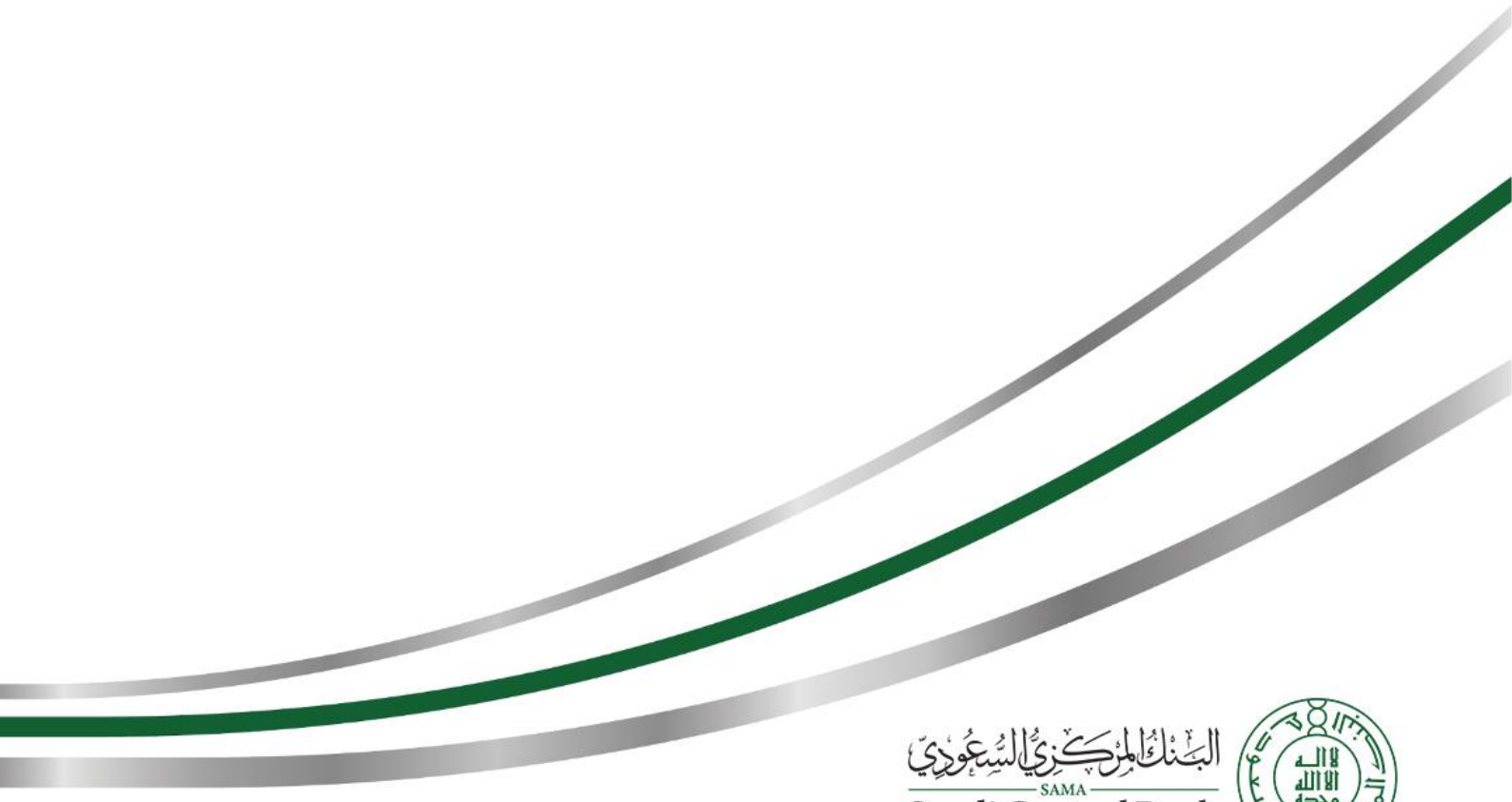
Saudi Central Bank (SAMA)

Minimum Capital Requirements for Credit Risk

December 2022



البنك المركزي السعودي
SAMA
Saudi Central Bank

Contents

Minimum Capital Requirements for Credit Risk

1. Introduction

1.1 The Basel Committee on Banking Supervision issued the Basel III: Finalizing post-crisis reforms in December 2017, which includes among others, the revised framework for Credit Risk aimed to enhance the robustness and risk sensitivity of the standardized approaches, balances simplicity of the framework and, comparability in the calculation of risk weighted assets (RWAs) for credit risk using different available approaches.

1.2 This revised framework in risk-weighted assets for credit risk is issued by SAMA in exercise of the authority vested in SAMA under the Charter issued via Royal Decree No. M/36 dated 11/04/1442H, and the Banking Control Law issued 01/01/1386H.

1.3 This revised framework on risk-weighted assets for credit risk will supersede the following existing requirements related to the calculation of RWAs for credit risk:

- *Circular No. BCS 242, Date: 11 April 2007 (Mapping of Credit Assessment Ratings Provided by Eligible External Credit Assessment Institution to Determine Risk Weighted Exposures).*
- *Circular No. 351000121270, Date: 17 July 2014 (Basel III - Internal Rating Based Approaches for Credit Risk).*
- *Circular No. 391000047997, Date: 14 January 2018 (Reducing RWA for mortgages to 50%).*
- *Circular No. 410589780000, Date: 1 June 2020 (Reducing RWA for MSMEs).*

2. Scope of Application

1.4 This framework applies to all domestic banks both on a consolidated basis, which include all branches and subsidiaries, and on a standalone basis.

1.5 This framework is not applicable to foreign banks' branches operating in the Kingdom of Saudi Arabia, and the branches shall comply with the regulatory capital requirements stipulated by their respective home regulators.

3. Implementation Timeline

This framework will be effective on **01 January 2023.**

4. SAMA Reporting Requirements:

SAMA expects all banks to report their credit RWAs and capital charge using SAMA's Q17 reporting template within 30 days after the end of each quarter.

5. Overview of risk-weighted assets approaches for credit risk

5.1 Banks can choose between two broad methodologies for calculating their risk-based capital requirements for credit risk. The first is the standardized approach, which is set out in chapters 6 to 9:

i. The standardized approach assigns standardized risk weights to exposures as described in chapter 7. Risk weighted assets are calculated as the product of the standardized risk weights and the exposure amount. Exposures should be risk-weighted net of specific provisions (including partial write-offs).

ii. To determine the risk weights in the standardized approach for certain exposure classes, banks may, as a starting point, use assessments by external credit assessment institutions (ECAIs) that are recognized as

eligible for capital purposes by SAMA. The requirements covering the use of external ratings are set out in chapter 8.[1]

iii. The credit risk mitigation techniques that are permitted to be recognized under the standardized approach are set out in chapter 9.

5.2 The second risk-weighted assets approach is the internal ratings-based (IRB) approach, which allows banks to use their internal rating systems for credit risk. The IRB approach is set out in chapters 10 to 16. **Banks must seek SAMA's regulatory approval before they can use the IRB Approach for calculation of capital requirements for credit risk, subject to the Bank meeting all minimum requirements for the use of IRB Approach, supervisory review and validation exercise as may be carried out by SAMA.**

5.3 This policy document also covers the treatment in banking book of the following exposures:

1. Securitization exposures (chapters 18 to 23);
2. Equity investments in funds (chapter 24); and
3. Exposures arising from unsettled transactions and failed trades (chapter 25).

[1] The notations in chapters 7 to 9 follow the methodology used by one institution, Standard and Poor's (S&P). The use of S&P credit ratings is an example only; those of some other external credit assessment institutions could equally well be used. The ratings used throughout this document, therefore, do not express any preferences or determinations on external assessment institutions.

6. Due diligence requirements

6.1 Banks must perform due diligence to ensure that they have an adequate understanding, at origination and thereafter on a regular basis (at least annually), of the risk profile and characteristics of their counterparties. In cases where ratings are used, due diligence is necessary to assess the risk of the exposure for risk management purposes and whether the risk weight applied is appropriate and prudent. The sophistication of the due diligence should be appropriate to the size and complexity of banks' activities. Banks must take reasonable and adequate steps to assess the operating and financial performance levels and trends through internal credit analysis and/or other analytics outsourced to a third party, as appropriate for each counterparty. Banks must be able to access information about their counterparties on a regular basis to complete due diligence analyses.

6.2 For exposures to entities belonging to consolidated groups, due diligence should, to the extent possible, be performed at the solo entity level to which there is a credit exposure. In evaluating the repayment capacity of the solo entity, banks are expected to take into account the support of the group and the potential for it to be adversely impacted by problems in the group.

6.3 Banks should have in place effective internal policies, processes, systems and controls to ensure that the appropriate risk weights are assigned to counterparties. Banks must be able to demonstrate to SAMA that their due diligence analyses are appropriate.

7. Standardized Approach: Individual Exposures

Exposures to sovereigns

7.1 Exposures to sovereigns and their central banks will be risk-weighted based on the external rating of the sovereign as follows:

Risk weight table for sovereigns and central banks Table 1

External rating	AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to B–	Below B–	Unrated
Risk weight	0%	20%	50%	100%	150%	100%

7.2 A 0% risk weight can be applied to banks' exposures to Saudi sovereign (or SAMA) of incorporation denominated in Saudi Riyal and funded[2] in Saudi Riyal (SAR).[3] Exposures to Saudi sovereign of incorporation denominated in foreign currencies should be treated according to the Saudi sovereign external rating.

7.3 Sovereign exposures to the member countries of Gulf Cooperation Council (GCC) will also be risk-weighted based on the external rating of the respective country as per Table 1.

7.4 Exposures to the Bank for International Settlements, the International Monetary Fund, the European Central Bank, the European Union, the European Stability Mechanism and the European Financial Stability Facility may receive a 0% risk weight.

[2] This is to say that the bank would also have corresponding liabilities denominated in the domestic currency.

[3] This lower risk weight may be extended to the risk-weighting of collateral and guarantees under the CRM framework (chapter 9)

Exposures to Public Sector Entities (PSEs)

7.5 For the purposes of RWA treatment, domestic PSEs in general include government authorities, administrative and/or statutory bodies responsible to the government, which may be owned, controlled, and/or mostly funded by the government and not involved in any commercial undertakings.

7.6 Exposures to domestic PSEs will be risk-weighted based on the external rating of the Saudi sovereign external rating

Risk weight table for PSEs
Based on external rating of sovereign Table 2

External rating of the sovereign	AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to B–	Below B–	Unrated
Risk weight	20%	50%	100%	100%	150%	100%

7.7 Foreign PSEs, including PSEs in GCC countries, shall be assigned a risk weight based on the external rating of the PSE respective country's sovereign rating.

Exposures to multilateral development banks (MDBs)

7.8 For the purposes of calculating capital requirements, a Multilateral Development Bank (MDB) is an institution created by a group of countries that provides financing and professional advice for economic and social development projects. MDBs have large sovereign memberships and may include both developed and /or developing countries. Each MDB has its own independent legal and operational status, but with a similar mandate and a considerable number of joint owners.

7.9 A 0% risk weight will be applied to exposures to specified MDBs that are recognized by the Basel Committee for Banking Supervision (BCBS) for fulfilling the following eligibility criteria:

1. very high-quality long-term issuer ratings, i.e. a majority of an MDB's

externalratings must be AAA; [4]

2. either the shareholder structure comprises a significant proportion of sovereigns with long-term issuer external ratings of AA– or better, or the majority of the MDB's fund-raising is in the form of paid-in equity/capital and there is little or no leverage;

3. strong shareholder support demonstrated by the amount of paid-in capital contributed by the shareholders; the amount of further capital the MDBs have the right to call, if required, to repay their liabilities; and continued capital contributions and new pledges from sovereign shareholders;

4. adequate level of capital and liquidity (a case-by-case approach is necessaryin order to assess whether each MDB's capital and liquidity are adequate); and,

5. strict statutory lending requirements and conservative financial policies, which would include among other conditions a structured approval process,internal creditworthiness and risk concentration limits (per country, sector, and individual exposure and credit category), large exposures approval by the board or a committee of the board, fixed repayment schedules, effective monitoring of use of proceeds, status review process, and rigorous assessment of risk and provisioning to loan loss reserve.

7.10 The specified MDBs eligible for a 0% risk weight are as follows. This list is subject to review by SAMA from time to time.

1. The World Bank Group comprising the International Bank for Reconstruction and Development;
2. The International Finance Corporation;
3. The Multilateral Investment Guarantee Agency and the International Development Association;
4. The Asian Development Bank;
5. The African Development Bank;
6. The European Bank for Reconstruction and Development;

[4] MDBs that request to be added to the list of MDBs eligible for a 0% risk weight must comply with the AAA rating criterion at the time of the application to the BCBS. Once included in the list of eligible MDBs, the rating may be downgraded, but in no case lower than AA–. Otherwise, exposures to such MDBs will be subject to the treatment set out in paragraph 7.11

7. The Inter-American Development Bank;
8. The European Investment Bank,
9. The European Investment Fund;
10. The Caribbean Development Bank,
11. The Islamic Development Bank
12. The Nordic Investment Bank;
13. The Council of Europe Development Bank;
14. The International Finance Facility for Immunization; and
15. The Asian Infrastructure Investment Bank.

7.11 For exposures to all other MDBs, banks will assign to their MDB exposures the corresponding "base" risk weights determined by the external ratings according to Table 3.

Risk weight table for MDB exposures Table 3

External rating of counterparty	AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to B–	Below B–	Unrated
"Base" risk weight	20%	30%	50%	100%	150%	50%

Exposures to banks

7.12 For the purposes of calculating capital requirements, a bank exposure is defined as a claim (including loans and senior debt instruments, unless considered as subordinated debt for the purposes of paragraph 7.52) on any financial institution that is licensed to take deposits from the public and is subject to appropriate prudential standards and level of supervision[5]. The treatment associated with subordinated bank debt and equities is addressed in paragraphs 7.46 to 7.52.

Risk weight determination

7.13 Bank exposures will be risk-weighted based on the following hierarchy:

1. External Credit Risk Assessment Approach (ECRA): This approach applies to all rated exposures to banks. Banks will apply chapter 8 to determine which rating can be used and for which exposures.
2. Standardized Credit Risk Assessment Approach (SCRA): This approach is applicable to all exposures to banks that are unrated.

[5] For internationally active banks, appropriate prudential standards (e.g. capital and liquidity requirements) and level of supervision should be in accordance with the Basel framework.

External Credit Risk Assessment Approach (ECRA)

7.14 Banks will assign to their rated bank exposures[6] the corresponding "base" risk weights determined by the external ratings according to Table 4. Such ratings must not incorporate assumptions of implicit government support[7], unless the rating refers to a public bank owned by its government. Banks may continue to use external ratings, which incorporate assumptions of implicit government support for up to a period of five years, from the date of effective implementation of this framework, when assigning the "base" risk weights in Table 4 to their bank exposures.

Risk weight table for bank exposures
External Credit Risk Assessment Approach (ECRA) Table 4

External rating of counterparty	AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to B–	Below B–
"Base" risk weight	20%	30%	50%	100%	150%
Risk weight for short-term exposures	20%	20%	20%	50%	150%

7.15 Exposures to banks with an original maturity of three months or less, as well as exposures to banks that arise from the movement of goods across national borders with an original maturity of six months or less[8] can be assigned a risk

[6] An exposure is rated from the perspective of a bank if the exposure is rated by a recognized "eligible credit assessment institution" (ECAI) which has been nominated by the bank (i.e. the bank has informed SAMA of its intention to use the ratings of such ECAI for regulatory purposes in a consistent manner paragraph 8.8 In other words, if an external rating exists but the credit rating agency is not a recognized ECAI by SAMA, or the rating has been issued by an ECAI which has not been nominated by the bank, the exposure would be considered as being unrated from the perspective of the bank

[7] Implicit government support refers to the notion that the government would act to prevent bank creditors from incurring losses in the event of a bank default or bank distress.

[8] This may include on-balance sheet exposures such as loans and off- balance sheet exposures such as self-liquidating trade-related contingent items.

weight that correspond to the risk weights for short term exposures in Table 4.

7.16 Banks must perform due diligence to ensure that the external ratings appropriately and conservatively reflect the creditworthiness of the bank counterparties. If the due diligence analysis reflects higher risk characteristics than that implied by the external rating bucket of the exposure (i.e. AAA to AA– ; A+ to A– etc.), the bank must assign a risk weight at least one bucket higher than the "base" risk weight determined by the external rating. Due diligence analysis must never result in the application of a lower risk weight than that determined by the external rating.

Standardized Credit Risk Assessment Approach (SCRA)

7.17 Banks will apply the SCRA to all their unrated bank exposures. The SCRA requires banks to classify bank exposures into one of three risk-weight buckets (i.e. Grades A, B and C) and assign the corresponding risk weights in Table 5. Under the SCRA, exposures to banks without an external credit rating may receive a risk weight of 30%, provided that the counterparty bank has a Common Equity Tier 1 ratio which meets or exceeds 14% and a Tier 1 leverage ratio which meets or exceeds 5%. The counterparty bank must also satisfy all the requirements for Grade A classification. For the purposes of SCRA only, "published minimum regulatory requirements" in paragraphs 7.18 to 7.26 excludes liquidity standards.

Risk weight table for bank exposures
Standardized Credit Risk Assessment Approach (SCRA) Table 5

Credit risk assessment ofcounterparty	Grade A	Grade B	Grade C
"Base" risk weight	40%	75%	150%
Risk weight for short-termexposures	20%	50%	150%

SCRA: Grade A

7.18 Grade A refers to exposures to banks, where the counterparty bank has adequate capacity to meet their financial commitments (including repayments of principal and interest) in a timely manner, for the projected life of the assets or exposures

and irrespective of the economic cycles and business conditions.

7.19 A counterparty bank classified into Grade A must meet or exceed the published minimum regulatory requirements and buffers established by its national supervisor as implemented in the jurisdiction where it is incorporated, except for bank-specific minimum regulatory requirements or buffers that may be imposed through supervisory actions (e.g. via the Supervisory Review Process) and not made public. If such minimum regulatory requirements and buffers (other than bank-specific minimum requirements or buffers) are not publicly disclosed or otherwise made available by the counterparty bank, then the counterparty bank must be assessed as Grade B or lower.

7.20 If as part of its due diligence, a bank assesses that a counterparty bank does not meet the definition of Grade A in paragraphs 7.18 and 7.19, exposures to the counterparty bank must be classified as Grade B or Grade C.

SCRA: Grade B

7.21 Grade B refers to exposures to banks, where the counterparty bank is subject to substantial credit risk, such as repayment capacities that are dependent on stable or favorable economic or business conditions.

7.22 A counterparty bank classified into Grade B must meet or exceed the published minimum regulatory requirements (excluding buffers) established by its national supervisor as implemented in the jurisdiction where it is incorporated, except for bank-specific minimum regulatory requirements that may be imposed through supervisory actions (e.g. via the Supervisory Review Process) and not made public. If such minimum regulatory requirements are not publicly disclosed or otherwise made available by the counterparty bank then the counterparty bank must be assessed as Grade C.

7.23 Banks will classify all exposures that do not meet the requirements outlined in paragraphs 7.18 and 7.19 into Grade B, unless the exposure falls within Grade C under paragraphs 7.24 to 7.26.

