requires a lower capital charge), **the respective exposures must not be entered in the double default worksheet.** Instead, such exposures should be treated as described above for the substitution approach.

Note that defaulted exposures cannot be subject to the double default framework. Therefore, in case the original obligor defaults, the exposure must be assigned to the portfolio of the protection provider. Conversely, if the protection provider defaults, the exposure must remain assigned to the portfolio of the original obligor and be entered in the worksheet for unprotected exposures. In case of double default, the exposure should be assigned to the portfolio of the party that defaulted last and be entered in the row for defaulted exposures.

Partial coverage

Where partial coverage exists, or where there is a currency mismatch between the underlying obligation and the credit protection, it is necessary to split the exposure into a covered and an uncovered amount. The covered amount is treated according to one of the approaches discussed above, and the uncovered amount is treated as an unprotected exposure.

2.9.3 Securitisation exposures

Banks must apply the securitisation framework for determining regulatory capital requirements for exposures arising from traditional and synthetic securitisations or similar structures that contain features common to both (paragraphs 538–540).

Securitisation exposures can include but are not restricted to the following:

- Asset-backed securities;
- Mortgage-backed securities;

⁴ The retail risk-weight function must not be applied to exposures subject to the double default framework, see paragraph 226 of the Trading Book paper.

- Credit enhancements;
- Liquidity facilities;
- Interest rate or currency swaps;
- Credit derivatives;
- Refundable price discounts as described in paragraph 371; and
- Tranched cover as described in paragraph 199.

Reserve accounts, such as cash collateral accounts, recorded as an asset by the originating bank, must also be treated as securitisation exposures.

Originators' positions are retained and repurchased positions on originators' side. Sponsors of conduits are also considered to be originators. For example, in the context of such programmes, a bank would be considered an originator if it provides liquidity and/or credit enhancements. All other securitisation exposures held of which the bank is not the originator are considered as **investors' positions**. Guarantors of securitisation exposures must treat the guarantee as if they were an investor in that exposure.

With the exception of securitisation of exposures for which no IRB treatment of the pool assets has been specified (see paragraph 608) and under the standardised approach for exposures with a rating of BB+, BB or BB- (paragraphs 569 and 570), no distinction is made between securitisation exposures held by originators and those held by investors.

In the case of securitised revolving credit subject to early amortisation, originators must hold regulatory capital for investors' interest in the exposure. The investors' interest includes both drawn and undrawn portions of the securitised line.

Originators of securitisation exposures need not enter the securitised pool assets in the portfolio corresponding to the underlying exposures even in the case of a synthetic securitisation transaction in which the underlying instruments remain on the originators' balance sheets. An exception to this rule applies if the conditions in paragraph 554 are not fulfilled. In the case of a synthetic resecuritisation involving securitisation exposures as underlying instruments, the underlying instruments have to be entered into the Securitisation worksheets (if rated in section B, otherwise in section C).

If an originating bank buys protection for pool assets from an SPE (non-eligible guarantor) in the form of a CDS and full coverage is provided, the underlying assets are to be entered into the workbooks corresponding to their portfolio. Assets held by the SPE for the purpose of protecting the originator against credit losses are to be treated as financial collateral for the underlying assets. If partial coverage is provided, both the covered and uncovered parts are to be treated as securitisation exposures and entered into the Securitisation worksheets.

3. Workbooks relevant for all participating banks

3.1 Input worksheet

3.1.1 Purpose

The Input worksheet is intended to capture broad information about the portfolios used in the exercise as well as some key data regarding the bank (e.g. capital and provisions). Since this

worksheet must contain most of the information required for the calculations of risk-weighted assets and capital ratios **it is vital that this information is as accurate as possible**. The Input worksheet is linked to the other worksheets.

3.1.2 General information (panel A)

Banks should enter the reporting date, the ISO code of the reporting currency and the unit they are reporting in (e.g. 1, 1,000 or 1,000,000 currency units) here. Panel A also provides drop-down menus where banks should indicate which approaches they are providing data for, and which approach they will most likely adopt after implementation.

3.1.3 Capital held and provisioning data (panel B)

Capital held (panel B1)

Section 1 of this panel asks banks for the regulatory capital they hold. In general, all portfolio-specific supervisory restrictions on the eligibility of capital (e.g. that eligible Tier 2 capital must be less than Tier 1 capital) are dealt with by the worksheet. Conversely, consideration of the restrictions to eligibility depending on the type of capital instrument (e.g. the restrictions to eligibility of subordinated debt as set out in the current Accord) must be taken by the bank.

Since portfolio-specific restrictions might well be different under the different approaches (e.g. because of a different amount of supervisory deductions or risk-weighted assets), it is important that **capital figures are entered regardless of any portfolio-dependent restrictions to eligibility**. Where applicable, Tier 2 capital must include general provisions to the extent eligible under the current Accord in the respective jurisdiction.

The capital numbers must relate to the **total banking group**, even if some exposures are not included in the exercise or subject to partial use of the Standardised approach. If the exercise is carried out for an entity other than the consolidated group at the request of the national supervisor, capital figures must be reported for that entity. Still, capital held for portfolios subject to partial use of the Standardised approach has to be included.

Other supervisory deductions (panel B2)

In section 2 of panel B other supervisory deductions that are not dealt with elsewhere in the workbook should be entered for all approaches banks are providing data for.

Supervisory deductions should include total capital for investments in the capital of other banks and financial institutions. The deductions for investments in unconsolidated banking and other financial subsidiary companies are calculated in the related entities worksheet and will feed-through to the Results worksheet automatically; such deductions should therefore **not** be reported in panel B of the Input worksheet. The same holds true for deductions for securitisation exposures and goodwill⁵ which are calculated in the Securitisation and Results worksheets, respectively.

⁵ The same treatment applies to other intangibles in case national supervisors require deduction for other intangibles instead of 100% risk weighting.

Provisioning data (panel B3)

Section 3 of panel B asks for data on provisioning. Since the treatment of provisions strongly affects the calculations of the UL-only IRB capital requirements which have been introduced after CP3, correct data on provisioning is crucial.

General provisions have to be entered in four separate cells.

- First, banks have to enter the **total amount of general provisions**. It is assumed that this amount will generally be eligible for Tier 2 capital under the Standardised approach. The cap related to risk-weighted assets (which may be 0 in certain jurisdictions) will automatically be taken into account in the calculation.
- Second, banks have to enter the amount, if any, of **general provisions currently included in their Tier 2 capital** figure, taking account of the eligibility criteria in their respective jurisdiction. If general provisions are currently not eligible as Tier 2 capital in their jurisdiction, banks shall leave this cell empty.
- Third, if applicable, the bank must calculate the amount of **general provisions eligible for inclusion in Tier 2 capital under the Standardised approach for the fraction of exposures subject to partial use** (paragraphs 381–383). The cap depending on risk-weighted assets is calculated automatically and must therefore not be applied by the bank. The spreadsheet automatically subtracts this amount from the amounts of eligible provisions given in that panel for total general provisions and general provisions eligible for the IRB approaches. Therefore, those figures must always be entered regardless of any partial use.
- Fourth, **general provisions eligible for the EL-provisions calculation under the IRB approaches** have to be entered. Once more, this amount should be entered regardless of the risk-weighted asset based cap (paragraph 43) since IRB risk-weighted assets are not known in advance and the workbook calculates the cap automatically.

3.1.4 Current accord, trading book and partial use risk-weighted assets (panel C)

Trading book requirements (panel C1)

Trading activities carry several types of risks: counterparty credit risk, market risk (consisting of both general market risk and specific risk), and concentration risk. The Basel II Framework imposes charges for the first two, while EU institutions may incur a further charge for large exposures.

Capital requirements are calculated separately for the trading book for each approach. Risk-weighted assets are calculated for three elements.

- The first component is risk-weighted assets required for **counterparty trading book exposures**; these are calculated separately for the current Accord and the Standardised and IRB approaches in the respective worksheets, with the exception of the counterparty credit risk charge for term trading-related repo-style transactions according to paragraph 689c which is covered in this panel.
- The second element is the capital charge for **specific risk**. This capital charge should be calculated using either the standardised or the internal models method. In the former case, nothing has to be inserted in this panel, given that the calculations are run through the specific worksheets and then fed into the Results worksheet; in the latter case the specific risk charge (unchanged from the 1996 Market Risk Amendment) must be reported in this panel. Please note that banks should not enter

specific risk exposures subject to the internal models method elsewhere in the worksheets.⁶

- The third element is the capital charge for **general market risk** calculated using the standardised and/or internal models method. This figure should be entered in the Input worksheet (panel C1) separately for the two methods. For exposures subject to the standardised method, supervisors might ask for an alternative calculation using the internal models method. A green cell is provided for that purpose.