SCRA: Grade C

7.24 Grade C refers to higher credit risk exposures to banks, where the counterparty bank has material default risks and limited margins of safety. For these counterparties, adverse business, financial, or economic conditions are very likely to lead, or have led, to an inability to meet their financial commitments.

7.25 At a minimum, if any of the following triggers is breached, a bank must classify the exposure into Grade C:

1. The counterparty bank does not meet the criteria for being classified as Grade B with respect to its published minimum regulatory requirements, asset out in paragraphs 7.21 and 7.22 or
2. Where audited financial statements are required, the external auditor has issued an adverse audit opinion or has expressed substantial doubt about the counterparty bank's ability to continue as a going concern in its financial statements or audited reports within the previous 12 months.

7.26 Even if the triggers set out in paragraph 7.25 are not breached, a bank may assess that the counterparty bank meets the definition in paragraph 7.24. In that case, the exposure to such counterparty bank must be classified into Grade C.

7.27 Exposures to banks with an original maturity of three months or less, as well as exposures to banks that arise from the movement of goods across national borders with an original maturity of six months or less,[9] can be assigned a risk weight that correspond to the risk weights for short term exposures in Table 5.

[9] This may include on-balance sheet exposures such as loans and off-balance sheet exposures such as self-liquidating trade-related contingent items.

7.28 To reflect transfer and convertibility risk under the SCRA, a risk-weight floor based on the risk weight applicable to exposures to the sovereign of the country where the bank counterparty is incorporated will be applied to the risk weight assigned to bank exposures. The sovereign floor applies when:

i. The exposure is not in the local currency of the jurisdiction of incorporation of the debtor bank; and

ii. For a borrowing booked in a branch of the debtor bank in a foreign jurisdiction, when the exposure is not in the local currency of the jurisdiction in which the branch operates. The sovereign floor will not apply to short-term (i.e. with a maturity below one year) self-liquidating, trade-related contingent items that arise from the movement of goods.

Exposures to covered bonds

7.29 Covered bonds are bonds issued by a bank or mortgage institution that are subject by law to special public supervision designed to protect bond holders. Proceeds deriving from the issue of these bonds must be invested in conformity with the law in assets which, during the whole period of the validity of the bonds,are capable of covering claims attached to the bonds and which, in the event of the failure of the issuer, would be used on a priority basis for the reimbursementof the principal and payment of the accrued interest.

Eligible assets

7.30 In order to be eligible for the risk weights set out in paragraph 7.34 the underlying assets (the cover pool) of covered bonds as defined in paragraph 7.29 shall meet the requirements set out in paragraph 7.33 and shall include any of the following:

1. claims on, or guaranteed by, sovereigns, their central banks, public sector entities or multilateral development banks;

2. claims secured by residential real estate that meet the criteria set out in paragraph 7.63 and with a loan-to-value ratio of 80% or lower;

3. claims secured by commercial real estate that meets the criteria set out in

paragraph 7.63 and with a loan-to-value ratio of 60% or lower; or

4. Claims on, or guaranteed by banks that qualify for a 30% or lower risk weight. However, such assets cannot exceed 15% of covered bond issuances.

7.31 The nominal value of the pool of assets assigned to the covered bond instrument (s) by its issuer should exceed its nominal outstanding value by at least 10%. The value of the pool of assets for this purpose does not need to be that required by the legislative framework. However, if the legislative framework does not stipulate a requirement of at least 10%, the issuing bank needs to publicly disclose on a regular basis that their cover pool meets the 10% requirement in practice. In addition to the primary assets listed in this paragraph, additional collateral may include substitution assets (cash or short term liquid and secure assets held in substitution of the primary assets to top up the cover pool for management purposes) and derivatives entered into for the purposes of hedging the risks arising in the covered bond program.

7.32 The conditions set out in paragraphs 7.30 and 7.31 must be satisfied at the inception of the covered bond and throughout its remaining maturity.

Disclosure requirements

7.33 Exposures in the form of covered bonds are eligible for the treatment set out in paragraph 7.34, provided that the bank investing in the covered bonds can demonstrate to SAMA that:

1. It receives portfolio information at least on:

   (a) the value of the cover pool and outstanding covered bonds;

   (b) the geographical distribution and type of cover assets, loan size, interestrate and currency risks;

   (c) the maturity structure of cover assets and covered bonds; and

   (d) the percentage of loans more than 90 days past due; and

2. The issuer makes the information referred to in point (1) available to the bank at least semi-annually.

7.34 Covered bonds that meet the criteria set out in paragraphs 7.30 to 7.33 shall be risk-weighted based on the issue-specific rating or the issuer's risk weight according to the rules outlined in chapter 8. For covered bonds with issue-specific ratings[10], the risk weight shall be determined according to Table 6. For unrated covered bonds, the risk weight would be inferred from the issuer's ECRA or SCRA risk weight according to Table 7.

Risk weight table for rated covered bond exposures — Table 6

Issue-specific rating of the covered bond	AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to B–	Below B–
"Base" risk weight	10%	20%	20%	50%	100%

Risk weight table for unrated covered bond exposures — Table 7

Risk weight of the issuing bank	20%	30%	40%	50%	75%	100%	150%
"Base" risk weight	10%	15%	20%	25%	35%	50%	100%

[10] An exposure is rated from the perspective of a bank if the exposure is rated by a recognized ECAI which has been nominated by the bank (i.e. the bank has informed its supervisor of its intention to use the ratings of such ECAI for regulatory purposes in a consistent manner (see paragraph 8.8). In other words, if an external rating exists but the credit rating agency is not a recognized ECAI by SAMA, or the rating has been issued by an ECAI, which has not been nominated by the bank, the exposure would be considered as being unrated from the perspective of the bank.

7.35 Banks must perform due diligence to ensure that the external ratings appropriately and conservatively reflect the creditworthiness of the covered bond and the issuing bank. If the due diligence analysis reflects higher risk characteristics than that implied by the external rating bucket of the exposure (i.e. AAA to AA–; A+ to A– etc.), the bank must assign a risk weight at least one buckethigher than the "base" risk weight determined by the external rating. Due diligence analysis must never result in the application of a lower risk weight than that determined by the external rating.

Exposures to securities firms and other financial institutions

7.36 Exposures to all securities firms and financial institutions will be treated as exposures to corporates.

Exposures to corporates

7.37 Exposures to corporates include exposures (loans, bonds, receivables, etc.) to incorporated entities, associations, partnerships, proprietorships, trusts, funds and other entities with similar characteristics, except those, which qualify for one of the other exposure classes. The treatment associated with subordinated debt and equities of these counterparties is addressed in paragraphs 7.46 to 7.54. The corporate exposure class includes exposures to insurance companies and other financial corporates that do not meet the definitions of exposures to banks, or securities firms and other financial institutions, as determined in paragraphs 7.12 and 7.36 respectively. The corporate exposure class does not include exposures to individuals. The corporate exposure class differentiates between the following subcategories:

1. General corporate exposures;
2. Specialized lending exposures, as defined in paragraph 7.41

General corporate exposures

7.38 For corporate exposures, banks will assign "base" risk weights according to Table 8. Banks must perform due diligence to ensure that the external ratings appropriately and conservatively reflect the creditworthiness of the counterparties. Banks which have assigned risk weights to their rated bank exposures based on paragraph 7.14 must assign risk weights for all their corporate exposures according to Table 8. If the due diligence analysis reflects higher risk characteristics than that implied by the external rating bucket of the exposure (i.e. AAA to AA–; A+ to A– etc.), the bank must assign a risk weight at least one bucket higher than the "base" risk weight determined by the external rating. Due diligence analysis must never result in the application of a lower risk weight than that determined by the external rating.

7.39 Where banks have overseas operations, unrated corporate exposures of banks incorporated in jurisdictions that allow the use of external ratings for regulatory purposes will receive a 100% risk weight, with the exception of unrated exposures to corporate micro, small or medium-sized entities (MSMEs), as described in paragraph 7.40.

Risk weight table for corporate exposures Table 8

External rating of counterparty	AAA to AA–	A+ to A–	BBB+ to BBB–	BB+ to BB–	Below BB–	Unrated
"Base" risk weight	20%	50%	75%	100%	150%	100%

7.40 The definitions of MSMEs shall continue to apply as per *SAMA Circular No. 381000064902, Date: 15 March 2017 or any subsequent circulars*, corporate MSMEs for the purpose of capital requirements are defined as corporate exposures where the reported annual revenues for the consolidated group of which the corporate MSME counterparty is a part is less than or equal to SAR 200 million for the most recent financial year. For unrated exposures to corporate MSMEs, an 85% risk weight will be applied. Exposures to MSMEs that meet the criteria in paragraphs 7.57 will be treated as regulatory retail MSME exposures and risk weighted at 75%.

Specialized lending

7.41 A corporate exposure will be treated as a specialized lending exposure if such lending possesses some or all of the following characteristics, either in legal formor economic substance:

1. The exposure is not related to real estate and is within the definitions of object finance, project finance or commodities finance under paragraph 7.42. If the activity is related to real estate, the treatment would be determined inaccordance with paragraphs 7.61 to 7.83;
2. The exposure is typically to an entity (often a special purpose vehicle (SPV))that was created specifically to finance and/or operate physical assets;
3. The borrowing entity has few or no other material assets or activities, and therefore little or no independent capacity to repay the obligation, apart from the income that it receives from the asset(s) being financed. The primary source of repayment of the obligation is the income generated bythe asset(s), rather than the independent capacity of the borrowing entity;and
4. The terms of the obligation give the lender a substantial degree of control over the asset(s) and the income that it generates.

7.42 Exposures described in paragraph 7.41 will be classified in one of the following three subcategories of specialized lending:

1. **Project finance**

   Refers to the method of funding in which the lender looks primarily to the revenues generated by a single project, both as the source of repayment and as security for the loan. This type of financing is usually for large, complex and expensive installations such as power plants, chemical processing plants, mines, transportation infrastructure, environment, media, and telecoms. Project finance may take the form of financing the construction of a new capital installation, or refinancing of an existing installation, with or without improvements.

2. **Object finance**

   Refers to the method of funding the acquisition of equipment (e.g. ships, aircraft, satellites, railcars, and fleets) where the repayment of the loan is dependent on the cash flows generated by the specific assets that have been financed and pledged or assigned to the lender.

3. **Commodities finance**

   Refers to short-term lending to finance reserves, inventories, or receivables of exchange-traded commodities (e.g. crude oil, metals, or crops), where the loan will be repaid from the proceeds of the saleof the commodity and the borrower has no independent capacity to repay the loan.

7.43 Banks will assign to their specialized lending exposures the risk weights determined by the issue-specific external ratings, if these are available, according to Table 8. Issuer ratings must not be used (i.e. paragraph 8.13 does not apply in the case of specialized lending exposures).

7.44 For specialized lending exposures for which an issue-specific external rating is notavailable, and for all specialized lending exposures of banks incorporated in jurisdictions that do not allow the use of external ratings for regulatory purposes, the following risk weights will apply:

1. Object and commodities finance exposures will be risk-weighted at 100%;

2. Project finance exposures will be risk-weighted at 130% during the pre-operational phase and 100% during the operational phase. Project finance exposures in the operational phase, which are deemed to be high quality, as described in paragraph 7.45, will be risk weighted at 80%. For this purpose, operational phase is defined as the phase in which the entity that was specifically created to finance the project has

   (a) a positive net cash flow that is sufficient to cover any remaining contractual obligation, and

   (b) Declining long-term debt.

7.45 A high quality project finance exposure refers to an exposure to a project finance entity that is able to meet its financial commitments in a timely manner and its ability to do so is assessed to be robust against adverse changes in the economic cycle and business conditions. The following conditions must also be met:

1. The project finance entity is restricted from acting to the detriment of the creditors (e.g. by not being able to issue additional debt without the consentof existing creditors);

2. The project finance entity has sufficient reserve funds or other financial arrangements to cover the contingency funding and working capital requirements of the project;

3. The revenues are availability-based[11] or subject to a rate-of-return

[11] Availability-based revenues mean that once construction is completed, the project finance entity is entitled to payments from its contractual counterparties (e.g. the government), as long as contract conditions are fulfilled. Availability payments are sized to cover operating and maintenance costs, debt service costs and equity returns as the project finance entity operates the project. Availability payments are not subject to swings in demand, such as traffic levels, and are adjusted typically only for lack of performance or lack of availability of the asset to the public

regulationor take-or-pay contract;

4. The project finance entity's revenue depends on one main counterparty andthis main counterparty shall be a central government, PSE or a corporate entity with a risk weight of 80% or lower;

5. The contractual provisions governing the exposure to the project finance entity provide for a high degree of protection for creditors in case of a default of the project finance entity;

6. The main counterparty or other counterparties which similarly comply with the eligibility criteria for the main counterparty will protect the creditors from the losses resulting from a termination of the project;

7. All assets and contracts necessary to operate the project have been pledged to the creditors to the extent permitted by applicable law; and

8. Creditors may assume control of the project finance entity in case of its default.

Subordinated debt, equity and other capital instruments

7.46 The treatment described in paragraphs 7.50 to 7.52. applies to subordinated debt, equity and other regulatory capital instruments issued by either corporates or banks, provided that such instruments are not deducted from regulatory capital or risk-weighted at 250% according to the Regulatory Capital Under Basel III Framework (Article 4.4 – Section A of *SAMA Circular No. 341000015689, Date: 19 December 2012*), or risk weighted at 1250% according to paragraph 7.54. It also excludes equity investments in funds treated under chapter 24.

7.47 Equity exposures are defined on the basis of the economic substance of the instrument. They include both direct and indirect ownership interests,[12] whether voting or non-voting, in the assets and income of a commercial enterprise or of a financial institution that is not consolidated or deducted. An instrument is

[12] Indirect equity interests include holdings of derivative instruments tied to equity interests, and holdings in corporations, partnerships, limited liability companies or other types of enterprises that issue ownership interests and are engaged principally in the business of investing in equity instruments.

considered to be an equity exposure if it meets all of the following requirements:

1. It is irredeemable in the sense that the return of invested funds can be achieved only by the sale of the investment or sale of the rights to the investment or by the liquidation of the issuer;
2. It does not embody an obligation on the part of the issuer; and
3. It conveys a residual claim on the assets or income of the issuer.

7.48 In addition to instruments classified as equity as a result of paragraph 7.47, the following instruments must be categorized as an equity exposure:

1. An instrument with the same structure as those permitted as Tier 1 capital for banking organizations.
2. An instrument that embodies an obligation on the part of the issuer and meets any of the following conditions:
   (a) The issuer may defer indefinitely the settlement of the obligation;
   (b) The obligation requires (or permits at the issuer's discretion) settlementby issuance of a fixed number of the issuer's equity shares;
   (c) The obligation requires (or permits at the issuer's discretion) settlementby issuance of a variable number of the issuer's equity shares and (ceteris paribus) any change in the value of the obligation is attributable to, comparable to, and in the same direction as, the change in the valueof a fixed number of the issuer's equity shares[13]; or,

[13] For certain obligations that require or permit settlement by issuance of a variable number of the issuer's equity shares, the change in the monetary value of the obligation is equal to the change in the fair value of a fixed number of equity shares multiplied by a specified factor. Those obligations meet the conditions of item (c) if both the factor and the referenced number of shares are fixed. For example, an issuer may be required to settle an obligation by issuing shares with a value equal to three times the appreciation in the fair value of 1,000 equity shares. That obligation is considered to be the same as an obligation that requires settlement by issuance of shares equal to the appreciation in the fair value of 3,000 equity shares.

(d) The holder has the option to require that the obligation be settled in equity shares, unless either (i) in the case of a traded instrument, SAMA is content that the bank has demonstrated that the instrument trades more like the debt of the issuer than like its equity, or (ii) in the case of non-traded instruments, SAMA is content that the bank has demonstrated that the instrument should be treated as a debt position. In cases (i) and (ii), the bank may decompose the risks forregulatory purposes, with the approval of SAMA.

7.49 Debt obligations and other securities, partnerships, derivatives or other vehicles structured with the intent of conveying the economic substance of equity ownership are considered an equity holding[14]. This includes liabilities from which the return is linked to that of equities[15]. Conversely, equity investments that are structured with the intent of conveying the economic substance of debt holdings or securitization exposures would not be considered an equity holding. [16]

7.50 Banks will assign a risk weight of 400% to speculative unlisted equity exposures described in paragraph 7.51 and a risk weight of 250% to all other equity holdings.

7.51 Speculative unlisted equity exposures are defined as equity investments in unlisted companies that are invested for short-term resale purposes or are considered venture capital or similar investments, which are subject to price volatility and are acquired in anticipation of significant future capital gains[17].

[14] Equities that are recorded as a loan but arise from a debt/equity swap made as part of the orderly realization or restructuring of the debt are included in the definition of equity holdings. However, these instruments may not attract a lower capital charge than would apply if the holdings remained in the debt portfolio.

[15] SAMA may decide not to require that such liabilities be included where they are directly hedged by an equity holding, such that the net position does not involve material risk.

[16] SAMA may consider to re-characterize debt holdings as equites for regulatory purposes and to otherwise ensure the proper treatment of holdings under the supervisory review process.

[17] For example, investments in unlisted equities of corporate clients with which the bank has or intends to establish a long-term business relationship and debt-equity swaps for corporate restructuring purposes would be excluded.

7.52 Banks will assign a risk weight of 150% to subordinated debt and capital instruments other than equities.

7.53 Notwithstanding the risk weights specified in paragraphs 7.50 to 7.52, the risk weight for investments in significant minority- or majority-owned and –controlledcommercial entities depends upon the application of two materiality thresholds:

1. For individual investments, 15% of the bank's capital; and
2. For the aggregate of such investments, 60% of the bank's capital.

7.54 Investments in significant minority- or majority-owned and –controlled commercial entities below the materiality thresholds in paragraph 7.52 must be risk- weighted as specified in paragraphs 7.47 to 7.52. Investments in excess of the materiality thresholds must be risk-weighted at 1250%.

Retail exposure class

7.55 The retail exposure class excludes exposures within the real estate exposure class.The retail exposure class includes the following types of exposures:

1. Exposures to an individual person or persons; and
2. Exposures to MSMEs (as defined in paragraph 7.40) that meet the "regulatory retail" criteria set out in paragraph 7.57 below. Exposures to MSMEs that do not meet these criteria will be treated as corporate MSMEs exposures under paragraph 7.40.

7.56 Exposures within the retail exposure class will be treated according to paragraphs 7.57 to 7.59 below. For the purpose of determining risk weighted assets, the retail exposure class consists of the follow three sets of exposures:

1. "Regulatory retail" exposures that do not arise from exposures to "transactors" (as defined in paragraph 7.58).
2. "Regulatory retail" exposures to "transactors".
3. "Other retail" exposures.

7.57 "Regulatory retail" exposures are defined as retail exposures that meet all of the criteria listed below:

1. **Product criterion**:

   The exposure takes the form of any of the following: revolving credits and lines of credit (including credit cards, charge cards and overdrafts), personal term loans and leases (e.g. instalment loans, auto loans and leases, student and educational loans, personal finance) and small business facilities and commitments. Mortgage loans, derivatives and other securities (such as bonds and equities), whether listed or not, are specifically excluded from this category.