Note that the capital charges for specific risk and general market risk have to be entered separately for the IRB approaches, the Standardised approach and the current Accord. This is necessary because the revised treatment of the trading book might now lead to different capital charges compared to the current Accord, which was not the case in previous impact studies.

Risk-weighted assets and EL according to Part 4 of the Trading Book paper (panel C2)

In panel C2 banks should enter risk-weighted assets according to Part 4 of the Trading Book paper:

- The incremental capital charge for default risk according to paragraph 307 of the Trading Book paper; and
- The counterparty credit risk charge for term trading-related repo-style transactions according to paragraph 689c. This only applies to such transactions that cannot be booked in the trading book under the current Accord but will be eligible for allocation in the trading book for regulatory capital purposes according to this paragraph.

Under the IRB approaches, both risk-weighted assets and the related EL amount have to be reported.

Risk-weighted assets and deductions for settlement risk (panel C3)

Risk-weighted assets and deductions for settlement risk according to Part 5 of the trading book paper should be reported in the “Basel II” column of panel C3 of the Input worksheet. In case the national implementation of the current Accord also included capital requirements for settlement risk, the respective exposures should also be entered in the “Current” column of this panel.

Large exposures (panel C4)

If banks in the EU have capital requirements for large exposures, they should record this capital charge in panel C4 of the Input worksheet. The worksheet will convert this to a risk-weighted asset equivalent.

Partial use of Standardised approach (panel C5)

Risk-weighted assets for exposures subject to partial use of the Standardised approach must be calculated by the bank under both the current Accord and the Standardised approach outside the actual workbook. This calculation might be carried out either using internal IT systems or a separate workbook. If applicable, banks should indicate separately which part

⁶ In case banks use an internal model for both specific and general market risk and are not able to report the capital charges separately, they should report the total in the row “General market risk capital charge – internal model method” and indicate this in a note to their supervisor.

of the Standardised approach risk-weighted assets is subject to the permanent partial use allowed in EU rules.

Total risk-weighted assets (panel C6)

Banks should enter the amount of risk-weighted assets according to current supervisory returns here. **This amount must also include risk-weighted assets which are reported as “assets not included” in this study.**

3.1.5 Exposure data

General remarks

Exposures must be reported both gross and net of specific provisions and partial write-offs and included in the appropriate yellow cell.⁷ This includes defaulted assets that have not yet been fully written-off. For the current Accord and the Standardised approach the exposures net of specific provisions and partial write-offs and for the IRB approaches the exposures gross of specific provisions and partial write-offs are taken into further consideration. In addition, under the IRB approaches, the difference between gross and net exposures feeds into the EL-provisions calculation.

Securitisation exposures are to be entered prior to credit risk mitigation on existing securitisation exposures. Investors' interest for securitised credit lines with early amortisation features is not captured in the Input worksheet.

While scaling-up risk weighted assets⁸ is now in general being done on the basis of current Accord risk-weighted assets, more detailed information on assets not included still provides useful information on the composition of assets not included. Separate cells for such assets are therefore provided in the different panels of the Input worksheet.

On-balance sheet exposures (panel D)

Exposures must be included **before** application of a haircut on exposures (H_e) where relevant. H_e applies only in the comprehensive approach for collateral (i.e. it is not relevant for collateralised transactions in the current Accord and in the Standardised approach where the simple approach for CRM is used).

Assets subject to the partial use of the Standardised approach should not be allocated to the different portfolios, but reported on an aggregated basis in panel D4. In panel D4 banks should also report assets that have not been included in the exercise but are included for current regulatory capital purposes.

Banks should also note any other assets not included elsewhere in the Input worksheet in panel D5 (for example fixed assets which do not attract a regulatory capital charge or will remain subject to a 100% capital charge also under the Basel II Framework). Fixed assets acquired through credit defaults should be identified separately from other fixed assets for

⁷ If a supervisor decides not to require data on the Standardised approach and banks have not set up specific provisions against any of their exposures, it is sufficient to provide the exposure figures in the column “net of provisions”.

⁸ See section 3.2 for further details.

the bank's own use. As far as possible, banks should aim to reconcile the total on-balance sheet assets in panel D6 to their balance sheet at the reference date.

Off-balance sheet exposures (panel E)

Off-balance sheet exposures must be recorded **before** credit conversion for each portfolio. Undrawn lines and other off-balance sheet items (e.g. guarantees) must be recorded separately. Exposures after credit conversion have to be entered in the relevant worksheets for each approach using the applicable credit conversion factors. Concerning securitisation exposures, banks have to fill in **all off-balance sheet securitisation exposures under undrawn lines** even if the title refers to undrawn lines only.

In the data provided for the current Accord, Standardised and IRB approaches, banks should include any commitments that are either unconditionally cancellable or that effectively allow automatic cancellation by the bank, at any time and without prior notice, resulting from a deterioration in the obligor's creditworthiness. However, a 0% conversion factor must be applied to these commitments in the Standardised and foundation IRB approaches. In the advanced IRB approach banks may estimate their own credit conversion factor for these exposures as long as the LGD is adjusted to give a correct overall figure for expected loss. This applies to unconditionally cancellable commitments in the IRB retail portfolios since retail only has an advanced approach.

Exposures subject to partial use of the Standardised approach must be reported separately in panel E2 and must not be included in any other figure in panel E. Off-balance sheet exposures not included elsewhere in the Input worksheet should be reported in panel E3.

Counterparty exposures under repo and OTC derivatives (panel F)

Banks must enter banking book and trading book repo-style and OTC derivative exposures in panels F1 and F2 respectively. For all portfolios, banks are required to distinguish exposures according to the method employed for calculating the exposure amount or EAD under the revised rules (simple approach, standardised method, value at risk or Expected Positive Exposure method for repo-style transactions, and current exposure method, standardised method or Expected Positive Exposure method for OTC derivatives). Banks using the Expected Positive Exposure method must in addition report their own estimate of alpha.

Repo-style transaction exposures include off-balance sheet lending of securities that continue to be recorded on-balance sheet (including the posting of securities as collateral), as well as guarantees of securities lending transactions (e.g. guarantees issued by an agent lender). Cash posted as collateral in a repo-style transaction should be treated as a repo-style transaction exposure, rather than as a loan. In the Input worksheet, banks should record the **gross** exposure (i.e. the exposure amount (E) without any netting for collateral (C)), separately for exposures subject to each of the methods to calculate the net exposure amounts or EADs under the Basel II Framework. Note that banks providing data for one or both of the IRB approaches and also the Standardised approach must use the same method for a particular exposure under all approaches. These banks must therefore not apply the simple approach to calculate exposure amounts under the Standardised approach in this exercise.

For **OTC derivatives**, the **credit equivalent amounts according to the current Accord** (i.e. calculated using the current or original exposure method) should be recorded separately, depending on the methods used to calculate credit equivalent amounts or EADs under the Basel II Framework.

Once more, there is a separate cell for repo-style and OTC derivative exposures subject to the partial use of the Standardised approach in panel F3. Banks should use panel F4 to record banking book and trading book repo-style and OTC derivative exposures not included elsewhere in the Input worksheet.

3.2 Checks and Results worksheets

The **Checks** worksheet summarises the in-built checks contained throughout the workbook. The cells indicate whether inputs in each worksheet tally with the relevant section in the Input worksheet. Banks should use this worksheet to ensure that data input is consistent. Banks can ignore error messages referring to approaches they are not providing data for.

The **Results** worksheet (which incorporates most of the information captured by the Capital worksheet in QIS 3) summarises the main information on capital and deductions, provides a summary of risk-weighted assets and the expected losses (EL) across all the approaches, split by banking and trading book, and calculates the regulatory calculation difference.

Supervisors will in general use a scaling-up mechanism if banks are not able to provide data for their entire books. This **scaling-up mechanism** is QIS-specific and must be distinguished from the **scaling factor** of 1.06 according to paragraph 44 of the Basel II framework which is applied to credit risk risk-weighted assets. The scaling-up mechanism basically compares current Accord risk-weighted assets as calculated in the QIS 5 workbook with current Accord risk-weighted assets according to supervisory returns as specified in the Input worksheet. The factor by which the QIS 5 results for the current Accord have to be multiplied to make them equal to the supervisory return is determined, assuming that banks will always have full coverage for certain items (“assets not subject to scaling”) such as, e.g., market risk and securitisation. This factor is then applied to the results of all approaches.

Finally, minimum required capital, capital ratios and the changes of these figures relative to the current Accord are calculated. All cells in this worksheet link to other areas of the workbook; no inputs are necessary.

3.3 Parameters worksheet

The **Parameters** worksheet allows supervisors to configure most of the parameters used in the calculation of the capital requirements as well as certain parameters that are subject to national discretion. Most other parameters can also be configured here to allow supervisors to stress test the results. Furthermore, additional information on the version and structure of the workbook is compiled in this worksheet to allow supervisors to extract the required data easily. No inputs are necessary in this worksheet.

3.4 Related Entities worksheet

The scope of application of the Basel II Framework includes, on a fully consolidated basis, any holding company that is the parent entity within a banking group to ensure that it captures the risk of the whole banking group. Investments relating to the scope of application of the Basel II Framework will receive either a risk-weight or a deduction treatment (at the discretion of the national supervisor). The related entities worksheet is structured to collect data for capital deduction and/or risk-weighted assets treatment under the current national regime and the Basel II Framework.

3.4.1 Information required

Banks must ensure that (i) only investments relating to the scope of application are reported in this worksheet, and (ii) none of the investments reported in this worksheet are included in other portfolios – especially in the equity portfolio or the deduction figures reported in the Input worksheet –, to avoid double-counting.

Banks should report the data by categories of investments relating to the scope of application as listed below in accordance with the Basel II Framework.

- (a) Investments in unconsolidated majority-owned or controlled securities and other financial entities.
- (b) Significant minority investments in banking, securities and other financial entities.
- (c) Investments in insurance subsidiaries and significant minority investments in insurance entities,
- (d) Significant minority and majority investments in commercial entities that exceed certain materiality levels.
- (e) Other investments relating to Scope of Application (i.e. significant minority- and majority-owned commercial entities below materiality levels, and others if any).

3.4.2 Inputs

Banks should fill in the amounts of investment for categories “a” through “e” in the column titled “Amount outstanding”. Banks should report the data for the current national regime and the Basel II Framework using consistent portfolios. In reporting these data, banks should first refer to the treatment applicable under their jurisdiction (i.e. deducting from capital or risk weighting) under the current regime and the Basel II Framework.

If national supervisors instruct banks to:

- Deduct investments from capital, then banks should report the amount deducted from capital in the column labelled “Deductions”;
- Risk weight investments, then banks should report the risk-weighted amounts under the column labelled “Risk-weighting treatment”. Under the risk-weighting treatment, banks should report data for all the relevant approaches to them (Standardised/ foundation IRB/ advanced IRB).

4. Current Accord

4.1 Current Accord worksheet

4.1.1 Basis for calculations

Exposures should be assigned to the appropriate category in the worksheet based on the **local implementation** of the 1988 Basel Capital Accord by the national supervisor. In some countries supervisors may have additional rules beyond the 1988 Accord or may have made modifications to the Accord in their national implementation. Since these areas may also be

impacted by the proposals for the Basel II Framework, banks should carefully discuss with their supervisors as to how the current Accord worksheet should be completed.

4.1.2 Structure of worksheet

Risk-weighted assets are calculated separately for each portfolio (numbered one to eleven). Within each portfolio, risk-weighted assets are calculated for drawn exposures (panel a), undrawn lines (panel b), repo-style transactions (panel c), OTC derivatives (panel d) and other off-balance sheet exposures (panel e).

The full range of risk weights allowed in the current Accord is included in the worksheet for each portfolio, so as to allow institutions to reflect where national supervisors have exercised discretion over the risk weight to be applied to a given category of asset/counterparty. (This discretion may either have been made explicit in the current Accord, i.e. claims on public sector entities – PSEs, or applied locally by national supervisors.)

For the retail portfolio, where national discretion has been exercised (e.g. use of a risk weight other than 50% for residential mortgages) banks should enter the appropriate values in an additional row provided by national supervisors.

4.1.3 Inputs for drawn exposures, other off-balance sheet exposures and undrawn lines

Banks should assign the exposures to the appropriate risk-weight bucket in the column headed “all exposures”. These exposures should then be subdivided between three categories: (1) unsecured exposures; (2) collateralised exposures; and (3) exposures with credit protection. The treatment of credit risk mitigation and the inputs for categories (2) and (3) are explained below.

Drawn exposures and other off-balance sheet items must be reported in two separate panels, after applying the appropriate credit conversion factor, for all portfolios in the relevant yellow box.

For **undrawn lines**, the exposure to be reported is that which has been disclosed to the obligor to which the appropriate credit conversion factor must be applied. Post-conversion figures should be entered in the appropriate yellow box.

4.1.4 Counterparty exposures (repo-style transactions and OTC derivatives)

For repo-style transactions and OTC derivatives, banks are requested to provide the risk-weighted asset amount separately for each of the methods which will be used to calculate the exposure amount or EAD under the Basel II Framework. For repo-style transactions, they should also report the net exposure amount by method.

Banks should assign repo-style and OTC derivative exposures to the appropriate risk-weight bucket in the columns headed “repo” and “OTC derivatives”. In the “pre-CRM” columns, OTC derivative counterparty exposures must be recorded as the credit equivalent amount (calculated using the current or original exposure method). In the “post-CRM” columns banks should assign exposures to the risk-weight buckets appropriate to the credit risk mitigant – either the collateral or credit protection taken against the exposure.

4.1.5 Trading book

Inputs for the counterparty exposures in the trading book should follow those for the banking book. Trading book on-balance sheet exposures and OTC derivative exposures giving rise to specific risk should be entered in the correct yellow box in the specific risk section (panel 11c).

4.1.6 Netting arrangements

Banks should take account of netting agreements which are eligible under the current Accord in assigning “post CRM” exposures to risk-weight buckets. Banks should show the portion of gross exposures covered by the netting agreement in the 0% risk-weight bucket. The remaining unsecured portion after netting should be assigned to the risk weight bucket of the counterparty.

4.1.7 Credit risk mitigation

The treatment of credit protection (guarantees and credit derivatives) is described in section 2.9. The treatment of collateralised exposures is described below.

“Pre-collateral” exposures should reflect the risk weight of the obligor. “Post-collateral” exposures must reflect the risk weight of the collateral taken against an exposure. Where a loan is fully or partially collateralised by cash and securities issued by certain bodies or others specified by the national supervisor, the part of the loan that is collateralised should be assigned the appropriate risk weight given to the cash or securities used as collateral or according to national regulations, where national regulations prevail. The remaining portion of the loan should be assigned to the risk weight appropriate to the underlying asset/counterparty.

4.2 Current Accord Securitisation worksheet

Three main panels are provided on the current Accord Securitisation worksheet. In panel A banks must insert information on rated exposures and split them by risk-weight bucket. In panel B unrated exposures are requested. In panel C information on early amortisation features must be inserted, by distinguishing between retail and non-retail lines.

If securitisation exposures are guaranteed, they are to be treated using the substitution method on the portion of the securitisation exposure covered by the guarantee. However, the whole exposure must be entered in the “Exposures” column according to the appropriate risk weight pre-CRM. The risk-weighted assets should then be calculated by the bank taking into account the lower risk weight for the guaranteed portion of the exposure and entered in the “RWA post CRM” column in the same row as the respective exposure amount.

5. Standardised approach

5.1 Standardised approach worksheet

5.1.1 General

Risk-weighted assets are calculated separately for each portfolio (numbered one to eleven). Within each portfolio, risk-weighted assets are calculated for drawn exposures (panel a), undrawn lines (panel b), repo-style transactions (panel c), OTC derivatives (panel d) and other off-balance sheet exposures (panel e).

There are two methodologies for treatment of collateral in the Standardised approach – comprehensive and simple. Banks **only** need to calculate capital requirements using one approach.

Off-balance sheet items must be reported, after applying the appropriate credit conversion factor, for all portfolios in the relevant yellow box. For repo-style transactions and OTC derivatives, banks are requested to provide the net exposure or credit equivalent exposure amount, respectively, and the risk-weighted asset amount, separately for each of the methods used to calculate the exposure amount.

Banks should assign the exposures to the appropriate risk-weight bucket and category in the column headed “all exposures”.

Trading book on-balance sheet exposures and OTC derivative exposures giving rise to specific risk should be entered in the correct yellow box in the specific risk section (panel 11c). Exposures subject to paragraph 712b and the corresponding risk-weighted assets have to be calculated and entered separately.

5.1.2 Credit risk mitigation

If the national supervisor chooses to ask for data on credit risk mitigation, these exposures should then be subdivided between three categories: (1) exposures without CRM; (2) collateralised exposures; and (3) exposures with credit protection. Treatment of credit risk mitigation and the inputs for categories (2) and (3) are explained below.

Adjustments for guarantees and credit derivatives should be made in the columns “credit protection” as described in section 2.9 above. Treatment of collateral is described below.

Collateral must be calculated on a loan-by-loan basis (except in the case of repo-style transactions covered by master netting agreements). If collateral held against a particular loan exceeds the exposure amount banks are **not** permitted to use this collateral against loans for other counterparties.

Simple approach

Under the simple approach a bank may alter the risk weight applied to an exposure according to collateral held. Where collateral is eligible the collateralised portion of the exposure is assigned the risk weight of the collateral. Banks should record collateralised exposures before taking account of the collateral held in the “pre collateral” column. In the “post collateral” column, banks should slot the portion of exposures covered by collateral according to the risk weighting of the collateral. Further details of how to determine the portions of exposures that are covered are provided in the Basel II Framework. The

remaining portion of the exposure which is not covered by collateral should be assigned the risk weight of the obligor.