2. **Low value of individual exposures**:

   The maximum aggregated exposure to one counterparty cannot exceed an absolute threshold of SAR 4.46 million.

3. **Granularity criterion**:

   No aggregated exposure to one counterparty[18] can exceed 0.2%[19] of the overall regulatory retail portfolio. Defaulted retail exposures are to be excluded from the overall regulatory retail portfolio when assessing the granularity criterion.

7.58 "Transactors" are obligors in relation to facilities such as credit cards and charge cards where the balance has been repaid in full at each scheduled repayment date for the previous 12 months. Obligors in relation to overdraft facilities would also be considered as transactors if there has been no drawdown over the previous 12 months.

7.59 "Other retail" exposures are defined as exposures to an individual person or persons that do not meet all of the regulatory retail criteria in paragraph 7.57.

7.60 The risk weights that apply to exposures in the retail asset class are as follows:

1. Regulatory retail exposures that do not arise from exposures to transactors(as defined in paragraph 7.58) will be risk weighted at 75%.
2. Regulatory retail exposures that arise from exposures to transactors (as defined in paragraph 7.58) will be risk weighted at 45%.
3. Other retail exposures will be risk weighted at 100%.

[18] Aggregated exposure means gross amount (i.e. not taking any credit risk mitigation into account) of all forms of retail exposures, excluding residential real estate exposures. In case of off-balance sheet claims, the gross amount would be calculated after applying credit conversion factors. In addition, "to one counterparty" means one or several entities that may be considered as a single beneficiary (e.g. in the case of a small business that is affiliated to another small business, the limit would apply to the bank's aggregated exposure on both businesses).

[19] To apply the 0.2% threshold of the granularity criterion, banks must: first, identify the full set of exposures in the retail exposure class (as defined in paragraph 7.55); second, identify the subset of exposure that meet product criterion and do not exceed the threshold for the value of aggregated exposures to one counterparty (as defined in paragraph 7.57); and third, exclude any exposures that have a value greater than 0.2% of the subset before exclusions

Real estate exposure class

7.61 Real estate is immovable property that is land, including agricultural land and forest, or anything treated as attached to land, in particular buildings, in contrast to being treated as movable/personal property. The real estate exposure asset class consists of:

1. Exposures secured by real estate that are classified as "regulatory real estate"exposures.
2. Exposures secured by real estate that are classified as "other real estate" exposures.
3. Exposures that are classified as "land acquisition, development and construction" (ADC) exposures.

7.62 "Regulatory real estate" exposures consist of:

1. "Regulatory residential real estate" exposures that are not "materially dependent on cash flows generated by the property".
2. "Regulatory residential real estate" exposures that are "materially dependent on cash flows generated by the property".
3. "Regulatory commercial real estate" exposures that are not "materially dependent on cash flows generated by the property".
4. "Regulatory commercial real estate" exposures that are "materially dependent on cash flows generated by the property".

Regulatory real estate exposures

7.63 For an exposure secured by real estate to be classified as a "regulatory real estate" exposure, the loan must meet the following requirements:

1. **Finished property**:

   The exposure must be secured by a fully completed immovable property. This requirement does not apply to forest, desert and agricultural land. This criteria can be met by loans to individuals that are secured by residential property under construction or land upon which residential property would be constructed, provided that: (i) the property is a one-to-four family residential housing unit that will be the primary residence of the borrower and the lending to the individual is not, in effect, indirectly financing land acquisition, development and construction exposures described in paragraph 7.82; or (ii) sovereign or PSEs involved have the legal powers and ability to ensurethat the property under construction will be finished.

2. **Legal enforceability**:

   Any claim on the property taken must be legally enforceable in all relevant jurisdictions. The collateral agreement and the legal process underpinning it must be such that they provide for the bank to realize the value of the property within a reasonable time frame.

3. **Claims over the property**:

   The loan is a claim over the property where the lender bank holds a first lien over the property, or a single bank holds the first lien and any sequentially lower ranking lien(s) (i.e. there is no intermediate lien from another bank) over the same property. However, where junior liens [20]provide the holder with a claim for collateral that is legally enforceable and constitute an effective credit risk mitigant, junior liens

[20] Please refer to Art24, the 'Registered Real Estate Mortgage's Law issued via Royal Decree No. M/49 dated 03/07/2012.

held by a different bank than the one holding the senior lien mayalso be recognized.[21] In order to meet the above requirements, the national frameworks governing liens should ensure the following: (i) each bank holding a lien on a property can initiate the sale of the property independently from other entities holding a lien on the property; and (ii) where the sale of the property is not carried out by means of a public auction, entities holding a senior lien take reasonable steps to obtain a fair market value or the best price that may be obtained in the circumstances when exercising any power of sale on their own (i.e. it is not possible for the entity holding the senior lien to sell the property on its own at a discounted value in detriment of the junior lien).

4. **Ability of the borrower to repay**:

   The borrower must meet the requirementsset according to paragraph 7.65.

5. **Prudent value of property**:

   The property must be valued according to the criteria in paragraphs 7.66 to 7.68 for determining the value in the loan-to-value ratio (LTV). Moreover, the value of the property must not depend materially on the performance of the borrower.

6. **Required documentation**:

   All the information required at loan origination and for monitoring purposes must be properly documented, including information on the ability of the borrower to repay and on the valuation of the property.

7.64 SAMA may require banks to increase the risk weights in the corresponding risk weight tables as appropriate if they are determined to be too low for real estate exposures based on default experience and other factors such as market price

[21] Likewise, this would apply to junior liens held by the same bank that holds the senior lien in case there is an intermediate lien from another bank (i.e. the senior and junior liens held by the bank are not in sequential ranking order

stability. Banks will be informed accordingly.

7.65 Banks should put in place underwriting policies with respect to the granting of mortgage loans that include the assessment of the ability of the borrower to repay. Underwriting policies must define a metric(s)(such as the loan's debt service coverage ratio) and specify its (their) corresponding relevant level(s) to conduct such assessment[22]. Underwriting policies must also be appropriate when the repayment of the mortgage loan depends materially on the cash flows generated by the property, including relevant metrics (such as an occupancy rate of the property).

7.66 The LTV is the amount of the loan divided by the value of the property. When calculating the LTV, the loan amount will be reduced as the loan amortizes. The value of the property will be maintained at the value measured at origination, with the following exceptions:

1. SAMA may require banks to revise the property value downward. If the value has been adjusted downwards, a subsequent upwards adjustment can be made but not to a higher value than the value at origination.
2. The value must be adjusted if an extraordinary, idiosyncratic event occursresulting in a permanent reduction of the property value.
3. Modifications made to the property that unequivocally increase its valuecould also be considered in the LTV.

7.67 The LTV must be prudently calculated in accordance with the following requirements:

1. **Amount of the loan**:

   Includes the outstanding loan amount and any undrawn committed amount of the mortgage loan[23]. The loan amount must be calculated gross of any provisions and other risk mitigants, except for pledged

[22] Metrics and levels for measuring the ability to repay should mirror the Financial Stability Board (FSB) Principles for sound residential mortgage underwriting practices (April 2012).

[23] If a bank grants different loans secured by the same property and they are sequential in ranking order (i.e. there is no intermediate lien from another bank), the different loans should be considered as a single exposure for risk-weighting purposes, and the amount of the loans should be added to calculate the LTV

deposits accounts with the lending bank that meet all requirementsfor on-balance sheet netting and have been unconditionally and irrevocably pledged for the sole purposes of redemption of the mortgage loan. [24]

2. **Value of the property:**

The valuation must be appraised independently[25] using prudently conservative valuation criteria. To ensure that the value of the property is appraised in a prudently conservative manner, the valuation must exclude expectations on price increases and must be adjusted to take into account the potential for the current market price to be significantly above the value that would be sustainable over the life of the loan. [26]

7.68 A guarantee or financial collateral may be recognized as a credit risk mitigant in relation to exposures secured by real estate if it qualifies as eligible collateral under the credit risk mitigation framework (chapter 9). This may include mortgage insurance [27]if it meets the operational requirements of the credit risk mitigation framework for a guarantee. Banks may recognize these risk mitigants in calculating the exposure amount; however, the LTV bucket and risk weight to be applied to the exposure amount must be determined **before the application of the appropriate credit risk mitigation technique.**

---

[24] The loan amount of the junior liens must include all other loans secured with liens of equal or higher ranking than the bank's lien securing the loan for purposes of defining the LTV bucket and risk weight for the junior lien. If there is insufficient information for ascertaining the ranking of the other liens, the bank should assume that these liens rank pari passu with the junior lien held by the bank. This treatment does not apply to exposures that are risk weighted according to the loan splitting approach (paragraphs 7.75 and 7.78), where the junior lien would be taken into account in the calculation of the value of the property. The bank will first determine the "base" risk weight based on Tables 9, 10, 11 or 12 as applicable and adjust the "base" risk weight by a multiplier of 1.25, for application to the loan amount of the junior lien. If the "base" risk weight corresponds to the lowest LTV bucket, the multiplier will not be applied. The resulting risk weight of multiplying the "base" risk weight by 1.25 will be capped at the risk weight applied to the exposure when the requirements in paragraph 7.63 are not met.

[25] The valuation must be done independently from the bank's mortgage acquisition, loan processing and loan decision process.

[26] In the case where the mortgage loan is financing the purchase of the property, the value of the property for LTV purposes will not be higher than the effective purchase price.

[27] A bank's use of mortgage insurance should mirror the FSB Principles for sound residential mortgage underwriting (April 2012).

Definition of "regulatory residential real estate" exposures

7.69 A "regulatory residential real estate" exposure is a regulatory real estate exposurethat is secured by a property that has the nature of a dwelling and satisfies all applicable laws and regulations enabling the property to be occupied for housing purposes (i.e. residential property). [28]

Definition of "regulatory commercial real estate" exposures

7.70 A "regulatory commercial real estate" exposure is regulatory real estate exposure that is not a regulatory residential real estate exposure.

Definition of exposures that are "materially dependent on cash flows generated bythe property"

7.71 Regulatory real estate exposures (both residential and commercial) are classified as exposures that are "materially dependent on cash flows generated by the property" when the prospects for servicing the loan materially depend on the cash flows generated by the property securing the loan rather than on the underlying capacity of the borrower to service the debt from other sources. The primary source of these cash flows would generally be lease or rental payments, or the sale of the property. The distinguishing characteristic of these exposures compared to other regulatory real estate exposures is that both the servicing of the loan and the prospects for recovery in the event of default depend materially on the cash flows generated by the property securing the exposure.

7.72 It is expected that the material dependence condition, set out in paragraph 7.71 above,would predominantly apply to loans to corporates, MSMEs or SPVs, but is not restricted to those borrower types. As an example, a loan may be considered materially dependent if more than 50% of the income from the borrower used in the bank's assessment of its ability to service the loan is from cash flows generated by the residential property.

[28] For residential property under construction described in paragraph 7.63(1), this means there should be an expectation that the property will satisfy all applicable laws and regulations enabling the property to be occupied for housing purposes.

7.73 As exceptions to the definition contained in paragraph 7.71 above, the following typesof regulatory real estate exposures are not classified as exposures that are materially dependent on cash flows generated by the property:

1. An exposure secured by a property that is the borrower's primary residence;
2. An exposure secured by an income-producing residential housing unit, to anindividual who has mortgaged less than two properties or housing units;
3. An exposure secured by residential real estate property to associations orcooperatives of individuals that are regulated under national law and exist with the only purpose of granting its members the use of a primary residence in the property securing the loans; and
4. An exposure secured by residential real estate property to public housing companies and not-for-profit associations regulated under national law thatexist to serve social purposes and to offer tenants long-term housing.

Risk weights for regulatory residential real estate exposures that are not materially dependent on cash flows generated by the property

7.74 For regulatory residential real estate exposures that are not materially dependent on cash flow generated by the property, the risk weight to be assigned to the total exposure amount will be determined based on the exposure's LTV ratio in Table 9 below. The use of the risk weights in Table 9 is referred to as the "whole loan" approach.

Whole loan approach risk weights for regulatory residential real estate exposures that are not materially dependent on cash flows generated by the property Table9

	LTV ≤ 50%	50% < LTV ≤60%	60% < LTV ≤ 80%	80% < LTV ≤ 90%	90% < LTV ≤ 100%	LTV > 100%
Risk weight	20%	25%	30%	40%	50%	70%

7.75 As an alternative to the whole loan approach for regulatory residential real estate exposures that are not materially dependent on cash flows generated by the property, banks may apply the "loan splitting" approach. Under the loan splitting approach, the risk weight of 20% is applied to the part of the exposure up to 55% of the property value and the risk weight of the counterparty (as prescribed in paragraph **Error! Reference source not found.**) is applied to the residual exposure[29]. Where there are liens on the property that are not held by the bank, the treatment is as follows:

1. Where a bank holds the junior lien and there are senior liens not held by the bank, to determine the part of the bank's exposure that is eligible for the 20% risk weight, the amount of 55% of the property value should be reduced by the amount of the senior liens not held by the bank. For example, for a loan of SAR 70,000 to an individual secured on a property valued at SAR 100,000, where there is also a senior ranking lien of SAR 10,000 held by another institution, the bank will apply a risk weight of 20% to SAR 45,000 (=max (SAR 55,000 – SAR 10,000, 0)) of the exposure and, according to paragraph **Error! Reference source not found.** a risk weight of 75% to the residual exposure of SAR 25,000. (this does not take into account the other loan taken by the borrower from the senior lien holder).

2. Where liens not held by the bank rank pari passu with the bank's lien, to determine the part of the bank's exposure that is eligible for the 20% risk weight, the amount of 55% of the property value, reduced by the amount of more senior liens not held by the bank (if any), should be reduced by the product of:

   (i) 55% of the property value, reduced by the amount of any senior liens (if any, both held by the bank and held by other institutions); and

   (ii) The amount of liens not held by the bank that rank pari passu with

[29] For example, for a loan of SAR 70,000 to an individual secured on a property valued at SAR 100,000, the bank will apply a risk weight of 20% to SAR 55,000 of the exposure and, according to paragraph 7.82(1), a risk weight of 75% to the residual exposure of SAR 15,000. This gives total risk weighted assets for the exposure of SAR 22,250 = (0.20 * SAR 55,000) + (0.75 * SAR 15,000).

the bank's lien divided by the sum of all pari passu liens. For example, for a loan of SAR 70,000 to an individual secured on a property valued at SAR 100,000, where there is also a pari passu ranking lien of SAR 10,000 held by another institution, the bank will apply a risk weight of 20% to SAR 48,125 (=SAR 55,000 – SAR 55,000 * SAR 10,000/SAR 80,000) of the exposure and, according to CRE20.89(1), a risk weight of 75% to the residual exposure of SAR 21,875. If both the loan and the bank's lien is only SAR 30,000 and there is additionally a more senior lien of SAR 10,000 not held by the bank, the property value remaining available is SAR 33,750 (= (SAR 55,000 – SAR 10,000) - ((SAR 55,000 – SAR 10,000) * SAR 10,000/(SAR 10,000+ SAR 30,000)), and the bank will apply a risk weight of 20% to SAR 30,000.

Risk weights for regulatory residential real estate exposures that are materially dependent on cash flows generated by the property

7.76 For regulatory residential real estate exposures that are materially dependent on cash flows generated by the property, the risk weight to be assigned to the total exposure amount will be determined based on the exposure's LTV ratio in Table10 below.

Risk weights for regulatory residential real estate exposures that are materially dependent on cash flows generated by the property Table 10

	LTV ≤50%	50% < LTV ≤ 60%	60% < LTV ≤ 80%	80% < LTV ≤ 90%	90% < LTV ≤ 100%	LTV > 100%
Risk weight	30%	35%	45%	60%	75%	105%

Risk weights for regulatory commercial real estate exposures that are notmaterially dependent on cash flows generated by the property

7.77 For regulatory commercial real estate exposures that are not materially dependent on cash flow generated by the property, the risk weight to be assigned to the total exposure amount will be determined based on the exposure's LTV in Table 11 below (which sets out a whole loan approach). The risk weight of the counterparty for the purposes of Table 11 below and 7.78 below is prescribed in paragraph **Error! Reference source not found.**.

Whole loan approach risk weights for regulatory commercial real estate exposures that are not materially dependent on cash flows generated by theproperty Table 11

Risk weight	LTV ≤ 60%	LTV > 60%
	Min (60%, RW of counterparty)	RW of counterparty

7.78 Banks may apply the "loan splitting" approach, as an alternative to the whole loan approach, for regulatory commercial real estate exposures that are not materially dependent on cash flows generated by the property. Under the loan splitting approach, the risk weight of 60% or the risk weight of the counterparty, whichever is lower, is applied to the part of the exposure up to 55% of the property value[30], and the risk weight of the counterparty is applied to the residual exposure.

[30] Where there are liens on the property that are not held by the bank, the part of the exposure up to 55% of the property value should be reduced by the amount of the senior liens not held by the bank and by a pro-rata percentage of any liens pari passu with the bank's lien but not held by the bank. See paragraph 7.75 for examples of how this methodology applies in the case of residential retail exposures.

Risk weights for regulatory commercial real estate exposures that are materially dependent on cash flows generated by the property

7.79 For regulatory commercial real estate exposures that are materially dependent on cash flows generated by the property, the risk weight to be assigned to the total exposure amount will be determined based on the exposure's LTV in Table 12 below.

Whole loan approach risk weights for regulatory commercial real estate exposures that are materially dependent on cash flows generated by the property Table12

Risk weight	LTV ≤ 60%	60% < LTV ≤ 80%	LTV > 80%
	70%	90%	110%

Definition of "other real estate" exposures and applicable risk weights

7.80 An "other real estate" exposure is an exposure within the real estate asset class that is not a regulatory real estate exposure (as defined in paragraph 7.63 above) and is not a land ADC exposure (as defined in paragraph 7.82 below).

7.81 Other real estate exposures are risk weighted as follows:

1. The risk weight of the counterparty is used for other real estate exposures that are not materially dependent on the cash flows generated by the property. For exposures to individuals the risk weight applied will be 75%. For exposures to SMEs, the risk weight applied will be 85%. For exposures to other counterparties, the risk weight applied is the risk weight that would be assigned to an unsecured exposure to that counterparty.
2. The risk weight of 150% is used for other real estate exposures that are materially dependent on the cash flows generated by the property.

Definition of land acquisition, development and construction exposures andapplicable risk weights

7.82 Land ADC exposures[31] refers to loans to companies or SPVs financing any of the land acquisition for development and construction purposes, or development and construction of any residential or commercial property. ADC exposures will be risk-weighted at 150%, unless they meet the criteria in paragraph 7.83.

7.83 ADC exposures to residential real estate may be risk weighted at 100%, provided that the following criteria are met:

1. prudential underwriting standards meet the requirements in paragraph 7.63 (i.e. the requirements that are used to classify regulatory real estate exposures) where applicable;

2. Pre-sale or pre-lease contracts amount to a significant portion of total contracts or substantial equity at risk. Pre-sale or pre-lease contracts must be legally binding written contracts and the purchaser/renter must have made a substantial cash deposit which is subject to forfeiture if the contract is terminated. Equity at risk should be determined as an appropriate amount of borrower-contributed equity to the real estate's appraised as-completed value.