Comprehensive approach

Under the comprehensive approach, in the “pre collateral” column, banks should record the gross exposure (E). In the “post collateral” column, banks should record the net exposures (E*) after deduction of collateral amounts. In calculating E*, banks should adjust the value for the collateral held against each loan for haircuts (H_c). Where collateral is denominated in a currency that differs from that of the underlying exposure (i.e. there is a currency mismatch), an additional haircut reflecting the currency volatility (H_{fx}) is taken on the collateral (see the discussion on haircuts in the Basel II Framework). Net exposures should also reflect haircuts appropriate to the exposure (H_e).

5.1.3 Eligible on-balance sheet netting agreements

Banks should take account of eligible on-balance sheet netting agreements in assigning “post CRM” exposures to risk-weight buckets. Banks using the simple approach should show the portion of gross exposures covered by the netting agreement in the 0% risk-weight bucket. The remaining unsecured portion (after netting) should be assigned to the risk-weight bucket of the counterparty. Banks using the comprehensive approach should make allowances for any eligible netting agreements in calculating E*.

5.2 Standardised approach securitisation worksheet

Four main panels are provided. In panel A banks must select securitisation exposures requiring deduction. In panel B banks must enter rated exposures following the rating categories required by the Basel II Framework (paragraph 567). In panel C information on unrated securitisation exposures must be inserted, with the main distinction between the most senior exposures (paragraphs 572–573) and other unrated exposures (paragraph 571). Finally, in panel D information on investors’ interest is requested separately for retail and non-retail lines.

5.2.1 Securitisation exposures requiring deduction (panel A)

Panel A refers to paragraphs 561–563 regarding the treatment of securitisation exposures to be deducted from regulatory capital. All gains on sale must be deducted from Tier 1 capital, and their total amount should be entered in the matrix in this section. Exposure amounts in credit-enhancing interest-only strips, net of gain on sale, must be deducted in equal amounts from Tier 1 and Tier 2 capital and entered in the same matrix.

5.2.2 Rated exposures (panel B)

Exposure types

Securitisation exposures treated in this section are securitisation exposures rated by an external credit assessment institution (ECAI).

Exposure amounts

For the purposes of the Standardised approach, the exposure amounts for on-balance sheet securitisation exposures should be entered net of provisions. Rated off-balance sheet

securitisation exposures (credit default swaps, guarantees, letters of credit, liquidity facilities) receive a CCF of 100%.

Risk-weighted assets

Rated securitisation exposures are assigned risk weights according to the table in paragraph 567. For ratings from BB+ to BB-, for exposures which are retained and for those invested in (i.e. which are originated by a third party) two separate rows have to be used.

Credit risk mitigation

Credit risk mitigation has to be treated separately according whether the substitution approach (i.e. the simple approach or risk mitigation in the form of guarantees) or the comprehensive approach is used in computing the risk mitigation.

Securitisation exposures benefiting from financial collateral under the comprehensive approach are to be treated according to the formulae and definitions outlined in paragraphs 147–150. Pre- and post-CRM exposures, broken down according to risk weight, are to be entered under the respective columns in the table “Collateralised exposures subject to the comprehensive approach”.

If the simple approach to credit risk mitigation is applied or if the credit risk mitigation is in the form of guarantees (or CDSs, letters of credit), exposures are to be treated using the substitution method. The entire exposure must be entered in the “Exposure Amounts” column broken down according to pre-CRM risk weights. The post-CRM risk-weighted assets should then be calculated as the sum of the risk-weighted assets of the secured and unsecured parts of the exposure. The risk-weighted assets for the secured part are obtained by applying the risk weight of the guarantor respective collateral to the guaranteed respective collateralised portion of the exposure. The post-CRM risk-weighted assets are to be entered in the “RWA post-CRM” column in the same row as the exposure amount pre credit risk mitigation.

Maturity mismatches for all forms of credit risk mitigation must be treated as described in paragraphs 202–205.

5.2.3 Unrated exposures (panel C)

Exposure types

Unrated most senior securitisation exposures do not have to be deducted but can be treated as described in paragraphs 572 and 573. They have to be entered in panel C1.

All other types of unrated exposures (liquidity facilities, credit enhancements, tranches) are entered into panel C2 which contains five different types of unrated exposures:

- Eligible liquidity facilities as described in paragraph 578;
- Market disruption facilities as described in paragraph 580;
- Servicer cash advance facilities as described in paragraph 582;
- Second loss positions in ABCPs as described in paragraph 574; and
- Other unrated exposures.

Depending on the type of the exposure different CCFs and risk weights are used, other unrated exposures are to be deducted.

Exposure amount

As for the securitisation exposures to be entered in panel B, those in panel C are distinguished between non-collateralised and collateralised exposures.

Risk-weighted assets

Regarding the determination of risk-weighted assets pre-CRM the same rules apply as described above for panel B.

Credit risk mitigation

Credit risk mitigation has to be treated as discussed in section 5.2.2.

5.2.4 Investors' interest (panel D)

Exposure types

In this section, exposures originated by the bank and held by investors for which the originator might hold regulatory capital have to be entered. An originating bank might hold capital against investors' interest only if the exposures sold are of a **revolving nature and are subject to an early amortisation clause**. The most typical examples are the securitisation of credit card receivables and corporate loan commitments.

Early amortisation / Early amortisation triggers

Early amortisation provisions are mechanisms that, once triggered, allow investors to be "paid out" prior to maturity. Early amortisation triggers can be either economic or non-economic in nature. In the economic case, early amortisation is in general triggered by a downturn in the creditworthiness of the pool assets or selling bank. Non-economic (sometimes called regulatory) early amortisation clauses are triggered by events not related to the performance of the pool assets of the selling bank, rather by tax laws or regulations, for example. Capital requirements need not be held against securitisations with non-economic early amortisation clauses (paragraph 593 (d)). Note that regulatory capital is also not required to be held if the underlying exposures do not revolve (for example, in cases where replenishment structures are in place (paragraph 593 (a)) or the revolving structure is such that investors remain exposed to future draws (paragraph 593 (c)).

Risk-weighted assets

The originator's capital charge for the investors' interest is determined as the product of

- The investors' interest;
- The appropriate CCF; and
- The risk weight appropriate to the underlying exposure type, as if the exposures had not been securitised.

The applicable CCFs depend upon

- Whether the early amortisation repays investors through a controlled or non-controlled mechanism; and
- Whether the securitised exposures are uncommitted retail credit lines or other credit lines (paragraphs 594–605).

6. IRB approaches

6.1 Foundation IRB approach worksheets

6.1.1 General

For most portfolios, there are three different inputs required from banks to calculate risk-weighted assets under the foundation IRB approach. These include information on the distribution of exposures between PD bands, the type of collateralisation for each portfolio, and the average maturity for these exposures (if applicable – see below). Five separate panels are provided for banks to calculate risk-weighted assets for drawn exposures, undrawn lines (committed and uncommitted), repo-style transactions, OTC derivatives and other off-balance sheet items. (Off-balance sheet exposures (including undrawn lines and other off-balance sheet exposures) should be converted using the appropriate conversion factors.)

Within the SME portfolio, exposures treated as corporate (i.e. using the corporate risk-weight curve for capital purposes) require an additional input – turnover of the firm –, see section 6.1.9.

Inputs for the retail portfolios are also different from the general approach described immediately below. Sections 6.2.1 and 6.2.2 detail the additional inputs banks will need to make for retail exposures.

6.1.2 Structure of the worksheets

The IRB worksheets are divided into four separate parts to capture these inputs. The first part (on the left-hand side of the worksheet) shows PD bands as well as risk-weighted assets and some additional summary statistics calculated using information provided in grids to the right. Banks only have to define their PD bands in this grid.

Banks should input information in the second and third grids on these worksheets to provide a breakdown of exposures by PD and LGD and average maturity by PD and LGD. In the fourth grid, risk-weighted assets are calculated for each PD/LGD bucket separately.

Banks should apply the appropriate credit conversion factors for all exposures. **Post-conversion figures should be entered in the appropriate yellow cells of the IRB worksheets** except for the column explicitly asking for nominal exposure before credit conversion. Here, the nominal exposure after recognition of collateral should be entered.

On the double default worksheets, banks are also asked to enter risk-weighted assets according to their own calculations for each exposure type. Banks should enter this amount based on an exact calculation of double default capital requirements on the basis of the same set of individual exposures. Given the calculation of double default capital requirements in the QIS workbook is for practical reasons based on certain approximations, this will allow a judgement on the size of the approximation error.

6.1.3 PD bands

For **non-defaulted assets**, banks should use as detailed a distribution of PD bands as is currently used for internal purposes. Under the “PD quality bands” heading, banks should define their PD bands. In portfolios for which a separate double default worksheet is provided, PD bands must be defined in the separate aggregation worksheet.