Risk weight multiplier to certain exposures with currency mismatch

7.84 For unhedged retail and residential real estate exposures to individuals where the lending currency differs from the currency of the borrower's source of income, banks will apply a 1.5 times multiplier to the applicable risk weight according to paragraphs 7.55 to 7.60 and 7.74 to 7.76, subject to a maximum risk weight of 150%.

7.85 For the purposes of paragraph 7.84, an unhedged exposure refers to an exposure to a borrower that has no natural or financial hedge against the foreign exchange risk resulting from the currency mismatch between the currency of the borrower's income and the currency of the loan. A natural hedge exists where the borrower, in its normal operating procedures, receives foreign currency income that matches the currency of a given loan (e.g. remittances, rental

[31] ADC exposures do not include the acquisition of forest or desert or agricultural land, where there is no planning consent or intention to apply for planning consent.

incomes, salaries). Afinancial hedge generally includes a legal contract with a financial institution (e.g. forward contract). For the purposes of application of the multiplier, only these natural or financial hedges are considered sufficient where they cover at least 90% of the loan instalment, regardless of the number of hedges.

Off-balance sheet items

7.86 Off-balance sheet items will be converted into credit exposure equivalents through the use of credit conversion factors (CCF). In the case of commitments, the committed but undrawn amount of the exposure would be multiplied by the CCF. For these purposes, commitment means any contractual arrangement that has been offered by the bank and accepted by the client to extend credit, purchase assets or issue credit substitutes.[32] It includes any such arrangement that can be unconditionally cancelled by the bank at any time without prior notice to the obligor. It also includes any such arrangement that can be cancelled by the bank if the obligor fails to meet conditions set out in the facility documentation, including conditions that must be met by the obligor prior to any initial or subsequent drawdown under the arrangement. Counterparty risk weightings for over-the-counter (OTC) derivative transactions will not be subject to any specific ceiling.

7.87 A 100% CCF will be applied to the following items:

1. Direct credit substitutes, e.g. general guarantees of indebtedness (includingstandby letters of credit serving as financial guarantees for loans and securities) and acceptances (including endorsements with the character ofacceptances).

[32] Certain arrangements might be exempted from the definition of commitments provided that the following conditions are met: (i) the bank receives no fees or commissions to establish or maintain the arrangements; (ii) the client is required to apply to the bank for the initial and each subsequent drawdown; (iii) the bank has full authority, regardless of the fulfilment by the client of the conditions set out in the facility documentation, over the execution of each drawdown; and (iv) the bank's decision on the execution of each drawdown is only made after assessing the creditworthiness of the client immediately prior to drawdown. Exempted arrangements that meet the above criteria are limited to certain arrangements for corporates and MSMEs, where counterparties are closely monitored on an ongoing basis.

2. Sale and repurchase agreements and asset sales with recourse[33] where thecredit risk remains with the bank.

3. The lending of banks' securities or the posting of securities as collateral by banks, including instances where these arise out of repo-style transactions (i.e. repurchase/reverse repurchase and securities lending/securities borrowing transactions). The risk-weighting treatment for counterparty creditrisk must be applied in addition to the credit risk charge on the securities or posted collateral, where the credit risk of the securities lent or posted as collateral remains with the bank. This paragraph does not apply to posted collateral related to derivative transactions that is treated in accordance with the counterparty credit risk standards.

4. Forward asset purchases, forward forward deposits and partly paid shares and securities,[34] which represent commitments with certain drawdown.

5. Off-balance sheet items that are credit substitutes not explicitly included inany other category.

7.88 A 50% CCF will be applied to note issuance facilities and revolving underwriting facilities regardless of the maturity of the underlying facility.

7.89 A 50% CCF will be applied to certain transaction-related contingent items (e.g. performance bonds, bid bonds, warranties and standby letters of credit related to particular transactions).

7.90 A 40% CCF will be applied to commitments, regardless of the maturity of the underlying facility, unless they qualify for a lower CCF.

7.91 A 20% CCF will be applied to both the issuing and confirming banks of short-term self-liquidating trade letters of credit arising from the movement of goods (e.g. documentary credits collateralized by the underlying shipment). Short term inthis context means with a maturity below one year.

[33] These items are to be weighted according to the type of asset and not according to the type of counterparty with whom the transaction has been entered into.

[34] These items are to be weighted according to the type of asset and not according to the type of counterparty with whom the transaction has been entered into.

7.92 A 10% CCF will be applied to commitments that are unconditionally cancellable at any time by the bank without prior notice, or that effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness. SAMA may require applying higher CCF to certain commitments as appropriate based on various factors, which may constrain banks' ability to cancel the commitment in practice.

7.93 Where there is an undertaking to provide a commitment on an off-balance sheet item, banks are to apply the lower of the two applicable CCFs[35].

Exposures that give rise to counterparty credit risk

7.94 For exposures that give rise to counterparty credit risk according to paragraph 5.3 in *The Counterparty Credit Risk (CCR) Framework* (i.e. OTC derivatives, exchange-traded derivatives, long settlement transactions and securities financing transactions), the exposure amount to be used in the determination of RWA is to be calculated under the rules set out in chapters 3 to 8 in *The Counterparty Credit Risk (CCR) Framework.*

Credit derivatives

7.95 A bank providing credit protection through a first-to-default or second-to-default credit derivative is subject to capital requirements on such instruments. For first-to-default credit derivatives, the risk weights of the assets included in the basket must be aggregated up to a maximum of 1250% and multiplied by the nominal amount of the protection provided by the credit derivative to obtain the risk-weighted asset amount. For second-to-default credit derivatives, the treatment is similar; however, in aggregating the risk weights, the asset with the lowest risk-weighted amount can be excluded from the calculation. This treatment applies respectively for nth-to-default credit derivatives, for which the n-1 assets with thelowest risk-weighted amounts can be excluded from the calculation.

[35] For example, if a bank has a commitment to open short-term self- liquidating trade letters of credit arising from the movement of goods, a 20% CCF will be applied (instead of a 40% CCF); and if a bank has an unconditionally cancellable commitment described in paragraph 7.92 to issue direct credit substitutes, a 10% CCF will be applied (instead of a 100% CCF).

Defaulted exposures

7.96 For risk-weighting purposes under the standardized approach, a defaulted exposure is defined as one that is past due for more than 90 days, or is an exposure to a defaulted borrower. A defaulted borrower is a borrower in respect of whom any of the following events have occurred:

1. Any material credit obligation that is past due for more than 90 days. Overdrafts will be considered as being past due once the customer has breached an advised limit or been advised of a limit smaller than current outstanding;
2. Any material credit obligation is on non-accrued status (e.g. the lending bankno longer recognizes accrued interest as income or, if recognized, makes anequivalent amount of provisions);
3. A write-off or account-specific provision is made as a result of a significantperceived decline in credit quality subsequent to the bank taking on any credit exposure to the borrower;
4. Any credit obligation is sold at a material credit-related economic loss;
5. A distressed restructuring of any credit obligation (i.e. a restructuring that may result in a diminished financial obligation caused by the material forgiveness, or postponement, of principal, interest or (where relevant) fees)is agreed by the bank;
6. The borrower's bankruptcy or a similar order in respect of any of the borrower's credit obligations to the banking group has been filed;
7. The borrower has sought or has been placed in bankruptcy or similar protection where this would avoid or delay repayment of any of the creditobligations to the banking group; or
8. Any other situation where the bank considers that the borrower is unlikely topay its credit obligations in full without recourse by the bank to actions suchas realizing security.

7.97 For retail exposures, the definition of default can be applied at the level of a particular credit obligation, rather than at the level of the borrower. As such, default by a borrower on one obligation does not require a bank to treat all other obligations to the banking group as defaulted.

7.98 With the exception of residential real estate exposures treated under paragraph 7.99,the unsecured or unguaranteed portion of a defaulted exposure shall be risk- weighted net of specific provisions and partial write-offs as follows:

1. 150% risk weight when specific provisions are less than 20% of the outstanding amount of the loan; and
2. 100% risk weight when specific provisions are equal or greater than 20% and less than 50% of the outstanding amount of the loan.
3. 50% risk weight when specific provisions are equal to or greater than 50% of the outstanding amount of the loan.

7.99 Defaulted residential real estate exposures where repayments do not materially depend on cash flows generated by the property securing the loan shall be risk-weighted net of specific provisions and partial write-offs at 100%. Guarantees or financial collateral which are eligible according to the credit risk mitigation framework might be taken into account in the calculation of the exposure in accordance with paragraph 7.68.

7.100 For the purpose of defining the secured or guaranteed portion of the defaulted exposure, eligible collateral and guarantees will be the same as for credit risk.

Other assets

7.101 Article 4.4 – *Section A of SAMA Guidance Document Concerning the Implementation of Basel III* (*Circular No. 341000015689, Date: 19 December 2012*) - specifies a deduction treatment for the following exposures: significant investments in the common shares of unconsolidated financial institutions, mortgage servicing rights, and deferred tax assets that arise from temporary differences. The exposures are deducted in the calculation of Common Equity Tier1 if they exceed the thresholds set out in that article. A 250% risk weight applies to the amount of the three "threshold deduction" items listed in the article that are not deducted by the article.

7.102 The standard risk weight for all other assets will be 100%, with the exception of the following exposures:

1. A 0% risk weight will apply to:

   (a) Cash owned and held at the bank or in transit; and

   (b) Gold bullion held at the bank or held in another bank on an allocated basis, to the extent the gold bullion assets are backed by gold bullion liabilities.

2. A 20% risk weight will apply to cash items in the process of collection.

8. Standardized approach: the use of external rating

Recognition of external ratings by SAMA

8.1 The following ECAIs qualify as Eligible ECAI's in Saudi Arabia,

(1) Standard & Poor's (S&P);

(2) Moody's; and

(3) Fitch.

The recognition process

8.2 Only credit assessments from credit rating agencies recognized as external credit assessment institutions (ECAIs) will be allowed. SAMA will determine on a continuous basis whether an ECAI meets the criteria listed in 8.3 and recognition will only be provided in respect of ECAI ratings for types of exposure where all criteria and conditions are met. SAMA will also take into account the criteria and conditions provided in the International Organization of Securities Commissions' Code of Conduct Fundamentals for Credit Rating Agencies when determining ECAI eligibility.

Eligibility criteria

8.3 An ECAI must satisfy each of the following eight criteria.

(1) **Objectivity**:

The methodology for assigning external ratings must be rigorous, systematic, and subject to some form of validation based on historical experience. Moreover, external ratings must be subject to ongoingreview and responsive to changes in financial condition. Before being recognized by SAMA, a rating methodology for each market segment, including rigorous back testing, must have been established for at least one year and preferably three years.

(2) **Independence**:

An ECAI should be independent and should not be subject to political or

economic pressures that may influence the rating. In particular, an ECAI should not delay or refrain from taking a rating action based on its potential effect (economic, political or otherwise). The rating process should be as free as possible from any constraints that could arise in situations where the composition of the board of directors or the shareholder structureof the credit rating agency may be seen as creating a conflict of interest. Furthermore, an ECAI should separate operationally, legally and, if practicable, physically its rating business from other businesses and analysts.

(3) **International access/transparency**:

The individual ratings, the key elements underlining the ratings assessments and whether the issuer participated in the rating process should be publicly available on a non-selective basis, unless they are private ratings, which should be at least available to both domestic and foreign institutions with legitimate interest and on equivalentterms. In addition, the ECAI's general procedures, methodologies and assumptions for arriving at ratings should be publicly available.

(4) **Disclosure**:

An ECAI should disclose the following information: its code of conduct; the general nature of its compensation arrangements with assessedentities; any conflict of interest, the ECAI's compensation arrangements, its rating assessment methodologies, including the definition of default, the time horizon, and the meaning of each rating; the actual default rates experienced in each assessment category; and the transitions of the ratings, e.g. the likelihood of AA ratings becoming A over time. A rating should be disclosed as soon as practicably possible after issuance. When disclosing a rating, the information should be provided in plain language, indicating the nature and limitation of credit ratings and the risk of unduly relying on themto make investments.

(5) **Resources**:

An ECAI should have sufficient resources to carry out high-quality credit assessments. These resources should allow for substantial ongoing contact with senior and operational levels within the entities assessed in order to add value to the credit assessments. In particular, ECAIs should assign analysts with appropriate knowledge and experience to assess the creditworthiness of the type of entity or obligation being rated. Such assessments should be based on methodologies combining qualitative and quantitative approaches.

(6) **Credibility**:

To some extent, credibility is derived from the criteria above. In addition, the reliance on an ECAI's external ratings by independent parties (investors, insurers, trading partners) is evidence of the credibility of the ratings of an ECAI. The credibility of an ECAI is also underpinned by the existence of internal procedures to prevent the misuse of confidential information. In order to be eligible for recognition, an ECAI does not have toassess firms in more than one country.

(7) **Cooperation with SAMA**:

ECAIs should notify SAMA of significant changes to methodologies and provide access to external ratings and other relevant data in order to support initial and continued determination of eligibility.

8.4 Regarding the disclosure of conflicts of interest referenced in paragraph 8.3(4) above,at a minimum, the following situations and their influence on the ECAI's credit rating methodologies or credit rating actions shall be disclosed:

(1) The ECAI is being paid to issue a credit rating by the rated entity or by theobligor, originator, underwriter, or arranger of the rated obligation;

(2) The ECAI is being paid by subscribers with a financial interest that could beaffected by a credit rating action of the ECAI;

(3) The ECAI is being paid by rated entities, obligors, originators, underwriters,arrangers, or subscribers for services other than issuing credit ratings or providing access to the ECAI's credit ratings;

(4) The ECAI is providing a preliminary indication or similar indication of credit quality to an entity, obligor, originator, underwriter, or arranger prior to being hired to determine the final credit rating for the entity, obligor, originator, underwriter, or arranger; and

(5) The ECAI has a direct or indirect ownership interest in a rated entity or obligor, or a rated entity or obligor has a direct or indirect ownership interestin the ECAI.

8.5 Regarding the disclosure of an ECAI's compensation arrangements referenced in (4) above:

(1) An ECAI should disclose the general nature of its compensation arrangements with rated entities, obligors, lead underwriters, or arrangers.

(2) When the ECAI receives from a rated entity, obligor, originator, lead underwriter, or arranger compensation unrelated to its credit rating services,the ECAI should disclose such unrelated compensation as a percentage of total annual compensation received from such rated entity, obligor, lead underwriter, or arranger in the relevant credit rating report or elsewhere, as appropriate.

(3) An ECAI should disclose in the relevant credit rating report or elsewhere, as appropriate, if it receives 10% or more of its annual revenue from a single client (e.g. a rated entity, obligor, originator, lead underwriter, arranger, orsubscriber, or any of their affiliates).

Implementation considerations

The mapping of Credit Assessments by ECAIs

8.6 SAMA will be assigning eligible ECAIs' ratings to the risk weights available under the standardized risk weighting framework, i.e. deciding which rating categories correspond to which risk weights.

8.7 Banks can use the following mapping of ECAIs' ratings. This mapping will be subject to review by SAMA as appropriate and banks will be informed accordingly.

SAMA	S&P	Moody's	Fitch
1	AAA	Aaa	AAA
	AA+	Aa1	AA+
	AA	Aa2	AA
	AA-	Aa3	AA-
2	A+	A1	A+
	A	A2	A
	A-	A3	A-
3	BBB+	Baa1	BBB+
	BBB	Baa2	BBB
	BBB-	Baa3	BBB-
4	BB+	Ba1	BB+
	BB	Ba2	BB
	BB-	Ba3	BB-
	B+	B1	B+
	B	B2	B
	B-	B3	B-
5	CCC+	Caa1	CCC+
	CCC	Caa2	CCC
	CCC-	Caa3	CCC-
	CC	Ca	CC
	C	C	C
	D		D
6	Unrated	Unrated	Unrated

8.8 Banks must use the chosen ECAIs and their ratings consistently for all types of exposure where they have been recognized by SAMA as an eligible ECAI, for both risk-weighting and risk management purposes. Banks are not allowed to "cherry-pick" the ratings provided by different ECAIs and to arbitrarily change the use of ECAIs.

8.9 Banks must use the global rating scale provided by the ECAIs consistently for all types of exposures, the use of national rating scales is subject to mapping to the global rating.

Multiple external ratings

8.10 If there is only one rating by an ECAI chosen by a bank for a particular exposure, that rating should be used to determine the risk weight of the exposure.

8.11 If there are two ratings by ECAIs chosen by a bank that map into different risk weights, the higher risk weight will be applied.

8.12 If there are three or more ratings with different risk weights, the two ratings that correspond to the lowest risk weights should be referred to. If these give rise to the same risk weight, that risk weight should be applied. If different, the higher risk weight should be applied.

Determination of whether an exposure is rated: Issue-specific and issuer ratings

8.13 Where a bank invests in a particular issue that has an issue-specific rating, the risk weight of the exposure will be based on this rating. Where the bank's exposure isnot an investment in a specific rated issue, the following general principles apply.

(1) In circumstances where the borrower has a specific rating for an issued debt – but the bank's exposure is not an investment in this particular debt – a high-quality credit rating (one which maps into a risk weight lower than thatwhich applies to an unrated exposure) on that specific debt may only be applied to the bank's unrated exposure if this exposure ranks in all respects pari passu or senior to the exposure with a rating. If not, the external rating cannot be used and the unassessed exposure will receive

the risk weight forunrated exposures.

(2) In circumstances where the borrower has an issuer rating, this rating typically applies to senior unsecured exposures to that issuer. Consequently, only senior exposures to that issuer will benefit from a high-quality issuer rating. Other unassessed exposures of a highly rated issuer will be treated as unrated. If either the issuer or a single issue has a low-quality rating (mapping into a risk weight equal to or higher than that which applies to unrated exposures), an unassessed exposure to the same counterparty that ranks pari passu or is subordinated to either the senior unsecured issuer rating or the exposure with a low-quality rating will be assigned the same risk weight as is applicable to the low-quality rating.

(3) In circumstances where the issuer has a specific high-quality rating (one which maps into a lower risk weight) that only applies to a limited class ofliabilities (such as a deposit rating or a counterparty risk rating), this may only be used in respect of exposures that fall within that class.

8.14 Whether the bank intends to rely on an issuer- or an issue-specific rating, the rating must take into account and reflect the entire amount of credit risk exposure the bank has with regard to all payments owed to it. For example, if abank is owed both principal and interest, the rating must fully take into accountand reflect the credit risk associated with repayment of both principal and interest.

8.15 In order to avoid any double-counting of credit enhancement factors, no supervisory recognition of credit risk mitigation techniques will be taken into account if the credit enhancement is already reflected in the issue specific rating (see paragraph 9.5).

Domestic currency and foreign currency ratings

8.16 Where exposures are risk-weighted based on the rating of an equivalent exposure to that borrower, the general rule is that foreign currency ratings would be used for exposures in foreign currency. Domestic currency ratings, if separate,would

only be used to risk-weight exposures denominated in the domestic currency[36].