As mentioned before, banks may on an exceptional basis be allowed to assign protected exposures subject to the substitution approach to the portfolio of the original obligor. In order to allow for an exact calculation of risk-weighted assets also in the case that the original obligor is subject to the PD floor of 3bp, but the protection provider is not, the first row of all matrices allows banks to enter average PDs which are lower than this floor; the respective cells are shaded **blue**. Furthermore, corporate exposures which are guaranteed by a sovereign should be entered in these cells under the foundation IRB approach in case that the effect of the guarantee is captured by an LGD adjustment under the advanced IRB approach. For reasons of portfolio consistency between the different approaches these exposures must not be assigned to the sovereign portfolio as usually required. **This row must be used exclusively for protected exposures not subject to the PD floor.** On worksheets for exposures subject to the double default treatment, the respective row is greyed out for consistency reasons.

Banks are required to enter the PD for each band in the “estimated PD” column – this should be the PD which most accurately reflects the bulk of exposures allocated to the band. This estimate will feed into the calculation of risk-weighted assets. In addition to this, national supervisors may require banks to enter the upper and lower boundary for each PD band. The estimated PD must lie between the lower and upper boundary. Where banks use an individual PD grade and do not specify an upper and lower bound, they must enter the single PD estimate as the top and bottom of the range (i.e. in all three cells) if the supervisor asks banks to report the boundaries.

There is one pre-defined row that must be used to enter all **defaulted assets**.⁹ **Banks must not define additional PD bands for defaulted assets.**

Where banks have exposures that are not allocated internally to a PD band, banks should try to redistribute such exposures on a pro rata basis to PD bands according to the distribution of allocated exposures for the purposes of this study. Alternatively, if the bank has relevant information on the credit quality of the unrated portion, a distribution should be estimated. In both cases, national supervisors should be contacted.

Banks should show the effects of credit protection in the columns provided as described above. Where the credit protection or guarantee provided by another counterparty covers only part of the exposure, banks should slot the portion of the exposure guaranteed/protected into the PD band of the guarantor/protection provider and the remainder into the PD band of the obligor.

Furthermore, for undrawn lines and other off-balance sheet exposures, banks should report the nominal exposure before credit conversion in the column provided for this purpose.

6.1.4 LGD bands – Drawn, other off-balance sheet items and commitments

Banks should allocate exposures (after the effects of credit protection) according to the type of collateral held against the exposure. Eight categories are shown in the worksheet:

1. Unsecured – subordinated debt;

⁹ Even though the Basel II Framework treats defaulted and non-defaulted assets in the same way under the foundation IRB approach, there is a different treatment under the advanced IRB approach. In order to keep the IRB approach worksheets as consistent as possible, a separate row for defaulted assets must also be used under the foundation IRB approach.

2. Unsecured – other debt;
3. Other physical collateral;
4. Collateralised by receivables;
5. Collateralised by commercial real estate (CRE);
6. Collateralised by residential real estate (RRE);
7. Collateralised by gold;
8. Collateralised by financial collateral (including cash, equities on a main index, government securities and other securities).

Banks should allocate exposures using the guidance set out below:

- If the exposure is **fully unsecured** allocate the full amount to the unsecured category (category 1 or 2).
- If the exposure is collateralised by **financial collateral or gold**, then banks should enter the collateralised portion after adjustments for H (i.e. the greater of zero or E-E*) in the collateralised category (category 7 or 8). The uncollateralised portion (E*) should be slotted in category 2 (senior unsecured claims).
- For exposures collateralised by **commercial or residential real estate**, if any exposures are 140% covered by collateral, 100% of the exposure should be placed in category 5 or 6. For exposures which are less well covered by collateral but meet a minimum coverage of 30%, the following proportion of the exposures should be placed in category 5 or 6:

$$= (\text{percentage of exposure collateralised} / 140\%) \times \text{amount of exposure}$$

The remainder should be placed in the uncollateralised column (category 2).

- For exposures collateralised by **receivables**, if a bank has exposures that are 125% covered by collateral then it should place 100% of the exposures in the appropriate column (category 4). For exposures which are less well covered by collateral, the following proportion of the exposures should be placed in category 4:

$$= (\text{percentage of exposure collateralised} / 125\%) \times \text{amount of exposure}$$

The remainder should be placed in the uncollateralised column (category 2).

- For exposures collateralised by **other physical collateral** the LGD is reduced to 40% when the exposures are covered 140% by collateral. To determine the allocations between categories for partially collateralised exposures, banks should use an identical treatment to commercial or residential real estate as a working assumption. If banks have exposures that are 140% covered by collateral then they should place 100% of the exposures in the appropriate column (category 3). For exposures which are less well covered by collateral but meet a minimum coverage of 30%, the following proportion of the exposures should be placed in category 3:

$$= (\text{percentage of exposure collateralised} / 140\%) \times \text{amount of exposure}$$

The remainder should be placed in the uncollateralised column (2).

For purposes of the exercise, these calculations do not have to be carried out loan by loan. A bank can estimate the split for a whole portfolio. For example, if a bank has corporate loans totalling 100, approximately 35% of which are collateralised by commercial real estate with coverage of 140% or more, then 35 could be slotted into category 5 and 65 into the

unsecured category. If 35% was collateralised by commercial real estate but the degree of collateralisation was only 110% then 28 would be slotted into category 3 and the remainder into uncollateralised.

In calculating the extent of collateralisation banks should adjust the value of the collateral to reflect haircuts (where appropriate). Banks should also reflect haircuts on the exposure (H_e) in these calculations by adding H_e to the value of the collateral.

In the **double default worksheets**, banks are asked to enter the exposure-weighted average guarantor PD for each LGD band, i.e. collateral type.

6.1.5 Treatment of repo-style transactions

Banks have two options for entering exposure data for repo-style transactions. The preferred method is the computation of the adjusted EAD (E^*) in accordance with paragraphs 147 and 176, respectively. Alternatively, an adjusted loss given default LGD* as defined in paragraph 291 can be computed; in this case the original exposure E has to be used.

The net exposure is to be calculated as the sum of the aggregated adjusted exposures and the non-adjusted exposures for those transactions for which the adjusted LGD was computed. This value is then to be entered into the cell “Repo / Securities lending exposures: net exposure”.

In the next step the non-adjusted and adjusted exposure amounts broken down into PD bands are to be entered in the appropriate, respective columns. In the PD/LGD matrix, adjusted and non-adjusted exposures are to be assigned to LGD buckets based on LGD or LGD*, respectively.

In addition, the net exposure has to be broken down to the different methods which were used to compute the EAD: standardised haircuts, value at risk, and Expected Positive Exposure (EPE). For these EADs banks should compute risk-weighted assets and enter the result in the cells entitled “Corresponding RWA”. An assignment of the EADs to a PD/LGD matrix is not required. However, banks should ensure that the sum of risk-weighted assets reported for the three methods is equal to the total risk-weighted assets resulting from the risk-weight formulae for the repo-style transactions of the particular portfolio.

6.1.6 Treatment of OTC derivative exposures

OTC derivatives should be treated in a similar manner as under the Standardised approach; however, PD bands should be used instead of risk-weights. The adjusted exposure amount (E^*) should be entered in the column for unsecured exposures. The portion of gross exposures covered by the netting agreement and collateral – i.e. the greater of zero or E minus E^* – should be shown in the 0% LGD band headed “secured exposures”. The other LGD columns have been left blank – banks do not need to input anything in these columns.

In addition, the credit equivalent amount has to be broken down to the different methods which were used to compute the EAD: current exposure method, standardised method, and Expected Positive Exposure (EPE). For these EADs banks should compute risk-weighted assets and enter the result in the cells entitled “Corresponding RWA”. An assignment of the EADs to a PD/LGD matrix is not required. However, banks should ensure that the sum of risk-weighted assets reported for the three methods is equal to the total risk-weighted assets resulting from the risk-weight formulae for the OTC derivatives of the particular portfolio.

6.1.7 Netting agreements

Banks should take account of eligible netting agreements in assigning exposures to LGD bands. The portion of gross exposures covered by the netting agreement should be shown in the 0% LGD band. The remaining unsecured portion after netting should be assigned to the “unsecured” column (45% LGD band).

6.1.8 Maturity

At the discretion of national supervisors, banks will be required to use an explicit maturity adjustment in the foundation IRB approach. Where an explicit maturity adjustment is required the exposure-weighted average maturity should be entered in the maturity grid. Maturity should be calculated according to the rules of the Basel II Framework, taking into account the recent revision of paragraphs 321 and 322. The PD bands and collateral types used must be the same as those used for grid showing exposures by PD and collateral type, and banks are expected to enter the exposure-weighted average maturity for all exposures with the respective PD/collateral type combination. The worksheet will automatically calculate the maturity adjustment.

If a bank is not able to calculate the exposure-weighted average maturity for all individual PD/collateral type combinations, it should calculate the exposure-weighted average maturity for all exposures in each PD band and report this single result for all PDs within this PD band.¹⁰ If a bank chooses such a simplification, this should be reported to the supervisor in a separate note.

Exposures exempted from the explicit maturity option should enter the calculation of the average with a maturity of 2.5 years. For foreign exchange/derivative instruments under a netting agreement the longest residual maturity should be used. If no average maturity is given for a certain PD/collateral type combination, an average maturity of 2.5 years is assumed.

In portfolios in which an explicit maturity applies, banks are also asked to enter the exposure amount which is subject to the exemptions to the one-year maturity floor described in paragraph 321. In the specific double default worksheets this input is not necessary since the exemptions from the one-year maturity floor do not apply.

6.1.9 SME portfolio – size function

As mentioned, for SME exposures that are treated as corporate exposures (i.e. those which are on the corporate risk-weight curve for capital purposes) banks will also need to provide information on the size of the firm. Consequently these exposures must be reported only on the SME Corporate worksheets.

In the FIRB SME Corporate worksheet a fifth grid requests information on PD and firm size (using either turnover or, according to paragraph 274, total assets). Six bands are provided (€0–5 million, €5–10 million, €10–20 million, €20–30 million, €30–40 million and €40–50 million). In the cells above the reported exposures banks should give the weighted-average turnover (weighted by exposure size) for the size category. **This information has to be entered in million euros – irrespective of the currency and unit used to enter data in the remainder of the workbook.** This information will feed into the capital calculations for

¹⁰ If this simplification is applied, there are no additional data requirements compared to QIS 3.

these exposures, providing reductions in capital requirements. Banks may find it difficult to provide this data – they may use a sampling approach if necessary to provide reasonable estimates for the purposes of this exercise. In this case, national supervisors should be contacted.

6.2 Advanced IRB approach worksheets (including Retail IRB)

The inputs required for the advanced IRB approach are very similar to those for the foundation IRB approach (see section 6.1), with the following additions.

6.2.1 LGD

Under the advanced IRB approach, banks are requested to fill in four types of losses based on their own estimates:

- An **LGD for non-defaulted exposures** which – according to paragraph 468 – should reflect economic downturn conditions;
- An **expected LGD for non-defaulted exposures**, which is defined as “long-run default-weighted average loss rate given default” in the Committee’s *Guidance on Paragraph 468 of the Framework Document*¹¹, to allow supervisors to gauge the magnitude of the downturn adjustment;
- An **LGD for defaulted exposures** which should also reflect a possible economic downturn (see paragraph 471); and
- The **best estimate of the expected loss for defaulted assets** (see paragraph 471).

For downturn LGDs (both for non-defaulted and defaulted exposures) banks should define their own LGD bands. Note that each of the LGD values can be interpreted as the exposure-weighted average of the respective downturn LGDs assigned to individual exposures within a certain bucket.

For **non-defaulted assets** banks fill in their LGD estimates in the row entitled “LGD” above the PD/LGD matrix. It would provide useful information to the supervisor if banks were able to specify to which type of collateral the LGD bands relate. If possible, banks should provide this information as well using the predefined collateral types provided in a pull-down menu. Since other factors than collateral may also effect the LGD estimates, more than one column with different LGD values can be associated with a certain type of collateral. Conversely, there might be different collateral types for the same LGD. Once the LGD buckets have been defined, the exposure-weighted average of the expected LGD for the exposures in the respective LGD bucket should be calculated and filled in the row “expected LGD”.

In the Retail residential mortgage portfolio, LGDs should be reported **without** consideration of the LGD floor; the floor will be applied automatically.

The LGD buckets for **defaulted assets** should be defined in the row entitled “LGD” above the row including the amounts of defaulted exposures. Once the LGD buckets have been defined, the exposure-weighted average of the best estimate of expected loss for the

¹¹ Basel Committee on Banking Supervision (2005), *Guidance on Paragraph 468 of the Framework Document*, July.

exposures in the respective LGD bucket should be calculated and filled in the row “best estimate EL”. LGDs for non-defaulted exposures and LGDs for defaulted exposures in the same column do not necessarily refer to exposures with the same characteristics. Therefore, LGD buckets for non-defaulted and defaulted exposures can be defined independently.

In any case, national supervisors might provide further guidance on the estimation of these parameters and how to fill them in the advanced IRB worksheets.

In the **double default worksheets**, banks are asked to enter the exposure-weighted average guarantor PD for each LGD bucket in addition to the above-mentioned parameters.

6.2.2 Retail

There is no foundation IRB approach for retail, i.e. banks need only calculate risk-weighted assets by using what essentially is an advanced IRB approach. There is no maturity adjustment for retail exposures, thus banks need only complete the grid showing exposures by PD and LGD.

6.2.3 Maturity

In the advanced IRB approach, all banks will be required to use an explicit maturity adjustment. Therefore banks must fill in the maturity grid. Banks must enter the exposure-weighted average maturity for the exposures within a given PD/LGD bucket.

Certain corporate exposures (and SMEs treated as corporate) will be exempted where the reported sales (i.e. turnover) **and** total assets for the consolidated group of which the firm is a part are less than €500 million if the national supervisor chooses (see paragraph 319). Exposures falling into this category should enter the calculation of the above-mentioned average with a maturity of 2.5 years.

Again, in portfolios in which an explicit maturity adjustment applies, banks are also asked to enter the exposure amount which is subject to the exemptions to the one-year maturity floor described in paragraph 321. In the specific double default worksheets this input is not necessary since the exemptions from the one-year maturity floor do not apply.

6.3 IRB Equity worksheet

6.3.1 Materiality

For this exercise, banks should refer to supervisors to determine whether their equity exposures are material. If a bank's equity exposures are not material then they only need to complete the drop-down box on the IRB equity worksheet and the two appropriate cells in the Summary section.

6.3.2 Specific exclusions

For this exercise, some equity holdings are considered excluded from the IRB treatment and will be subject to the capital charges required under the Standardised approach – banks should refer to national supervisors for guidance on eligible holdings. Banks should report excluded exposures (in panel 1) of the IRB equity worksheet. National supervisors will provide instructions on those legislated programmes that qualify for this exclusion.

6.3.3 Grandfathering

For this exercise, equities are to be considered as likely to be grandfathered if the national supervisor has so specified.

6.3.4 Treatment of excluded and non-excluded items

Risk-weighted assets should be calculated for all equity holdings in the banking book. For **all material non-excluded equities**, the worksheet should be filled in using the PD/LGD approach or the market-based approach (simple or internal models), according to the approach indicated by the national supervisor. **Excluded equity holdings** should be entered separately in panel 1 provided in the worksheet and risk-weighted at 100%.

6.3.5 Scaling factor

A 1.5 scaling factor will be applied to the risk weights for some equity exposures (paragraph 350). For each PD band, banks should split their exposures between those on which the scaling factor is necessary and those for which a scaling factor will not be applied.

6.3.6 Floor for exposures subject to the market-based approach

The floor for exposures subject to the internal models approach should be taken into account by banks on an exposure-by-exposure basis when calculating potential losses. The floor implemented in the workbook provides a safeguard only since it is applied on the level of the whole equity portfolio.

6.4 IRB Specialised Lending worksheets

A separate worksheet for specialised lending exposures subject to the **risk-weight slotting method** has been provided to calculate risk-weights for certain exposures under the IRB approaches.

Banks that estimate PD to the satisfaction of their supervisors do **not** need to enter these exposures in the risk-weight slotting method worksheet; these banks should include such exposures in the HVCRE or other specialised lending worksheet provided for the foundation IRB approach. Unlike for previous exercises, these exposures should not be recorded in the Corporate worksheet. Banks that can estimate PD, LGD and EAD for these exposures also do **not** need to separately identify these exposures. These banks should include such exposures in the HVCRE or other specialised lending worksheet provided for the advanced IRB approach.

Banks must record these specialised lending exposures separately for the current Accord and the Standardised approach. In the current Accord and Standardised approach worksheets these exposures will be treated as corporate exposures since there are no specific treatments in the current Accord and the Standardised approach. They should, however, be entered in the separate specialised lending sections for analytical purposes.