Short-term/long-term ratings

8.17 For risk-weighting purposes, short-term ratings are deemed to be issue-specific. They can only be used to derive risk weights for exposures arising from the rated facility. They cannot be generalized to other short-term exposures, except under the conditions in paragraph 8.19. In no event can a short-term rating be used to support a risk weight for an unrated long-term exposure. Short-term ratings may only be used for short-term exposures against banks and corporates. Table 13 [37] [38] below provides a framework for banks' exposures to specific short-term facilities,such as a particular issuance of commercial paper:

Risk weight table for specific short-term ratings Table 13

External rating	A-1/P-1	A-2/P-2	A-3/P-3	Others
Risk weight	20%	50%	100%	150%

8.18 If a short-term rated facility attracts a 50% risk-weight, unrated short-term exposures cannot attract a risk weight lower than 100%. If an issuer has a short-term facility with an external rating that warrants a risk weight of 150%, all unrated exposures, whether long-term or short-term, should also receive a 150% risk weight, unless the bank uses recognized credit risk mitigation techniques for

[36] However, when an exposure arises through a bank's participation in a loan that has been extended, or has been guaranteed against convertibility and transfer risk, by certain multilateral development banks (MDBs), its convertibility and transfer risk can be considered by SAMA to be effectively mitigated. To qualify, MDBs must have preferred creditor status recognized in the market and be included in the first footnote in paragraph 7.9. In such cases, for risk- weighting purposes, the borrower's domestic currency rating may be used instead of its foreign currency rating. In the case of a guarantee against convertibility and transfer risk, the local currency rating can be used only for the portion that has been guaranteed. The portion of the loan not benefiting from such a guarantee will be risk-weighted based on the foreign currency rating.

[37] The notations follow the methodology used by S&P and by Moody's Investors Service. The A-1 rating of S&P includes both A-1+ and A-1–.

[38] The "others" category includes all non-prime and B or C ratings.

such exposures.

8.19 In cases where short-term ratings are available, the following interaction with the general preferential treatment for short-term exposures to banks as described in paragraph 7.15 will apply:

(1) The general preferential treatment for short-term exposures applies to all exposures to banks of up to three months original maturity when there is nospecific short-term exposure rating.

(2) When there is a short-term rating and such a rating maps into a risk weightthat is more favorable (i.e. lower) or identical to that derived from the general preferential treatment, the short-term rating should be used for thespecific exposure only. Other short-term exposures would benefit from the general preferential treatment.

(3) When a specific short-term rating for a short term exposure to a bank maps into a less favorable (higher) risk weight, the general short-term preferential treatment for interbank exposures cannot be used. All unrated short-term exposures should receive the same risk weighting as that implied by the specific short-term rating.

8.20 When a short-term rating is to be used, the institution making the assessment needs to meet all of the eligibility criteria for recognizing ECAIs, as described in paragraph 8.3, in terms of its short-term ratings.

Level of application of the rating

8.21 External ratings for one entity within a corporate group cannot be used to risk-weight other entities within the same group.

Use of unsolicited ratings

8.22 As a general rule, banks should use solicited ratings from eligible ECAIs. Banks are not permitted to use unsolicited ratings.

9. Standardized Approach: Credit Risk Mitigation

9.1 Banks use a number of techniques to mitigate the credit risks to which they are exposed. For example, exposures may be collateralized by first-priority claims, in whole or in part with cash or securities, a loan exposure may be guaranteed by a third party, or a bank may buy a credit derivative to offset various forms of credit risk. Additionally banks may agree to net loans owed to them against deposits from the same counterparty[39].

9.2 The framework set out in this chapter is applicable to banking book exposures that are risk-weighted under the standardized approach.

General requirements

9.3 No transaction in which credit risk mitigation (CRM) techniques are used shall receive a higher capital requirement than an otherwise identical transaction where such techniques are not used.

9.4 The requirements of chapter 19 in *Pillar 3 Disclosure Requirements Framework* must be fulfilled for banks to obtain capital relief in respect of any CRM techniques.

9.5 The effects of CRM must not be double-counted. Therefore, no additional supervisory recognition of CRM for regulatory capital purposes will be granted onexposures for which the risk weight already reflects that CRM. Consistent with paragraph 8.14, principal-only ratings will also not be allowed within the CRM framework.

9.6 While the use of CRM techniques reduces or transfers credit risk, it may simultaneously increase other risks (i.e. residual risks). Residual risks include legal, operational, liquidity and market risks. Therefore, banks must employ robust procedures and processes to control these risks, including strategy; consideration of the underlying credit; valuation; policies and procedures;

[39] In this section, "counterparty" is used to denote a party to whom a bank has an on- or off-balance sheet credit exposure. That exposure may, for example, take the form of a loan of cash or securities (where the counterparty would traditionally be called the borrower), of securities posted as collateral, of a commitment or of exposure under an over-the-counter (OTC) derivatives contract.

systems; control of roll-off risks; and management of concentration risk arising from the bank's use of CRM techniques and its interaction with the bank's overall credit risk profile. Where these risks are not adequately controlled, SAMA may impose additional capital charges or take other supervisory actions in the supervisory review process.

9.7 In order for CRM techniques to provide protection, the credit quality of the counterparty must not have a material positive correlation with the employed CRM technique or with the resulting residual risks (as defined in paragraph 9.6). For example, securities issued by the counterparty (or by any counterparty-relatedentity) provide little protection as collateral and are thus ineligible.

9.8 In the case where a bank has multiple CRM techniques covering a single exposure(e.g. a bank has both collateral and a guarantee partially covering an exposure), the bank must subdivide the exposure into portions covered by each type of CRM technique (e.g. portion covered by collateral, portion covered by guarantee) and the risk-weighted assets of each portion must be calculated separately. Whencredit protection provided by a single protection provider has differing maturities, they must be subdivided into separate protection as well.

Legal requirements

9.9 In order for banks to obtain capital relief for any use of CRM techniques, all documentation used in collateralized transactions, on-balance sheet netting agreements, guarantees and credit derivatives must be binding on all parties and legally enforceable in all relevant jurisdictions. Banks must have conducted sufficient legal review to verify this and have a well-founded legal basis to reach this conclusion, and undertake such further review as necessary to ensure continuing enforceability.

General treatment of maturity mismatches

9.10 For the purposes of calculating risk-weighted assets, a maturity mismatch occurs when the residual maturity of a credit protection arrangement (e.g. hedge) is less than that of the underlying exposure.

9.11 In the case of financial collateral, maturity mismatches are not allowed under the simple approach (see paragraph 9.33).

9.12 Under the other approaches, when there is a maturity mismatch the credit protection arrangement may only be recognized if the original maturity of the arrangement is greater than or equal to one year, and its residual maturity is greater than or equal to three months. In such cases, credit risk mitigation may be partially recognized as detailed below in paragraph 9.13.

9.13 When there is a maturity mismatch with recognized credit risk mitigants, the following adjustment applies, where:

(1) P_a = value of the credit protection adjusted for maturity mismatch

(2) P = credit protection amount (e.g. collateral amount, guarantee amount)adjusted for any haircuts

(3) t = min {T, residual maturity of the credit protection arrangement expressedin years}

(4) T = min {five years, residual maturity of the exposure expressed in years}

$$P_a = P \cdot \frac{t - 0.25}{T - 0.25}$$

9.14 The maturity of the underlying exposure and the maturity of the hedge must both be defined conservatively. The effective maturity of the underlying must be gauged as the longest possible remaining time before the counterparty is scheduled to fulfil its obligation, taking into account any applicable grace period. For the hedge, (embedded) options that may reduce the term of the hedge must be taken into account so that the shortest possible effective maturity is used. For example: where, in the case of a credit derivative, the protection seller has a call option, the maturity is the first call date. Likewise, if the protection buyer owns the call option and has a strong incentive to call the transaction at the first call date, for example because of a step-up in cost from this date on, the effective maturity is the remaining time to the first call date.

Currency mismatches

9.15 Currency mismatches are allowed under all approaches. Under the simple approach there is no specific treatment for currency mismatches, given that a minimum risk weight of 20% (floor) is generally applied. Under the comprehensive approach and in case of guarantees and credit derivatives, a specific adjustment for currency mismatches is prescribed in paragraph 9.51 and 9.81 to 0, respectively.

Overview of credit risk mitigation techniques

Collateralized transactions

9.16 A collateralized transaction is one in which:

(1) banks have a credit exposure or a potential credit exposure; and

(2) that credit exposure or potential credit exposure is hedged in whole or in part by collateral posted by a counterparty or by a third party on behalf of the counterparty.

9.17 Where banks take eligible financial collateral, they may reduce their regulatory capital requirements through the application of CRM techniques[40].

9.18 Banks may opt for either:

(1) The simple approach, which replaces the risk weight of the counterparty withthe risk weight of the collateral for the collateralized portion of the exposure(generally subject to a 20% floor); or

(2) The comprehensive approach, which allows a more precise offset of collateral against exposures, by effectively reducing the exposure amount bya volatility-adjusted value ascribed to the collateral.

[40] Alternatively, banks with appropriate supervisory approval may instead use the internal models method in *the Counterparty Credit Risk (CCR) Framework* to determine the exposure amount, taking into account collateral.

9.19 Detailed operational requirements for both the simple approach and comprehensive approach are given in paragraph 9.32 to 9.64. Banks may operate under either, but not both, approaches in the banking book.

9.20 For collateralized OTC transactions, exchange traded derivatives and long settlement transactions, banks may use the standardized approach for counterparty credit risk (chapter 6) or the internal models method (chapter 7) in *The Counterparty Credit Risk (CCR) Framework* to calculate the exposure amount, in accordance with paragraphs 9.65 to 9.66.

On-balance sheet netting

9.21 Where banks have legally enforceable netting arrangements for loans and deposits that meet the conditions in 9.67 and 9.68 they may calculatecapital requirements on the basis of net credit exposures as set out in that paragraph.

Guarantees and credit derivatives

9.22 Where guarantees or credit derivatives fulfil the minimum operational conditions set out in paragraphs 9.69 to 9.71, banks may take account of the credit protection offered by such credit risk mitigation techniques in calculating capital requirements.

9.23 A range of guarantors and protection providers are recognized and a substitution approach applies for capital requirement calculations. Only guarantees issued by or protection provided by entities with a lower risk weight than the counterparty lead to reduced capital charges for the guaranteed exposure, since the protected portion of the counterparty exposure is assigned the risk weight of the guarantor or protection provider, whereas the uncovered portion retains the risk weight of the underlying counterparty.

9.24 Detailed conditions and operational requirements for guarantees and credit derivatives are given in paragraphs 9.69 to 9.83.

Collateralized transactions

General requirements

9.25 Before capital relief is granted in respect of any form of collateral, the standards set out below in paragraphs 9.269.31 must be met, irrespective of whether the simple or the comprehensive approach is used. Banks that lend securities or post collateral must calculate capital requirements for both of the following: (i) the credit risk or market risk of the securities, if this remains with the bank; and (ii) the counterparty credit risk arising from the risk that the borrower of the securities may default.

9.26 The legal mechanism by which collateral is pledged or transferred must ensure that the bank has the right to liquidate or take legal possession of it, in a timely manner, in the event of the default, insolvency or bankruptcy (or one or more otherwise-defined credit events set out in the transaction documentation) of the counterparty (and, where applicable, of the custodian holding the collateral). Additionally, banks must take all steps necessary to fulfil those requirements under the law applicable to the bank's interest in the collateral for obtaining and maintaining an enforceable security interest, e.g. by registering it with a registrar,or for exercising a right to net or set off in relation to the title transfer of the collateral.

9.27 Banks must have clear and robust procedures for the timely liquidation of collateral to ensure that any legal conditions required for declaring the default of the counterparty and liquidating the collateral are observed, and that collateral can be liquidated promptly.

9.28 Banks must ensure that sufficient resources are devoted to the orderly operation of margin agreements with OTC derivative and securities-financing counterparties, as measured by the timeliness and accuracy of its outgoing margin calls and response time to incoming margin calls. Banks must have collateral risk management policies in place to control, monitor and report:

(1) The risk to which margin agreements expose them (such as the volatility andliquidity of the securities exchanged as collateral);

(2) The concentration risk to particular types of collateral;

(3) The reuse of collateral (both cash and non-cash) including the potential liquidity shortfalls resulting from the reuse of collateral received from counterparties; and

(4) The surrender of rights on collateral posted to counterparties.

9.29 Where the collateral is held by a custodian, banks must take reasonable steps to ensure that the custodian segregates the collateral from its own assets.

9.30 A capital requirement must be applied on both sides of a transaction. For example, both repos and reverse repos will be subject to capital requirements. Likewise, both sides of a securities lending and borrowing transaction will be subject to explicit capital charges, as will the posting of securities in connection with derivatives exposures or with any other borrowing transaction.

9.31 Where a bank, acting as an agent, arranges a repo-style transaction (i.e. repurchase / reverse repurchase and securities lending/borrowing transactions) between a customer and a third party and provides a guarantee to the customer that the third party will perform on its obligations, then the risk to the bank is the same as if the bank had entered into the transaction as a principal. In such circumstances,a bank must calculate capital requirements as if it were itself the principal.

The simple approach: general requirements

9.32 Under the simple approach, the risk weight of the counterparty is replaced by the risk weight of the collateral instrument collateralizing or partially collateralizing the exposure.

9.33 For collateral to be recognized in the simple approach, it must be pledged for at least the life of the exposure and it must be marked to market and revalued with a minimum frequency of six months. Those portions of exposures collateralized by the market value of recognized collateral receive the risk weight applicable to the collateral instrument. The risk weight on the collateralized portion is subject to a floor of 20% except under the conditions specified in paragraphs 9.36 to 9.39. The remainder of the exposure must be assigned the risk weight appropriate to the counterparty. Maturity mismatches are not allowed under the simple approach (see paragraphs 9.10 to 9.11).

The simple approach: eligible financial collateral

9.34 The following collateral instruments are eligible for recognition in the simple approach:

(1) Cash (as well as certificates of deposit or comparable instruments issued by the lending bank) on deposit with the bank that is incurring the counterparty exposure[41] [42].

(2) Gold.

(3) Debt securities that meet the following conditions:

(a) Debt securities rated[43] by a recognized external credit assessment institution (ECAI) where these are either:

(i) At least BB– when issued by sovereigns or public sector entities (PSEs) that are treated as sovereigns; or

(ii) At least BBB– when issued by other entities (including banks and other prudentially regulated financial institutions); or

(iii) At least A-3/P-3 for short-term debt instruments.

(b) Debt securities not rated by a recognized ECAI where these are:

(i) Issued by a bank; and

(ii) Listed on a recognized exchange; and

(iii) Classified as senior debt; and

(iv) All rated issues of the same seniority by the issuing bank are rated at least BBB– or a-3/p-3 by a recognized ECAI; and

(v) The bank holding the securities as collateral has no information to

[41] Cash-funded credit-linked notes issued by the bank against exposures in the banking book that fulfil the criteria for credit derivatives are treated as cash-collateralized transactions.

[42] When cash on deposit, certificates of deposit or comparable instruments issued by the lending bank are held as collateral at a third- party bank in a non-custodial arrangement, if they are openly pledged/assigned to the lending bank and if the pledge/assignment is unconditional and irrevocable, the exposure amount covered by the collateral (after any necessary haircuts for currency risk) receives the risk weight of the third-party bank.

[43] When debt securities that do not have an issue specific rating are issued by a rated sovereign, banks may treat the sovereign issuer rating as the rating of the debt security.

suggest that the issue justifies a rating below BBB– or A-3/P-3 (asapplicable); and

(vi) SAMA is sufficiently confident that the market liquidity of the security is adequate.

(4) Equities (including convertible bonds) that are included in a main index.

(5) Undertakings for Collective Investments in Transferable Securities (UCITS)and mutual funds where:

(a) a price for the units is publicly quoted daily; and

(b) the UCITS/mutual fund is limited to investing in the instruments listed in this paragraph. [44]

9.35 Resecuritizations as defined in the securitization chapters 18 to 23 are not eligible financial collateral.

Simple approach: exemptions to the risk-weight floor

9.36 Repo-style transactions that fulfil all of the following conditions are exempted from the risk-weight floor under the simple approach:

(1) Both the exposure and the collateral are cash or a sovereign security or PSEsecurity qualifying for a 0% risk weight under the standardized approach (chapter 0);

(2) Both the exposure and the collateral are denominated in the same currency;

(3) Either the transaction is overnight or both the exposure and the collateral aremarked to market daily and are subject to daily remargining;

(4) Following a counterparty's failure to remargin, the time that is required between the last mark-to-market before the failure to remargin and the liquidation of the collateral is considered to be no more than four

[44] However, the use or potential use by a UCITS/mutual fund of derivative instruments solely to hedge investments listed in this paragraph and paragraph 9.45 shall not prevent units in that UCITS/mutual fund from being eligible financial collateral.

businessdays;

(5) The transaction is settled across a settlement system proven for that type oftransaction;

(6) The documentation covering the agreement is standard market documentation for repo-style transactions in the securities concerned;

(7) The transaction is governed by documentation specifying that if the counterparty fails to satisfy an obligation to deliver cash or securities or to deliver margin or otherwise defaults, then the transaction is immediately terminable; and

(8) Upon any default event, regardless of whether the counterparty is insolventor bankrupt, the bank has the unfettered, legally enforceable right to immediately seize and liquidate the collateral for its benefit.

9.37 Transactions with core market participants; SAMA and Saudi sovereign only.

9.38 Repo transactions that fulfil the requirement in paragraph 9.36 receive a 10% risk weight, as an exemption to the risk weight floor described in paragraph 9.33. If the counterparty to the transaction is a core market participant, banks may apply a risk weight of 0% to the transaction.

9.39 The 20% floor for the risk weight on a collateralized transaction does not apply and a 0% risk weight may be applied to the collateralized portion of the exposure where the exposure and the collateral are denominated in the same currency, and either:

(1) The collateral is cash on deposit as defined in paragraph 9.34(1); or

(2) The collateral is in the form of sovereign/PSE securities eligible for a 0% riskweight, and its market value has been discounted by 20%.

The comprehensive approach: general requirements

9.40 In the comprehensive approach, when taking collateral, banks must calculate their adjusted exposure to a counterparty in order to take account of the risk mitigating effect of that collateral. Banks must use the applicable supervisory haircuts to adjust both the amount of the exposure to the counterparty and the value of any collateral received in support of that counterparty to take account ofpossible future fluctuations in the value of either[45], as occasioned by market movements. Unless either side of the transaction is cash or a zero haircut is applied, the volatility-adjusted exposure amount is higher than the nominal exposure and the volatility-adjusted collateral value is lower than the nominal collateral value.

9.41 The size of the haircuts that banks must use depends on the prescribed holding period for the transaction. For the purposes of chapter 9, the holding period is the period of time over which exposure or collateral values are assumed to move before the bank can close out the transaction. The supervisory prescribed minimum holding period is used as the basis for the calculation of the standard supervisory haircuts.

9.42 The holding period, and thus the size of the individual haircuts depends on the type of instrument, type of transaction, residual maturity and the frequency of marking to market and remargining as provided in paragraphs 9.49 to 9.50. For example, repo-style transactions subject to daily marking-to-market and to daily remargining will receive a haircut based on a 5-business day holding period and secured lending transactions with daily mark-to-market and no remargining clauses will receive a haircut based on a 20-business day holding period. Haircuts must be scaled up using the square root of time formula depending on the actual frequency of remargining or marking to market. This formula is included in paragraph 9.58.

[45] Exposure amounts may vary where, for example, securities are being lent.