6.5 IRB Receivables worksheet

The IRB Receivables worksheet provides space for 25 pools of receivables. There is only one worksheet for both foundation and advanced IRB approaches. The worksheet requires the following inputs:

- **Description of the pool.** This description is not used for any further analysis; it is just a descriptive label. If pools are split into multiple segments (e.g. where multiple risk weight curves are applicable), the description field should be used to make clear which receivables come from the same pool.
- The **number of receivables** in the pool.
- The **drawn amount**, i.e. the total amount of the receivables purchased by the bank, measured gross of provisions and purchase discounts.
- The **undrawn amount before** credit conversion.
- The applicable **risk-weight curve** which has to be selected from a pull-down menu.
- The **weighted-average firm size**. For pools containing SME exposures banks should use the corporate risk-weight curve. Banks must determine the weighted average sales figure for the pool and input this in the relevant column. If banks are unable to determine the average sales figure they must still use the corporate risk weight curve.
- The **EL estimates for default and dilution risk**.
- Banks also providing data for the advanced IRB approach have to provide their **LGD estimate** according to paragraph 367 as well as an LGD estimate for the pool using the best estimate of EL for defaulted exposures.
- In case a **maturity adjustment** has to be applied, the bank must enter the maturity of the pool for default risk (calculated according to paragraph 368) and for dilution risk (see paragraph 369).

6.6 IRB Securitisation worksheets

6.6.1 *Securitisation requiring deductions (panel A)*

Panel A refers to paragraphs 561–563 regarding the treatment of securitisation exposures to be deducted from regulatory capital. All gains on sale must be deducted from Tier 1 capital, and their total amount should be entered in the matrix in this section. Exposure amounts in credit-enhancing interest-only strips, net of gain on sale, must be deducted in equal amounts from Tier 1 and Tier 2 capital and entered in the same matrix.

6.6.2 *Securitisation exposures subject to ratings-based or internal assessment approach (panel B)*

Exposure types

The securitisation exposures treated in this section are securitisation exposures rated by an external credit assessment institution (ECAI) or those for which an ECAI rating can be inferred as outlined in paragraphs 617 and 618. In addition, securitisation exposures are to be entered here for which an internal rating can be made in accordance with the Internal Assessment Approach (IAA) as described in paragraphs 619–621.

Exposure amounts

According to paragraph 308 the EAD is based on the exposures gross of specific provisions or partial write-offs. The EAD on drawn amounts should not be less than the sum of (i) the amount by which a bank's regulatory capital would be reduced if the exposure were written-off fully, and (ii) any specific provisions and partial write-offs.

The following applies to off-balance securitisation exposure amounts:

- Liquidity facilities, internally via IAA and externally rated, with the exception of eligible market disruption facilities and eligible servicer cash advance facilities, are treated no differently than any other rated securitisation exposures within panel B and receive a CCF of 100%.
- Market disruption eligible liquidity facilities receive a CCF of 20% if the conditions in paragraph 580 are satisfied. Alternatively, if the facility is externally rated, the bank can use the RBA risk weight for rated exposures and apply a CCF of 100%.
- Eligible servicer cash advance facilities are subject to national discretion and such facilities satisfying the requirements set down in paragraph 582 receive a CCF of 0%.
- If a bank, not the originator, provides credit protection to securitisation exposures in form of a credit default swap, guaranty or letter of credit (other off-balance sheet item), it must calculate the capital requirement on the covered exposure as if it were an investor in that exposure (CCF of 100%).

Risk-weighted assets

Internally via IAA and externally rated securitisation exposures are assigned risk weights as set down in the table in paragraphs 615 and 616.

Credit risk mitigation

Securitisation exposures benefiting from financial collateral are to be treated according to the formulae and definitions outlined in paragraphs 147–150. Post-CRM risk-weighted assets are then defined as the product of the RBA risk weights multiplied with E*. The risk-weighted assets pre- and post-CRM are to be entered into the appropriate cells.

If the credit risk mitigation is in the form of guarantees (or CDSs, letters of credit) which cover the securitisation exposure, they are to be treated using the substitution method on the portion of the securitisation exposure covered by the guarantee. However, the whole exposure must be entered in the “Exposures” column according to the appropriate risk weight pre-CRM. The risk-weighted assets should then be calculated by the bank taking into account the lower risk weight for the guaranteed portion of the exposure and entered in the “RWA post CRM” column in the same row as the respective exposure amount.

Maturity mismatches for all forms of CRM must be treated as described in paragraphs 202–205.

6.6.3 Unrated exposures – non IAA (panel C)

Exposure types

- **Unrated securitisation exposures treated under the Supervisory Formula (SF)** are to be entered into panel C1 or C2, broken down according to supervisory formula risk weights.
- **Securitisation exposures whose pool assets have no specific IRB treatment** are entered in panel C3. Paragraph 608 specifies a separate treatment of such exposures. Retained securitisation exposures are to be entered into row 101 using the Standardised approach. If a bank is investing in such an exposure the RBA has to be applied and the results have to be entered in the row “Retained exposures” of

panel C3. Note that despite the fact that the RBA treatment is used, they are not to be entered into panel B.

- **Unrated exposures for which neither the RBA, SFA nor IAA apply** and which are therefore deducted or where for liquidity facilities the treatment as described in paragraph 639 could be applied are entered in panel C4. A distinction of retained and invested exposures is not necessary.

Exposure amount

As for the panel B securitisations, those in panel C are distinguished between non-collateralised and collateralised exposures. The same rules as apply to panel B securitisations regarding the determination of pre-CRM risk-weighted assets apply to exposures here as well.

Risk weights and risk-weighted assets

For unrated securitisation exposures treated under the Supervisory Formula (SF) the SF capital charge is computed on the basis of five parameters supplied by the bank, namely K_{IRB} , credit enhancement level (L) and thickness (T), the effective number of exposures in the pool (N) and the exposure-weighted average LGD. Definitions and directions to the computation of these parameters as well as the SF capital charge are to be found in paragraphs 623–636.

The parameter K_{IRB} is referred to in paragraph 623 as “the IRB capital requirement had the exposures not been securitised”. It is important for the K_{IRB} calculation to note that this value includes the expected loss portion of the underlying pool (paragraph 627).

Credit risk mitigation

For exposures not treated using the SF, credit risk mitigation is to be treated as in panel B. If the SF is applied, risk-weighted assets post-CRM in the SF are to be computed on the basis of the formulae outlined in paragraphs 147–150. 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).

6.6.4 Investors' interest (panel D)

Exposure types

This panel is meant for exposures originated by the bank and held by investors for which the originator might hold regulatory capital. An originating bank might hold capital against investors' interest only if the exposures sold are of a revolving nature **and** are subject to an early amortisation clause. The most typical examples are the securitisation of credit card receivables and corporate loan commitments. Further details are discussed in section 5.2.4.

Exposure amounts and risk-weighted assets

The risk-weighted assets are to be computed as 8% of the product of the investors' interest, a CCF and K_{IRB} (paragraph 643). The investors' interest is the sum of investors' drawn balance and undrawn interest. The investors' undrawn interest is defined as the EAD associated with the corresponding undrawn lines and is to be calculated as follows:

undrawn investors' interest = $\text{EAD of undrawn line} \times (\text{investors' interest drawn} / \text{total drawn})$

The CCF is determined as outlined in paragraphs 596–605 and the tables included therein. Distinctions are to be made between controlled and uncontrolled early amortisation (for a definition of controlled early amortisation see paragraph 548; all early amortisations which are not controlled are uncontrolled), retail and non-retail revolving credit lines, and committed and uncommitted lines (paragraph 595: “uncommitted lines are those which are unconditionally cancellable without prior notice”).

The determination of K_{IRB} is described in paragraphs 627–629. K_{IRB} is to be calculated as for the SFA.

6.6.5 Offset for specific provisions (Summary panel)

Normally the offset for specific provisions set up for securitisation exposures is calculated automatically for the whole securitisation portfolio in the Summary panel. However, EU rules allow an offset against deductions and risk-weighted assets of the particular tranche for which the provisions have been set up. Banks for which EU rules apply must therefore calculate the offsets for each of the tranches themselves and enter the aggregated values in the row “Offset for specific provisions (EU rules)”. The offsets calculated for each respective tranche is the smaller amount of (a) the provisions multiplied by 1250% or (b) risk-weighted assets of that respective securitisation position or exposure.

7. Operational Risk worksheet

7.1 Introduction

There are three methods for calculating operational risk capital charges: (1) the Basic Indicator Approach (BIA); (2) the Standardised Approach (TSA) or the Alternative Standardised Approach (ASA); and (3) the Advanced Measurement Approach (AMA).

7.2 Missing data

If a bank is not active in a given business line or is active in a given business line but unable to estimate the respective income figures, it should leave the corresponding cell empty.

7.3 Gross income

The basis for the computation of capital charges related to operational risk is the gross income defined in the Basel II Framework. Banks should confirm, if necessary, the treatment of gross income in detail with their supervisor.

7.4 Basic Indicator Approach

Under the Basic Indicator Approach, banks must hold capital for operational risk equal to a fixed percentage of average annual gross income over the past three years. In panel B a bank should report its total gross income for the three years specified. The worksheet will automatically calculate an average of its total gross income over the years for which gross

income is positive. If a bank is unable to provide gross income data for all of the three previous years then, for the purposes of this study, the capital charge will be based on an average of the latest years for which data are available.

7.5 Standardised Approach

Under the Standardised Approach, banks' activities are divided into eight business lines: corporate finance, trading and sales, retail banking, commercial banking, payment and settlement, agency services, asset management, and retail brokerage. A capital charge for each business line is calculated by multiplying the gross income generated by that business (to be entered in panel C2) line by a factor (denoted beta) assigned to that business line. The total capital charge is the summation of the regulatory capital charges across each of the eight business lines, averaged over the previous three years. The sum of gross income for the eight business lines under the Standardised Approach to operational risk should equal total gross income under the Basic Indicator Approach.

The worksheet will automatically calculate a simple three-year average of gross income for each of the eight business lines. If a bank is unable to provide gross income data for all of the three previous years then, for the purposes of this study, the capital charge will be based on an average of the latest years for which data are available.

7.6 Alternative Standardised Approach

If banks are allowed to use the Alternative Standardised Approach which is at the discretion of the national supervisor, they should choose the Alternative Standardised Approach from the pull-down menu in panel C1 and fill in panel C3 instead. They may enter the sum of loans and advances for the three previous years in the lower part of panel C3 separately for the business lines retail and commercial banking. These figures are multiplied by an "m" factor before feeding into the usual capital calculation. For all other business lines, the necessary inputs under the Alternative Standardised approach must be made in the upper part of this panel and are the same as for the Standardised Approach; the m factor is not needed in these cases.

7.7 Advanced Measurement Approaches

Under the Advanced Measurement Approaches, the regulatory capital requirement for operational risk is based on an estimate of operational risk derived from a bank's internal risk measurement system. In a case where a bank can calculate AMA capital charge only for some business lines, the AMA capital charge that should be reported in the first table of panel D should be the total of (1) the AMA capital charge for those business units in which the bank uses AMA, and (2) the Standardised Approach capital charge for those business units in which the bank uses the Standardised or Basis Indicator Approaches to operational risk. The latter figures should also be reported in the respective "of which" cells.

In the second table of panel D, supervisors may ask for additional information such as

- The capital charge without a diversification adjustment;
- The capital charge without an insurance offset;
- The capital charge without qualitative adjustments, where feasible;
- The capital charge for credit card fraud;

- The capital charge for retail fraud; and
- The operational risk EL charge calculated according to paragraph 669 (b).

National supervisors might provide further guidance on how these figures should be derived.

Annex

1. Significant changes from QIS 3 to QIS 4

1.1 Input worksheet

- The worksheet contains all input cells from the former Data and Capital worksheets.
- A specific Leasing section was added under other assets included (100% risk weight).

1.2 Parameters worksheet

- Key parameters of the risk-weight functions can be adjusted in the Parameter worksheet.

1.3 Results worksheet

- This worksheet contains the calculations of the former Capital worksheet as well as additional analyses required because of the UL-only calibration.
- Separate columns for the EL amounts were inserted next to the risk-weighted assets columns.
- Deductions and risk-weighted assets are calculated separately, i.e. deductions are no longer converted into their risk-weighted asset equivalent.
- The calculation of specific provisions (included and not included) as well as the scaling mechanism for exposures not included have been revised.
- The treatment of general provisions has been revised. The amount of provisions included under the Standardised approach is calculated separately since the amount eligible for inclusion in capital (1.25% of risk-weighted assets cap) changes versus the current Accord. The actual cap can be configured in the Parameter worksheet.
- A separate 100% risk-weighting treatment has been included for other assets (e.g. fixed assets) not subject to the Basel II Framework.

1.4 Related entities worksheet

- The boxes for language on national discretion items were deleted since their content is not specific to individual banks.
- The memo item “b) Memo item – surplus capital” was removed.

1.5 1988 Accord worksheet

- The panels for repos and OTC derivatives are now organised in the same way as drawn and undrawn exposures. Two different panels for repos and OTC derivatives are provided.
- Two specialised lending categories were added.

- An additional subtype of exposures called “e) Other off-balance sheet exposures” was created in order to separate the effects on off-balance-sheet exposures from the effects on drawn exposures.

1.6 Standardised approach worksheet

- The new rules for provisions (paragraphs 75–78) were incorporated.
- The headings of the rows were in some cases modified or, in other cases, rearranged.
- The risk-weight for residential mortgages is now 35% (not 40% anymore).
- The memo item on retail exposure size has been deleted.
- Two specialised lending categories were added.
- All risk weights are available in all portfolios but may be hidden if they are not necessary.
- An additional subtype of exposures called “e) Other off-balance sheet exposures” was created in order to separate the effects on off-balance-sheet exposures from the effects on drawn exposures.

1.7 IRB worksheets (general)

- Drop-boxes were introduced to deal with different credit risk mitigation types in the PD/LGD matrix.
- The matrix exposure per PD/maturity was replaced by a matrix maturity per PD/LGD combination. In connection with the new matrix for calculation of risk-weighted assets, this improves the accuracy of the calculation. In case that banks are not able to provide maturities for each PD/LGD bucket, they can enter the same value for all LGDs within one PD bucket. In case a cell is empty, the formula assumes a maturity of 2.5 years.
- From the columns on the left, only exposure, EL amount times 12.5 and RWA are kept. All other columns were hidden.
- There is now a separate treatment of defaulted assets in the advanced IRB approach (according to paragraph 471).
- An additional subtype of exposures called “e) Other off-balance sheet exposures” was created in order to separate the effects on off-balance-sheet exposures from the effects on drawn exposures.

1.8 Equity

- The calculation for immaterial exposures is no longer linked to the Standardised approach worksheet.

1.9 Operational Risk

- The calculation of Basic Indicator and Standardised approaches was adjusted to the Basel II Framework.
- The Alternative Standardised approach was added.

1.10 Other issues

- The Notes worksheet has been deleted.
- “Non-mortgage retail” is now called “Other retail”.

2. Significant changes from QIS 4 to QIS 5

2.1 Input worksheet

- In section A, banks are now asked to enter the most likely approach after implementation.
- Memo items provided in section F2 for QIS 4 have been deleted.
- Risk-weighted assets according to the Market Risk Amendment now have to be entered by approach in a revised section C.
- Panel F has been amended to capture the new methods for calculation of exposure amounts/EADs.

2.2 Parameters worksheet

- The Parameters worksheet has been updated to reflect the changes in the IRB worksheets.
- Additional rows have been added to allow national supervisors to customise the risk weights for the current Accord, depending on their national implementation.

2.3 Results worksheet

- The scaling mechanism has been revised in order to avoid scaling-down when risk-weighted assets according to the supervisory returns are lower than risk-weighted assets for the current Accord calculated in the QIS workbook.
- Risk-weighted assets for securitisation exposures are no longer included in the scaling-up mechanism.
- The additional IRB worksheets are included appropriately in the calculation of the capital charge for specific risk.

2.4 1988 Accord worksheet

- Additional rows have been added to allow national supervisors to customise the risk weights for the current Accord, depending on their national implementation.
- The repo and OTC derivatives panels have been amended to capture the new methods for calculation of exposure amounts.
- HELOC panels provided in QIS 4 have been removed.

2.5 Standardised approach worksheet

- The repo and OTC derivatives panels have been amended to capture the new methods for calculation of exposure amounts.
- HELOC panels provided in QIS 4 have been removed.

2.6 IRB worksheets (general)

- Banks are requested to report a best estimate LGD without consideration of economic downturn conditions.
- The repo and OTC derivatives panels have been amended to capture the new methods for calculation of EAD.
- HELOC panels provided in QIS 4 have been removed.
- As for the Standardised approach, all exposures subject to the IRB approaches to credit risk now have to be entered after credit conversion. The memo tables for EAD estimation have been deleted.
- In the IRB Corporate and SME Corporate portfolios, additional worksheets have been included to capture exposures subject to the double default treatment. For exposures subject to the substitution treatment, one row has been added for exposures not subject to the PD floor due to the presence of a guarantee.
- The LGD floor is being taken into account correctly for the calculations of average LGD and EL.
- An “of-which” item has been added to capture the sum of exposures per panel which are subject to an exemption from the one-year maturity floor.
- The memo panels for lease residuals have been deleted.

2.7 Equity

- The treatment of exposures subject to the PD/LGD approach for banks that do not meet the relevant standards has been changed according to paragraph 150 (first bullet point) of the Basel II Framework. Exposures now have to be entered using the simple risk-weight method.

2.8 Securitisation worksheets

- Several items have been added to deal with implementation-specific issues in the EU. In particular, the exceeding amount relative to K_{IRB} can be entered in case that – according to national discretion – the minimum required capital for securitisation exposures can be capped by those requirements which would be obtained if the respective positions had not been securitised.

2.9 Operational Risk

- The old panel B asking for capital figures has been removed.
- Banks doing only a partial AMA calculation are now asked to report the fraction of the AMA capital charge calculated according to the Standardised or Basis Indicator Approaches.