9.43 Additionally, where the exposure and collateral are held in different currencies, banks must apply an additional haircut to the volatility-adjusted collateral amount in accordance with paragraphs 9.51 and 9.81 to 0 to take account of possible future fluctuations in exchange rates.

9.44 The effect of master netting agreements covering securities financing transactions (SFTs) can be recognized for the calculation of capital requirements subject to the conditions and requirements in paragraphs 9.61 to 9.64 . Where SFTs are subject to a master netting agreement whether they are held in the banking book or trading book, a bank may choose not to recognize the netting effects in calculating capital. In that case, each transaction will be subject to a capital charge as if there were no master netting agreement.

The comprehensive approach: eligible financial collateral

9.45 The following collateral instruments are eligible for recognition in the comprehensive approach:

(1) All of the instruments listed in paragraph 9.34;

(2) Equities and convertible bonds that are not included in a main index but which are listed on a recognized security exchange;

(3) UCITS/mutual funds which include the instruments in point (2).

The comprehensive approach: calculation of capital requirement

9.46 For a collateralized transaction, the exposure amount after risk mitigation is calculated using the formula that follows, where:

(1) E^* = the exposure value after risk mitigation

(2) E = current value of the exposure

(3) H_e = haircut appropriate to the exposure

(4) C = the current value of the collateral received

(5) H_c = haircut appropriate to the collateral

(6) H_{fx} = haircut appropriate for currency mismatch between the collateral andexposure

$$E^* = max\left\{0, E \cdot \left(1 + H_e\right) - C \cdot \left(1 - H_c - H_{fx}\right)\right\}$$

9.47 In the case of maturity mismatches, the value of the collateral received (collateral amount) must be adjusted in accordance with paragraphs 9.10 to 0.

9.48 The exposure amount after risk mitigation (E*) must be multiplied by the risk weight of the counterparty to obtain the risk-weighted asset amount for the collateralized transaction.

9.49 The following supervisory haircuts in table 14 below (assuming daily mark-to-market, daily remargining and a 10 business day holding period), expressed as percentages, must be used to determine the haircuts appropriate to the collateral (H_c) and to the exposure (H_e):

Supervisory haircuts for comprehensive approach **Table 14**

Issue rating for debt securities	Residual maturity	Sovereigns	Other issuers	Securitization exposures
AAA to AA–/A-1	< 1 year	0.5	1	2
	>1 year, < 3years	2	3	8
	>3 years, < 5years		4	
	>5 years, < 10years	4	6	16

	> 10 years		12	
A+ to BBB–/ A-2/A-3/P-3 and unrated bank securities 9.34(3)(b)	< 1 year	1	2	4
	>1 year, < 3years	3	4	12
	>3 years, < 5years		6	
	>5 years, < 10years	6	12	24
	> 10 years		20	
BB+ to BB–	All	15	Not eligible	Not eligible
Main index equities (including convertible bonds) and gold		20		
Other equities and convertible bonds listed on a recognized exchange		30		
UCITS/mutual funds		Highest haircut applicable to any security in which the fund can invest, unless the bank can apply the look-through approach (LTA) for equity investments in funds, in which case the bank may use a weighted average of haircuts applicable to instruments held by the fund.		
Cash in the same currency		0		

9.50 In paragraph 9.49 :

(1) "Sovereigns" includes: PSEs that are treated as sovereigns by SAMA, as well as multilateral development banks receiving a 0% risk weight.

(2) "Other issuers" includes: PSEs that are not treated as sovereigns by SAMA.

(3) "Securitization exposures" refers to exposures that meet the definition set forth in the securitization framework.

(4) "Cash in the same currency" refers to eligible cash collateral specified in paragraph 9.34(1).

9.51 The haircut for currency risk (H_{fx}) where exposure and collateral are denominated in different currencies is 8% (also based on a 10-business day holding period anddaily mark-to-market).

9.52 For SFTs and secured lending transactions, a haircut adjustment may need to be applied in accordance with paragraphs 9.55 to 9.58.

9.53 For SFTs in which the bank lends, or posts as collateral, non-eligible instruments, the haircut to be applied on the exposure must be 30%. For transactions in which the bank borrows non-eligible instruments, credit risk mitigation may not be applied.

9.54 Where the collateral is a basket of assets, the haircut (H) on the basket must be calculated using the formula that follows, where:

(1) a_i is the weight of the asset (as measured by units of currency) in the basket

(2) H_i the haircut applicable to that asset

$$H = \sum_i a_i H_i$$

The comprehensive approach: adjustment for different holding periods and non-daily mark-to-market or remargining

9.55 For some transactions, depending on the nature and frequency of the revaluation and remargining provisions, different holding periods and thus different haircuts must be applied. The framework for collateral haircuts distinguishes between repo-style transactions (i.e. repo/reverse repos and securities lending/borrowing)," other capital markets-driven transactions" (i.e. OTC derivatives transactions and margin lending) and secured lending. In capital-market-driven transactions and repo-style transactions, the documentation contains remargining clauses; in secured lending transactions, it generally does not.

9.56 The minimum holding period for various products is summarized in table 15 below:

Minimum holding periods Table 15

Summary of minimum holding periods and remargining/revaluation periods

Transaction type	Minimum holding period	Minimum remargining /revaluation period
Repo-style transaction	five business days	daily remargining
Other capital market transactions	10 business days	daily remargining
Secured lending	20 business days	daily revaluation

9.57 Regarding the minimum holding periods set out in paragraph 9.56, if a netting set includes both repo-style and other capital market transactions, the minimum holding period of ten business days must be used. Furthermore, a higher minimum holding period must be used in the following cases:

(1) For all netting sets where the number of trades exceeds 5,000 at any point during a quarter, a 20-business day minimum holding period for the following quarter must be used.

(2) For netting sets containing one or more trades involving illiquid collateral, a minimum holding period of 20 business days must be used. "Illiquid collateral" must be determined in the context of stressed market conditions and will be characterized by the absence of continuously active markets where a counterparty would, within two or fewer days, obtain multiple price quotations that would not move the market or represent a price reflecting a market discount. Examples of situations where trades are deemed illiquid for this purpose include, but are not limited to, trades that are not marked daily and trades that are subject to specific accounting treatment for valuation purposes (e.g. repo-style transactions referencing securities whose fair value is determined by models with inputs that are not observed in the market).

(3) If a bank has experienced more than two margin call disputes on a particular netting set over the previous two quarters that have lasted longer than the bank's estimate of the margin period of risk (*as defined in The Counterparty Credit Risk (CCR) Framework*), then for the subsequent two quarters the bank must use a minimum holding period that is twice the level that would apply excluding the application of this sub-paragraph.

9.58 When the frequency of remargining or revaluation is longer than the minimum, the minimum haircut numbers must be scaled up depending on the actual number of business days between remargining or revaluation. The 10-business day haircuts provided in paragraphs 9.49 to 9.50 are the default haircuts and thesehaircuts must be scaled up or down using the formula below, where:

(1) H = haircut

(2) H_{10} = 10-business day haircut for instrument

(3) T_M = minimum holding period for the type of transaction.

(4) N_R = actual number of business days between remargining for capital market transactions or revaluation for secured transactions

$$H = H_{10}\sqrt{\frac{N_R + (T_M - 1)}{10}}$$

The comprehensive approach: exemptions under the comprehensive approach for qualifying repo-style transactions involving core market participants

9.59 For repo-style transactions with core market participants as defined in paragraph 9.37 and that satisfy the conditions in paragraph 9.36, a haircut of zero can be applied.

9.60 Where, under the comprehensive approach, a foreign supervisor applies a specific carve-out to repo-style transactions in securities issued by its domestic government, banks are allowed to adopt the same approach to the same transactions.

The comprehensive approach: treatment under the comprehensive approach of SFTs covered by master netting agreements

9.61 The effects of bilateral netting agreements covering SFTs may be recognized on acounterparty-by-counterparty basis if the agreements are legally enforceable in each relevant jurisdiction upon the occurrence of an event of default and regardless of whether the counterparty is insolvent or bankrupt. In addition, netting agreements must:

(1) Provide the non-defaulting party the right to terminate and close out in a timely manner all transactions under the agreement upon an event of default, including in the event of insolvency or bankruptcy of the counterparty;

(2) Provide for the netting of gains and losses on transactions (including the value of any collateral) terminated and closed out under it so that a single net amount is owed by one party to the other;

(3) Allow for the prompt liquidation or set-off of collateral upon the event ofdefault; and

(4) Be, together with the rights arising from the provisions required in (1) to (3) above, legally enforceable in each relevant jurisdiction upon the occurrenceof an event of default and regardless of the counterparty's insolvency or bankruptcy.

9.62 Netting across positions in the banking and trading book may only be recognized when the netted transactions fulfil the following conditions:

(1) All transactions are marked to market daily[46];and

(2) The collateral instruments used in the transactions are recognized as eligiblefinancial collateral in the banking book.

9.63 The formula in paragraph 9.64 will be used to calculate the counterparty credit risk capital requirements for SFTs with netting agreements. This formula includes the current exposure, an amount for systematic exposure of the securities based on the net exposure, an amount for the idiosyncratic exposure of the securities based on the gross exposure, and an amount for currency mismatch. All other rules regarding the calculation of haircuts under the comprehensive approach stated in paragraphs 9.40 to 9.60 equivalently apply for banks using bilateral netting agreements for SFTs.

9.64 Banks using standard supervisory haircuts for SFTs conducted under a master netting agreement must use the formula that follows to calculate their exposure amount, where:

(1) E^* is the exposure value of the netting set after risk mitigation

(2) E_i is the current value of all cash and securities lent, sold with an agreement to repurchase or otherwise posted to the counterparty under the netting agreement

(3) C_j is the current value of all cash and securities borrowed, purchased with anagreement to resell or otherwise held by the bank under the netting agreement

(4) $$net\,exposure = \left|\sum_s E_s H_s\right|$$

(5) $$gross\,exposure = \sum_s E_s \left|H_s\right|$$

[46] The holding period for the haircuts depends, as in other repo-style transactions, on the frequency of margining.

(6) E_S is the net current value of each security issuance under the netting set(always a positive value)

(7) H_S is the haircut appropriate to E_S as described in tables of paragraphs 9.49 to 9.50, as applicable

(a) H_S has a positive sign if the security is lent, sold with an agreement to repurchased, or transacted in manner similar to either securities lendingor a repurchase agreement

(b) H_S has a negative sign if the security is borrowed, purchased with an agreement to resell, or transacted in a manner similar to either a securities borrowing or reverse repurchase agreement

(8) N is the number of security issues contained in the netting set (except that issuances where the value Es is less than one tenth of the value of the largestEs in the netting set are not included the count)

(9) E_{fx} is the absolute value of the net position in each currency fx different fromthe settlement currency

(10) H_{fx} is the haircut appropriate for currency mismatch of currency fx

$$E^{*} = max\left\{0; \sum_{i} E_i - \sum_{i} C_j + 0.4 \cdot net\,exposure + 0.6 \cdot \frac{gross\,exposure}{\sqrt{N}} + \sum_{fx}\left(E_{fx} \cdot H_{fx}\right)\right\}$$

Collateralized OTC derivatives, exchange traded derivatives and long settlement transactions

9.65 Under the standardized approach for *Counterparty Credit Risk Framework (SA-CCR)*, the calculation of the counterparty credit risk charge for an individual contractwill be calculated using the following formula, where:

(1) Alpha = 1.4

(2) RC = the replacement cost calculated according to paragraphs 6.5 to 6.22 in *The Counterparty Credit Risk (CCR) Framework.*

(3) PFE = the amount for potential future exposure calculated according to paragraphs 6.23 to 6.76 in the CCR framework.

$$Exposure\ amount = alpha \cdot \left(RC + PFE\right)$$

9.66 As an alternative to the SA-CCR for the calculation of the counterparty credit risk charge, banks may also use the internal models method as set out in chapter 7 of the *Counterparty Credit Risk (CCR) Framework*, subject to SAMA's approval.

On-balance sheet netting

9.67 A bank may use the net exposure of loans and deposits as the basis for its capital adequacy calculation in accordance with the formula in paragraph 9.46, when the bank:

(1) Has a well-founded legal basis for concluding that the netting or offsetting agreement is enforceable in each relevant jurisdiction regardless of whetherthe counterparty is insolvent or bankrupt;

(2) Is able at any time to determine those assets and liabilities with the samecounterparty that are subject to the netting agreement;

(3) Monitors and controls its roll-off risks; and

(4) Monitors and controls the relevant exposures on a net basis,

9.68 When calculating the net exposure described in the paragraph above, assets (loans) are treated as exposure and liabilities (deposits) as collateral. The haircuts are zero except when a currency mismatch exists. A 10-business day holding period applies when daily mark-to-market is conducted. For on-balance sheet netting, the requirements in paragraphs 9.49, 9.58 and 9.10 to 0 must be applied.

Guarantees and credit derivatives

Operational requirements for guarantees and credit derivatives

9.69 If conditions set below are met, banks can substitute the risk weight of the counterparty with the risk weight of the guarantor.

9.70 A guarantee (counter-guarantee) or credit derivative must satisfy the following requirements:

(1) it represents a direct claim on the protection provider;

(2) it is explicitly referenced to specific exposures or a pool of exposures, so thatthe extent of the cover is clearly defined and incontrovertible;

(3) other than non-payment by a protection purchaser of money due in respectof the credit protection contract it is irrevocable;

(4) there is no clause in the contract that would allow the protection provider unilaterally to cancel the credit cover, change the maturity agreed ex post, orthat would increase the effective cost of cover as a result of deteriorating credit quality in the hedged exposure;

(5) it must be unconditional; there should be no clause in the protection contract outside the direct control of the bank that could prevent the protection provider from being obliged to pay out in a timely manner in theevent that the underlying counterparty fails to make the payment(s) due.

9.71 In the case of maturity mismatches, the amount of credit protection that is provided must be adjusted in accordance with paragraphs 9.10 to 0.

Specific operational requirements for guarantees

9.72 In addition to the legal certainty requirements in paragraph 9.9, in order for a guarantee to be recognized, the following requirements must be satisfied:

(1) On the qualifying default/non-payment of the counterparty, the bank may in a timely manner pursue the guarantor for any monies outstanding under the documentation governing the transaction. The guarantor may make one lump sum payment of all monies under such documentation to the bank, or the guarantor may assume the future payment obligations of the counterparty covered by the guarantee. The bank must have the right to receive any such payments from the guarantor without first having to take legal action in order to pursue the counterparty for payment.

(2) The guarantee is an explicitly documented obligation assumed by the guarantor.

(3) Except as noted in the following sentence, the guarantee covers all types of payments the underlying counterparty is expected to make under the documentation governing the transaction, for example notional amount, margin payments, etc. Where a guarantee covers payment of principal only, interests and other uncovered payments must be treated as an unsecured amount in accordance with the rules for proportional cover described in paragraph 9.79.

Specific operational requirements for credit derivatives

9.73 In addition to the legal certainty requirements in paragraph 9.9, in order for a credit derivative contract to be recognized, the following requirements must be satisfied:

(1) The credit events specified by the contracting parties must at a minimumcover:

(a) failure to pay the amounts due under terms of the underlying obligationthat are in effect at the time of such failure (with a grace period that is closely in line with the grace period in the

underlying obligation);

(b) bankruptcy, insolvency or inability of the obligor to pay its debts, or its failure or admission in writing of its inability generally to pay its debts asthey become due, and analogous events; and

(c) restructuring[47] of the underlying obligation involving forgiveness or postponement of principal, interest or fees that results in a credit loss event (i.e. write-off, specific provision or other similar debit to the profitand loss account).

(2) If the credit derivative covers obligations that do not include the underlying obligation, point (7) below governs whether the asset mismatch is permissible.

(3) The credit derivative shall not terminate prior to expiration of any grace period required for a default on the underlying obligation to occur as a result of a failure to pay. In the case of a maturity mismatch, the provisionsof paragraphs 9.10 to 0 must be applied.

(4) Credit derivatives allowing for cash settlement are recognized for capital purposes insofar as a robust valuation process is in place in order to estimateloss reliably. There must be a clearly specified period for obtaining post- credit-event valuations of the underlying obligation. If the reference obligation specified in the credit derivative for purposes of cash settlement isdifferent from the underlying obligation, section (7) below governs whether the asset mismatch is permissible.

[47] When hedging corporate exposures, this particular credit event is not required to be specified provided that: (1) a 100% vote is needed to amend maturity, principal, coupon, currency or seniority status of the underlying corporate exposure; and (2) the legal domicile in which the corporate exposure is governed has a well-established bankruptcy code that allows for a company to reorganize/restructure and provides for an orderly settlement of creditor claims. If these conditions are not met, then the treatment in paragraph 9.74 may be eligible.

(5) If the protection purchaser's right/ability to transfer the underlying obligation to the protection provider is required for settlement, the terms ofthe underlying obligation must provide that any required consent to such transfer may not be unreasonably withheld.

(6) The identity of the parties responsible for determining whether a credit eventhas occurred must be clearly defined. This determination must not be the sole responsibility of the protection seller. The protection buyer must have the right/ability to inform the protection provider of the occurrence of a credit event.

(7) A mismatch between the underlying obligation and the reference obligation under the credit derivative (i.e. the obligation used for purposes of determining cash settlement value or the deliverable obligation) is permissible if:

(a) The reference obligation ranks pari passu with or is junior to the underlying obligation; and

(b) The underlying obligation and reference obligation share the same obligor (i.e. The same legal entity) and legally enforceable cross-defaultor cross-acceleration clauses are in place.

(8) A mismatch between the underlying obligation and the obligation used for purposes of determining whether a credit event has occurred is permissible if:

(a) The latter obligation ranks pari passu with or is junior to the underlyingobligation; and

(b) The underlying obligation and reference obligation share the same obligor (i.e. The same legal entity) and legally enforceable cross-defaultor cross-acceleration clauses are in place.

9.74 When the restructuring of the underlying obligation is not covered by the credit derivative, but the other requirements in paragraph 9.73 are met, partial recognition of the credit derivative will be allowed. If the amount of the credit derivative is less than or equal to the amount of the underlying obligation, 60% of the amount of the hedge can be recognized as covered. If the amount of the credit derivative is larger than that of the underlying obligation, then the amount of eligible hedge is capped at 60% of the amount of the underlying obligation.

Range of eligible guarantors (counter-guarantors)/protection providers and credit derivatives

9.75 Credit protection given by the following entities can be recognized when they have a lower risk weight than the counterparty:

(1) Sovereign entities[48], PSEs, multilateral development banks (MDBs), banks, securities firms and other prudentially regulated financial institutions with alower risk weight than the counterparty[49];

(2) Other entities that are externally rated except when credit protection is provided to a securitization exposure. This would include credit protection provided by a parent, subsidiary and affiliate companies when they have a lower risk weight than the obligor;

(3) When credit protection is provided to a securitization exposure, other entities that currently are externally rated BBB– or better and that were externally rated A– or better at the time the credit protection was provided. This would include credit protection provided by parent, subsidiary and affiliate companies when they have a lower risk weight than the obligor.

[48] This includes the Bank for International Settlements, the International Monetary Fund, the European Central Bank, the European Union, the European Stability Mechanism and the European Financial Stability Facility, as well as MDBs eligible for a 0% risk weight as defined in paragraph 7.9.

[49] A prudentially regulated financial institution is defined as: a legal entity supervised by a regulator that imposes prudential requirements consistent with international norms or a legal entity (parent company or subsidiary) included in a consolidated group where any substantial legal entity in the consolidated group is supervised by a regulator that imposes prudential requirements consistent with international norms. These include, but are not limited to, prudentially regulated insurance companies, broker/dealers, thrifts and futures commission merchants, and qualifying central counterparties as defined in chapter 8 of *the Credit Counterparty Risk (CCR) framework*.

9.76 Only credit default swaps and total return swaps that provide credit protection equivalent to guarantees are eligible for recognition[50]. The following exception applies: where a bank buys credit protection through a total return swap and records the net payments received on the swap as net income, but does not record offsetting deterioration in the value of the asset that is protected (eitherthrough reductions in fair value or by an addition to reserves), the credit protection will not be recognized.

9.77 First-to-default and all other nth-to-default credit derivatives (i.e. by which a bankobtains credit protection for a basket of reference names and where the first- ornth–to-default among the reference names triggers the credit protection and terminates the contract) are not eligible as a credit risk mitigation technique andtherefore cannot provide any regulatory capital relief. In transactions in which a bank provided credit protection through such instruments, it shall apply the treatment described in paragraph 7.94.

Risk-weight treatment of transactions in which eligible credit protection is provided

9.78 The general risk-weight treatment for transactions in which eligible credit protection is provided is as follows:

(1) The protected portion is assigned the risk weight of the protection provider.The uncovered portion of the exposure is assigned the risk weight of the underlying counterparty.

(2) Materiality thresholds on payments below which the protection provider isexempt from payment in the event of loss are equivalent to retained first- loss positions. The portion of the exposure that is below a materiality threshold must be assigned a risk weight of 1250% by the bank purchasingthe credit protection.

[50] Cash-funded credit-linked notes issued by the bank against exposures in the banking book that fulfil all minimum requirements for credit derivatives are treated as cash-collateralized transactions. However, in this case the limitations regarding the protection provider as set out in paragraph 9.75 do not apply.

9.79 Where losses are shared pari passu on a pro rata basis between the bank and the guarantor, capital relief is afforded on a proportional basis, i.e. the protected portion of the exposure receives the treatment applicable to eligible guarantees /credit derivatives, with the remainder treated as unsecured.

9.80 Where the bank transfers a portion of the risk of an exposure in one or more tranches to a protection seller or sellers and retains some level of the risk of the loan, and the risk transferred and the risk retained are of different seniority, banks may obtain credit protection for either the senior tranches (e.g. the second-loss portion) or the junior tranche (e.g. the first-loss portion). In this case the rules as set out in the securitization standard apply.

Currency mismatches

9.81 Where the credit protection is denominated in a currency different from that in which the exposure is denominated – i.e. there is a currency mismatch – the amount of the exposure deemed to be protected must be reduced by the application of a haircut H_{FX}, using the formula that follows, where:

(1) G = nominal amount of the credit protection

(2) H_{FX} = haircut appropriate for currency mismatch between the credit protection and underlying obligation

$$G_A = G \cdot \left(1 - H_{FX}\right)$$

9.82 The currency mismatch haircut for a 10-business day holding period (assuming daily marking to market) is 8%. This haircut must be scaled up using the square root of time formula, depending on the frequency of revaluation of the credit protection as described in paragraph 9.58.

Sovereign guarantees and counter-guarantees

9.83 As specified in paragraph 7.2, a 0% risk weight may be applied to a bank's exposures to Saudi sovereign (or SAMA) where the exposure is denominated in and funded in Saudi Riyal. This treatment can be extended to portions of exposures guaranteed by the sovereign (or central bank), where the guarantee is denominated in the domestic currency and the exposure is funded in that currency. An exposure may be covered by a guarantee that is indirectly counter-guaranteed by a sovereign. Such an exposure may be treated as covered by a sovereign guarantee provided that:

(1) the sovereign counter-guarantee covers all credit risk elements of the exposure;

(2) both the original guarantee and the counter-guarantee meet all operational requirements for guarantees, except that the counter-guarantee need not bedirect and explicit to the original exposure; and

(3) SAMA is satisfied that the cover is robust and that no historical evidence suggests that the coverage of the counter-guarantee is less than effectively.

10.IRB Approach: overview and asset class definitions

10.1 This chapter describes the internal ratings-based (IRB) approach for credit risk. Subject to certain minimum conditions and disclosure requirements, banks that have received SAMA's approval to use the IRB approach may rely on their own internal estimates of risk components in determining the capital requirementfor a given exposure. The risk components include measures of the probability of default (PD), loss given default (LGD), the exposure at default (EAD), and effective maturity (M). In some cases, banks may be required to use a supervisory value as opposed to an internal estimate for one or more of the risk components.

10.2 The IRB approach is based on measures of unexpected losses (UL) and expected losses. The risk-weight functions, as outlined in chapter 11, produce capital requirements for the UL portion. Expected losses are treated separately, as outlined in chapter 15.

10.3 In this chapter, first the asset classes (e.g. corporate exposures and retail exposures) eligible for the IRB approach are defined. Second, there is a description of the risk components to be used by banks by asset class. Third, the requirements are outlined that relate to a bank's adoption of the IRB approach at the asset class level and the related roll-out requirements. In cases where an IRB treatment is not specified, the risk weight for those other exposures is 100%, except when a 0% risk weight applies under the standardized approach, and the resulting risk-weighted assets are assumed to represent UL only. Moreover, banks must apply the risk weights referenced in paragraphs 7.53, 7.54 and 7.101 of the standardized approach to the exposures referenced in those paragraphs (that is, investments that are assessed against certain materiality thresholds).

Categorization of exposures

10.4 Under the IRB approach, banks must categorize banking-book exposures into broad classes of assets with different underlying risk characteristics, subject to the definitions set out below. The classes of assets are (a) corporate, (b) sovereign, (c) bank, (d) retail, and (e) equity. Within the corporate asset class, five sub-classes of specialized lending are separately identified. Within the retail asset class, three sub-classes are separately identified. Within the corporate and retail asset classes, a distinct treatment for purchased receivables may also apply provided that certain conditions are met. For the equity asset class, the IRB approach is not permitted, as outlined further below.

10.5 The classification of exposures in this way is broadly consistent with established bank practice. However, some banks may use different definitions in their internal risk management and measurement systems. Banks are required to apply the appropriate treatment to each exposure for the purposes of deriving their minimum capital requirement. Banks must demonstrate to SAMA that their methodology for assigning exposures to different classes is appropriate and consistent over time.

Definition of corporate exposures

10.6 In general, a corporate exposure is defined as a debt obligation of a corporation, partnership, or proprietorship. Banks are permitted to distinguish separately exposures to micro, small or medium-sized entities (MSME), as defined in paragraph 11.8.

10.7 In addition to general corporates, within the corporate asset class five sub-classes of specialized lending (SL) are identified. Such lending possesses all the following characteristics, in legal form or economic substance:

(1) The exposure is typically to an entity (often a special purpose vehicle (SPV))that was created specifically to finance and/or operate physical assets,

(2) The borrowing entity has little or no other material assets or activities, andtherefore little or no independent capacity to repay the obligation, apart from the income that it receives from the asset(s) being financed;

(3) The terms of the obligation give the lender a substantial degree of controlover the asset(s) and the income that it generates; and

(4) As a result of the preceding factors, the primary source of repayment of theobligation is the income generated by the asset(s), rather than the independent capacity of a broader commercial enterprise.

10.8 The five sub-classes of SL are project finance (PF), object finance (OF), commodities finance (CF), income-producing real estate (IPRE) lending, and high-volatility commercial real estate (HVCRE) lending. Each of these sub-classes is defined below.

Project Finance

10.9 PF is a method of funding in which the lender looks primarily to the revenues generated by a single project, both as the source of repayment and as security for the exposure. This type of financing is usually for large, complex and expensive installations that might include, for example, power plants, chemical processing plants, mines, transportation infrastructure, environment, and telecommunications infrastructure. Project finance may take the form of financingof the construction of a new capital installation, or refinancing of an existing installation, with or without improvements.

10.10 In such transactions, the lender is usually paid solely or almost exclusively out of the money generated by the contracts for the facility's output, such as the electricity sold by a power plant. The borrower is usually an SPV that is not permitted to perform any function other than developing, owning, and operating the installation. The consequence is that repayment depends primarily on the project's cash flow and on the collateral value of the project's assets. In contrast, if repayment of the exposure depends primarily on a well-established, diversified,credit-worthy, contractually obligated end user for repayment, it is considered a secured exposure to that end-user.

Object Finance

10.11 OF refers to a method of funding the acquisition of physical assets (e.g. ships, aircraft, satellites, railcars, or fleets) where the repayment of the exposure is dependent on the cash flows generated by the specific assets that have been financed and pledged or assigned to the lender. A primary source of these cash flows might be rental or lease contracts with one or several third parties. In contrast, if the exposure is to a borrower whose financial condition and debt-servicing capacity enables it to repay the debt without undue reliance on the specifically pledged assets, the exposure should be treated as a collateralized corporate exposure.

Commodities Finance

10.12 CF refers to structured short-term lending to finance reserves, inventories, or receivables of exchange-traded commodities (e.g. crude oil, metals, or crops), where the exposure will be repaid from the proceeds of the sale of the commodity and the borrower has no independent capacity to repay the exposure. This is the case when the borrower has no other activities and no other material assets on its balance sheet. The structured nature of the financing is designed to compensate for the weak credit quality of the borrower. The exposure's rating reflects its self-liquidating nature and the lender's skill in structuring the transaction rather than the credit quality of the borrower.

10.13 Such lending can be distinguished from exposures financing the reserves, inventories, or receivables of other more diversified corporate borrowers. Banks are able to rate the credit quality of the latter type ofborrowers based on their broader ongoing operations. In such cases, the value ofthe commodity serves as a risk mitigant rather than as the primary source of repayment.

Income-Producing Real Estate Lending

10.14 IPRE lending refers to a method of providing funding to real estate (such as, office buildings to let, retail space, multifamily residential buildings, industrial or warehouse space, or hotels) where the prospects for repayment and recovery on the exposure depend primarily on the cash flows generated by the asset. The primary source of these cash flows would generally be lease or rental payments or the sale of the asset. The borrower may be, but is not required to be, an SPV, an operating company focused on real estate construction or holdings, or an operating company with sources of revenue other than real estate. The distinguishing characteristic of IPRE versus other corporate exposures that are collateralized by real estate is the strong positive correlation between the prospects for repayment of the exposure and the prospects for recovery in the event of default, with both depending primarily on the cash flows generated by a property.

High-Volatility Commercial Real Estate Lending

10.15 HVCRE lending is the financing of commercial real estate that exhibits higher loss rate volatility (i.e. higher asset correlation) compared to other types of SL. HVCRE includes:

(1) Commercial real estate exposures secured by properties of types that are categorized by SAMA as sharing higher volatilities in portfolio default rates;

(2) Loans financing any of the land acquisition, development and construction (ADC) phases for properties of those types in such jurisdictions; and

(3) Loans financing ADC of any other properties where the source of repayment at origination of the exposure is either the future uncertain sale of the property or cash flows whose source of repayment is substantially uncertain (e.g. the property has not yet been leased to the occupancy rate prevailing in that geographic market for that type of commercial real estate), unless the borrower has substantial equity at risk. Commercial ADC loans exempted from treatment as HVCRE

loans on the basis of certainty of repayment or borrower equity are, however, ineligible for the additional reductions for SL exposures described in paragraph 13.4.

Definition of sovereign exposures

10.16 This asset class covers all exposures to counterparties treated as sovereigns under the standardized approach. This includes sovereigns (and their central banks), certain public sector entities (PSEs) identified as sovereigns in the standardized approach, multilateral development banks (MDBs) that meet the criteria for a 0% risk weight and referred to in the first footnote in paragraph 7.9 , and the entities referred to in paragraph 7.4.

Definition of bank exposures

10.17 This asset class covers exposures to banks as defined in paragraph 7.12 and those securities firms and other financial institutions set out in paragraph 7.36 that are treated as exposures to banks. Bank exposures also include covered bonds as defined in paragraph 7.29 as well as claims on all domestic PSEs that are not treated as exposures to sovereigns under the standardized approach, and MDBs that do not meet the criteria for a 0% risk weight under the standardized approach (i.e. MDBs that are not listed in paragraph 7.10). This asset class also includes exposures to the entities listed in this paragraph that are in the form of subordinated debt or regulatory capital instruments (which form their own asset class within the standardized approach), provided that such instruments: (i) do not fall within the scope of equity exposures as defined in paragraph 10.24; (ii) are not deducted from regulatory capital or risk-weighted at 250% according to Article 4.4 – Section A of *SAMA Guidance Document Concerning the Implementation of Basel III (Circular No. 341000015689, Date: 19 December 2012)*; and (iii) are not risk weighted at 1250% according to paragraph 7.54.

Definition of retail exposures

10.18 An exposure is categorized as a retail exposure if it meets all of the criteria set out in paragraph 10.19 (which relate to the nature of the borrower and value of individual exposures) and all of the criteria set out in paragraph 10.20 (which relate to the size of the pool of exposures).

10.19 The criteria related to the nature of the borrower and value of the individual exposures are as follows:

(1) Exposures to individuals – such as revolving credits and lines of credit (e.g. credit cards, overdrafts, or retail facilities secured by financial instruments) aswell as personal term loans and leases (e.g. instalment loans, auto loans and leases, student and educational loans, personal finance, or other exposures with similar characteristics) – are generally eligible for retail treatment regardless of exposure size.

(2) Where a loan is a residential mortgage (including first and subsequent liens,term loans and revolving home equity lines of credit) it is eligible for retail treatment regardless of exposure size so long as the credit is an exposure to an individual[51].

(3) Where loans are extended to MSMEs and managed as retail exposures they are eligible for retail treatment provided the total exposure of the banking group to a MSME borrower (on a consolidated basis where applicable) is less than SAR 4.46 million. MSMEs loans extended through or guaranteed by an individual are subject to the same exposure threshold.

10.20 The criteria related to the size of the pool of exposures are as follows:

(1) The exposure must be one of a large pool of exposures, which are managedby the bank on a pooled basis.

[51] SAMA may exclude from the retail residential mortgage sub-asset class loans to individuals that have mortgaged no more than two properties or housing units, and treat such loans as corporate exposures.

(2) Where a loan gives rise to a small business exposure below SAR 4 million, it may be treated as retail exposures if the bank treats such exposures in its internal risk management systems consistently over time and in the same manner as other retail exposures. This requires that such an exposure be originated in a similar manner to other retail exposures. Furthermore, it must not be managed individually in a way comparable to corporate exposures, but rather as part of a portfolio segment or pool of exposures with similar risk characteristics for purposes of risk assessment and quantification. However, this does not preclude retail exposures from being treated individually at some stages of the risk management process. The fact that an exposure is rated individually does not by itself deny the eligibility as a retail exposure.

10.21 Within the retail asset class category, banks are required to identify separately three sub-classes of exposures:

(1) Residential mortgage loans, as defined above;
(2) Qualifying revolving retail exposures, as defined in the following paragraph;and
(3) All other retail exposures.

Definition of qualifying revolving retail exposures

10.22 All of the following criteria must be satisfied for a sub-portfolio to be treated as aqualifying revolving retail exposure (QRRE). These criteria must be applied at a sub-portfolio level consistent with the bank's segmentation of its retail activities generally. Segmentation at the national or country level (or below) should be thegeneral rule.

(1) The exposures are revolving, unsecured, and uncommitted (both contractually and in practice). In this context, revolving exposures are definedas those where customers' outstanding balances are permitted to fluctuate based on their decisions to borrow and repay, up to a limit established by the bank.

(2) The exposures are to individuals.

(3) The maximum exposure to a single individual in the sub-portfolio is SAR 400,000 or less.

(4) Because the asset correlation assumptions for the QRRE risk-weight function are markedly below those for the other retail risk-weight function at low PD values, banks must demonstrate that the use of the QRRE risk-weight function is constrained to portfolios that have exhibited low volatility of lossrates, relative to their average level of loss rates, especially within the low PDbands.

(5) Data on loss rates for the sub-portfolio must be retained in order to allow analysis of the volatility of loss rates.

(6) The supervisor must concur that treatment as a qualifying revolving retailexposure is consistent with the underlying risk characteristics of the sub-portfolio.

10.23 The QRRE sub-class is split into exposures to transactors and revolvers. A QRRE transactor is an exposure to an obligor that meets the definition set out in paragraph 7.56. That is, the exposure is to an obligor in relation to a facility such as credit card or charge card where the balance has been repaid in full at each scheduled repayment date for the previous 12 months, or the exposure is in relation to an overdraft facility if there have been no drawdowns over the previous 12 months. All exposures that are not QRRE transactors are QRRE revolvers, including QRRE exposures with less than 12 months of repayment history.

Definition of equity exposures

10.24 This asset class covers exposures to equities as defined in paragraphs 7.47 to 7.49.

Definition of eligible purchased receivables

10.25 Eligible purchased receivables are divided into retail and corporate receivables asdefined below.

Retail receivables

10.26 Purchased retail receivables, provided the purchasing bank complies with the IRB rules for retail exposures, are eligible for the top-down approach as permitted within the existing standards for retail exposures. The bank must also apply the minimum operational requirements as set in chapters 14 and 16.

Corporate receivables

10.27 In general, for purchased corporate receivables, banks are expected to assess the default risk of individual obligors as specified in paragraphs 11.3 to 11.12 consistent with the treatment of other corporate exposures. However, the top-down approach may be used, provided that the purchasing bank's programme for corporate receivables complies with both the criteria for eligible receivables and the minimum operational requirements of this approach. The use of the top-down purchased receivables treatment is limited to situations where it would be an undue burden on a bank to be subjected to the minimum requirements for the IRB approach to corporate exposures that would otherwise apply. Primarily, it is intended for receivables that are purchased for inclusion in asset-backed securitization structures, but banks may also use this approach, with the approval of SAMA, for appropriate on-balance sheet exposures that share the same features.

10.28 SAMA may deny the use of the top-down approach for purchased corporate receivables depending on the bank's compliance with minimum requirements. In particular, to be eligible for the proposed 'top-down' treatment, purchased corporate receivables must satisfy the following conditions:

(1) The receivables are purchased from unrelated, third party sellers, and as such the bank has not originated the receivables either directly or indirectly.

(2) The receivables must be generated on an arm's-length basis between theseller and the obligor. (As such, intercompany accounts receivable and receivables subject to contra-accounts between firms that buy and sell toeach other are ineligible.[52])

(3) The purchasing bank has a claim on all proceeds from the pool of receivables or a pro-rata interest in the proceeds.[53]

(4) SAMA may establish concentration limits above which capital charges must be calculated using the minimum requirements for the bottom-up approach for corporate exposures.

10.29 The existence of full or partial recourse to the seller does not automatically disqualify a bank from adopting this top-down approach, as long as the cash flows from the purchased corporate receivables are the primary protection against default risk as determined by the rules in paragraphs 14.4 to 14.7 for purchased receivables and the bank meets the eligibility criteria and operational requirements.

[52] Contra-accounts involve a customer buying from and selling to the same firm. The risk is that debts may be settled through payments in kind rather than cash. Invoices between the companies may be offset against each other instead of being paid. This practice can defeat a security interest when challenged in court.

[53] Claims on tranches of the proceeds (first loss position, second loss position, etc.) would fall under the securitization treatment.

Foundation and advanced approaches

10.30 For each of the asset classes covered under the IRB framework, there are three key elements:

(1) Risk components: estimates of risk parameters provided by banks, some ofwhich are supervisory estimates.

(2) Risk-weight functions: the means by which risk components are transformed into risk-weighted assets and therefore capital requirements.

(3) Minimum requirements: the minimum standards that must be met in orderfor a bank to use the IRB approach for a given asset class.

10.31 For certain asset classes, there are two broad approaches: a foundation and an advanced approach. Under the foundation approach (F-IRB approach), as a general rule, banks provide their own estimatesof PD and rely on supervisory estimates for other risk components. Under the advanced approach (A-IRB approach), banks provide their own estimates of PD, LGD and EAD, and their own calculation of M, subject to meeting minimum standards. For both the foundation and advanced approaches, banks must alwaysuse the risk-weight functions provided in this Framework for the purpose of deriving capital requirements. The full suite of approaches is described below.

10.32 For exposures to equities, as defined in paragraph 10.24, the IRB approaches are not permitted (see paragraph 10.41). In addition, the A-IRB approach cannot be used for the following:

(1) Exposures to general corporates (i.e. exposures to corporates that are notclassified as specialized lending) belonging to a group with total consolidated annual revenues greater than SAR 2,230m.

(2) Exposures in the bank asset class in paragraph 10.17, and other securities firms and financial institutions (including insurance companies and any other financial institutions in the corporate asset class).

10.33 In making the assessment for the revenue threshold in paragraph 10.32, the amounts must be as reported in the audited financial statements of the corporates or, for corporates that are part of consolidated groups, their consolidated groups (according to the accounting standard applicable to the ultimate parent of the consolidated group). The figures must be based on the average amounts calculated over the prior three years, or on the latest amounts updated every three years by the bank.

Corporate, sovereign and bank exposures

10.34 Under the foundation approach, banks must provide their own estimates of PD associated with each of their borrower grades, but must use supervisory estimates for the other relevant risk components. The other risk components are LGD, EAD and M[54].

10.35 Under the advanced approach, banks must calculate the effective maturity (M)[55] and provide their own estimates of PD, LGD and EAD.

10.36 There is an exception to this general rule for the five sub-classes of assets identified as SL.

The SL categories: PF, OF, CF, IPRE and HVCRE

10.37 Banks that do not meet the requirements for the estimation of PD under the corporate foundation approach for their SL exposures are required to map their internal risk grades to five supervisory categories, each of which is associated with a specific risk weight. This approach is termed the 'supervisory slotting criteria approach'.

[54] As noted in paragraph 12.44 2012.44, SAMA may require banks using the foundation approach to calculate M using the definition provided in paragraphs 12.46 to 12.55.

[55] At the discretion of SAMA, certain domestic exposures may be exempt from the calculation of M (see paragraph 12.44).

10.38 Banks that meet the requirements for the estimation of PD are able to use the foundation approach to corporate exposures to derive risk weights for all classes of SL exposures except HVCRE. SAMA may consider allowing banks meeting these requirements for HVCRE exposures to use a foundation approach that is similar in all respects to the corporate approach, with the exception of a separate risk-weight function as described in paragraph 11.11.

10.39 Banks that meet the requirements for the estimation of PD, LGD and EAD are able to use the advanced approach to corporate exposures to derive risk weights for all classes of SL exposures except HVCRE. SAMA may consider allowing banks meeting these requirements for HVCRE exposure are able to use an advanced approach that is similar in all respects to the corporate approach, with the exception of a separate risk-weight function as described in paragraph 11.11.

Retail exposures

10.40 For retail exposures, banks must provide their own estimates of PD, LGD and EAD. There is no foundation approach for this asset class.

Equity exposures

10.41 All equity exposures are subject to the approach set out in paragraph 7.50 of the standardized approach for credit risk, with the exception of equity investments in funds that are subject to the requirements set out in chapter 24.

Eligible purchased receivables

10.42 The treatment potentially straddles two asset classes. For eligible corporate receivables, both a foundation and advanced approach are available subject to certain operational requirements being met. As noted in paragraph 10.27, for corporate purchased receivables, banks are in general expected to assess the default risk of individual obligors. The bank may use the A-IRB treatment for purchased corporate receivables (paragraphs 14.6 to 14.7) only for exposures to individual corporate obligors that are eligible for the A-IRB approach according to paragraphs 10.32 and 10.33. Otherwise, the F-IRB treatment for purchased corporate receivables should be used. For eligible retail receivables, as with the retail asset class, only the A-IRB approach is available.

Adoption of the IRB approach for asset classes

10.43 Once a bank adopts an IRB approach for part of its holdings within an asset class, it is expected to extend it across all holdings within that asset class. In this context, the relevant assets classes are as follows:

(1) Sovereigns

(2) Banks

(3) Corporates (excluding specialized lending and purchased receivables)

(4) Specialized lending

(5) Corporate purchased receivables

(6) QRRE

(7) Retail residential mortgages

(8) Other retail (excluding purchased receivables)

(9) Retail purchased receivables.

10.44 For many banks, it may not be practicable for various reasons to implement the IRB approach for an entire asset class across all business units at the same time. Furthermore, once on IRB, data limitations may mean that banks can meet the standards for the use of own estimates of LGD and EAD for some but not all of their exposures within an asset class at the same time (for example, exposures that are in the same asset class, but are in different business units).

10.45 As such, SAMA will consider allowing banks to adopt a phased rollout of the IRB approach across an asset class. The phased rollout includes: (i) adoption of IRB across the asset class within the same business unit; (ii) adoption of IRB for the asset class across business units in the same banking group; and (iii) move from the foundation approach to the advanced approach for certain risk components where use of the advanced approach is permitted. However, when a bank adopts an IRB approach for an asset class within a particular business unit, it must apply the IRB approach to all exposures within that asset class in that unit.

10.46 If a bank intends to adopt an IRB approach to an asset class, it must produce an implementation plan, specifying to what extent and when it intends to roll out the IRB approaches within the asset class and business units. The plan should be realistic, and must be agreed with the SAMA. It should be driven by the practicality and feasibility of moving to the more advanced approaches, and not motivated by a desire to adopt an approach that minimizes its capital charge. During the roll-out period, SAMA will ensure that no capital relief is granted for intra-group transactions which are designed to reduce a banking group's aggregate capital charge by transferring credit risk among entities on the standardized approach, foundation and advanced IRB approaches. This includes, but is not limited to, asset sales or cross guarantees.

10.47 Some exposures that are immaterial in terms of size and perceived risk profile within their asset class may be exempt from the requirements in the previous twoparagraphs, subject to supervisory approval. Capital requirements for such operations will be determined according to the standardized approach, SAMA will determine whether a bank should hold more capital under the supervisory review process for such positions.

10.48 Banks adopting an IRB approach for an asset class are expected to continue to employ an IRB approach for that asset class. A voluntary return to the standardized or foundation approach is permitted only in extraordinary circumstances, such as divestiture of a large fraction of the bank's credit-related business in that asset class, and must be approved by SAMA

10.49 Given the data limitations associated with SL exposures, a bank may remain on the supervisory slotting criteria approach for one or more of the PF, OF, CF, IPRE or HVCRE sub-classes, and move to the foundation or advanced approach for the other sub-classes. However, a bank should not move to the advanced approach for the HVCRE sub-class without also doing so for material IPRE exposures at thesame time.

10.50 Irrespective of the materiality, exposures to central counterparties arising from over-the-counter derivatives, exchange traded derivatives transactions and securities financing transactions must be treated according to the dedicated treatment laid down in chapter 8 of *The Counterparty Credit Risk (CCR) Framework.*

11.IRB Approach: Risk Weight Functions

11.1 This chapter presents the calculation of risk weighted assets under the internal ratings-based (IRB) approach for: (i) corporate, sovereign and bank exposures; and (ii) retail exposures. Risk weighted assets are designed to address unexpectedlosses from exposures. The method of calculating expected losses, and for determining the difference between that measure and provisions, is described in chapter 15.

Explanation of the risk-weight functions

11.2 Regarding the risk-weight functions for deriving risk weighted assets set out in this chapter:

(1) Probability of default (PD) and loss-given-default (LGD) are measured asdecimals

(2) Exposure at default (EAD) is measured as currency (e.g. SAR), except where explicitly noted otherwise

(3) ln denotes the natural logarithm

(4) N(x) denotes the cumulative distribution function for a standard normal random variable (i.e. the probability that a normal random variable with meanzero and variance of one is less than or equal to x). The normal cumulative distribution function is, for example, available in Excel as the function NORMSDIST.

(5) G(z) denotes the inverse cumulative distribution function for a standard normal random variable (i.e. the value of x such that N(x) = z). The inverse of the normal cumulative distribution function is, for example, available in Excelas the function NORMSINV.

Risk-weighted assets for exposures that are in default

11.3 The capital requirement (K) for a defaulted exposure is equal to the greater of zero and the difference between its LGD (described in paragraph 16.82) and the bank'sbest estimate of expected loss (described in paragraph 16.85). The risk-weighted assetamount for the defaulted exposure is the product of K, 12.5, and the EAD.

Risk-weighted assets for corporate, sovereign and bank exposures thatare not in default

Risk-weight functions for corporate, sovereign and bank exposures

11.4 The derivation of risk-weighted assets is dependent on estimates of the PD, LGD,EAD and, in some cases, effective maturity (M), for a given exposure.

11.5 For exposures not in default, the formula for calculating risk-weighted assets is as follows

$$Correlation = R = \ 0.12 \cdot \frac{\left(1 - e^{-50 \cdot PD}\right)}{\left(1 - e^{-50}\right)} + 0.24 \cdot \left(1 - \frac{\left(1 - e^{-50 \cdot PD}\right)}{\left(1 - e^{-50}\right)}\right)$$

$$Maturity\ adjustment = b = \left[0.11852 - 0.05478 \cdot \ln\left(PD\right)\right]^2$$

$$Capital\ requirement = K = \left[LGD \cdot N\left[\frac{G\left(PD\right)}{\sqrt{\left(1-R\right)}} + \sqrt{\frac{R}{1-R}} \cdot G\left(0.999\right)\right] - PD \cdot LGD\right] \cdot \frac{\left(1 + \left(M - 2.5\right) \cdot b\right)}{\left(1 - 1.5 \cdot b\right)}$$

$$RWA = K \cdot 12.5 \cdot EAD$$

11.6 Regarding the formula set out in paragraph 11.5 above, M is the effective maturity, calculated according to paragraphs 12.43 to 12.54, and the following term is used to refer to a specific part of the capital requirements formula:

$$Full\ maturity\ adjustment = \frac{\left(1+\left(M-2.5\right)\cdot b\right)}{\left(1-1.5\cdot b\right)}$$

11.7 A multiplier of 1.25 is applied to the correlation parameter of all exposures to financial institutions meeting the following criteria:

(1) Regulated financial institutions whose total assets are greater than or equal to SAR 375 billion. The most recent audited financial statement of the parent company and consolidated subsidiaries must be used in order to determine asset size. For the purpose of this paragraph, a regulated financial institutionis defined as a parent and its subsidiaries where any substantial legal entity in the consolidated group is supervised by a regulator that imposes prudential requirements consistent with international norms. These include, but are not limited to, prudentially regulated Insurance Companies, Broker/Dealers, Banks, Thrifts and Futures Commission Merchants.

(2) Unregulated financial institutions, regardless of size. Unregulated financial institutions are, for the purposes of this paragraph, legal entities whose main business includes: the management of financial assets, lending, factoring, leasing, provision of credit enhancements, securitization, investments, financial custody, central counterparty services, proprietary trading and other financial services activities identified by supervisors.

$$Correlation = R\_FI = 1.25\cdot\left[0.12\cdot\frac{\left(1-e^{-50\cdot PD}\right)}{\left(1-e^{-50}\right)}+0.24\cdot\left(1-\frac{\left(1-e^{-50\cdot PD}\right)}{\left(1-e^{-50}\right)}\right)\right]$$

Firm-size adjustment for micro, small or medium-sized entities (MSMEs)

11.8 Under the IRB approach for corporate credits, banks will be permitted to separately distinguish exposures to MSME borrowers (defined as corporate exposures where the reported revenues for the consolidated group of which the firm is a part is less than SAR 223 million) from those to large firms. A firm-size adjustment(i.e. 0.04 x (1 – (S – 5) / 45)) is made to the corporate risk weight formula for exposures to MSME borrowers. S is expressed as total annual revenues in millions of SAR with values of S falling in the range of equal to or less than SAR 223 million or greater than or equal to SAR 22.3 million. Reported revenue of less than SAR 20 million will be treated as if they were equivalent to SAR 20 million for the purposes of the firm-size adjustment for MSME borrowers.

$$Correlation = R = 0.12 \cdot \frac{\left(1 - e^{-50 \cdot PD}\right)}{\left(1 - e^{-50}\right)} + 0.24 \cdot \left(1 - \frac{\left(1 - e^{-50 \cdot PD}\right)}{\left(1 - e^{-50}\right)}\right) - 0.04 \cdot \left(1 - \frac{\left(S - 5\right)}{45}\right)$$

11.9 SAMA may allow banks, as a failsafe, to substitute total assets of the consolidated group for total revenues in calculating the MSME threshold and the firm-size adjustment. However, total assets should be used only when total revenues are not a meaningful indicator of firm size.

Risk weights for specialized lending

11.10 Regarding project finance, object finance, commodities finance and income-producing real estate sub-asset classes of specialized lending (SL):

(1) Banks that meet the requirements for the estimation of PD will be able to use the foundation IRB (F-IRB) approach for the corporate asset class to derive risk weights for SL sub-classes. As specified in paragraph 13.2, banks that donot meet the requirements for the estimation of PD will be required to use the supervisory slotting approach.

(2) Banks that meet the requirements for the estimation of PD, LGD and EAD (where relevant) will be able to use the advanced IRB (A-IRB) approach forthe corporate asset class to derive risk weights for SL sub-classes.

11.11 Regarding the high volatility commercial real estate (HVCRE) sub-asset class of specialized lending, banks that meet the requirements for the estimation of PD and whose supervisor has chosen to implement a foundation or advanced approach to HVCRE exposures will use the same formula for the derivation of risk weights that is used for other SL exposures, except that they will apply the following asset correlation formula:

$$Correlation = R = 0.12 \cdot \frac{\left(1 - e^{-50 \cdot PD}\right)}{\left(1 - e^{-50}\right)} + 0.30 \cdot \left(1 - \frac{\left(1 - e^{-50 \cdot PD}\right)}{\left(1 - e^{-50}\right)}\right)$$

11.12 Banks that do not meet the requirements for estimation of LGD or EAD for HVCRE exposures must use the supervisory parameters for LGD and EAD for corporate exposures, or use the supervisory slotting approach. **Risk-weighted assets for retail exposures that are not in default**

11.13 There are three separate risk-weight functions for retail exposures, as defined in paragraphs 11.14 to 11.16. Risk weights for retail exposures are based on separate assessments of PD and LGD as inputs to the risk-weight functions. None of the three retail risk-weight functions contain the full maturity adjustment componentthat is present in the risk-weight function for exposures to banks, sovereigns andcorporates.

Retail residential mortgage exposures

11.14 For exposures defined in paragraph 10.18 that are not in default and are secured or partly secured[56] by residential mortgages, risk weights will be assigned based on the following formula:

$$Correlation = R = 0.15$$

$$Capital\ requirement = K = \left[LGD \cdot N\left[\frac{G(PD)}{\sqrt{(1-R)}} + \sqrt{\frac{R}{1-R}} \cdot G(0.999) \right] - PD \cdot LGD \right]$$

$$RWA = K \cdot 12.5 \cdot EAD$$

Qualifying revolving retail exposures

11.15 For qualifying revolving retail exposures as defined in paragraphs 10.21 and 10.22 that are not in default, risk weights are defined based on the following formula:

$$Correlation = R = 0.04$$

$$Capital\ requirement = K = \left[LGD \cdot N\left[\frac{G(PD)}{\sqrt{(1-R)}} + \sqrt{\frac{R}{1-R}} \cdot G(0.999) \right] - PD \cdot LGD \right]$$

$$RWA = K \cdot 12.5 \cdot EAD$$

[56] This means that risk weights for residential mortgages also apply to theunsecured portion of such residential mortgages.

Other retail exposures

11.16 For all other retail exposures that are not in default, risk weights are assigned based on the following function, which allows correlation to vary with PD:

$$Correlation = R = 0.03 \cdot \frac{\left(1 - e^{-35 \cdot PD}\right)}{\left(1 - e^{-35}\right)} + 0.16 \cdot \left(1 - \frac{\left(1 - e^{-35 \cdot PD}\right)}{\left(1 - e^{-35}\right)}\right)$$

$$Capital\ requirement = K = \left[LGD \cdot N\left[\frac{G\left(PD\right)}{\sqrt{\left(1-R\right)}} + \sqrt{\frac{R}{1-R}} \cdot G\left(0.999\right)\right] - PD \cdot LGD\right]$$

$$RWA = K \cdot 12.5 \cdot EAD$$

12.IRB Approach: Risk components

12.1 This chapter presents the calculation of the risk components (PD, LGD, EAD, M) that are used in the formulas set out in chapter 11. In calculating these components, the legal certainty standards for recognizing credit risk mitigation under the standardized approach to credit risk (chapter 9) apply for both the foundation and advanced internal ratings-based (IRB) approaches.

Risk components for corporate, sovereign and bank exposures

12.2 Paragraphs 12.2 to 12.56, sets out the calculation of the risk components for corporate, sovereign and bank exposures. In the case of an exposure that is guaranteed by a sovereign, the floors that apply to the risk components do not apply to that part of the exposure covered by the sovereign guarantee (i.e. any part of the exposure that is not covered by the guarantee is subject to the relevant floors).

Probability of default (PD)

12.3 For corporate, sovereign and bank exposures, the PD is the one-year PD associated with the internal borrower grade to which that exposure is assigned. The PD of borrowers assigned to a default grade(s), consistent with the reference definition of default, is 100%. The minimum requirements for the derivation of the PD estimates associated with each internal borrower grade are outlined in paragraphs 16.76 to 16.78.

12.4 With the exception of exposures in the sovereign asset class, the PD for each exposure that is used as input into the risk weight formula and the calculation of expected loss must not be less than 0.05%.

Loss given default (LGD)

12.5 A bank must provide an estimate of the LGD for each corporate, sovereign and bank exposure. There are two approaches for deriving this estimate: a foundation approach and an advanced approach. As noted in paragraph 10.32, the advanced approach is not permitted for exposures to certain entities.

LGD under the foundation internal ratings-based (F-IRB) approach: treatment ofunsecured claims and non-recognized collateral

12.6 Under the foundation approach, senior claims on sovereigns, banks, securities firms and other financial institutions (including insurance companies and any financial institutions in the corporate asset class) that are not secured by recognized collateral will be assigned a 45% LGD. Senior claims on other corporates that are not secured by recognized collateral will be assigned a 40% LGD.

12.7 All subordinated claims on corporates, sovereigns and banks will be assigned a 75% LGD. A subordinated loan is a facility that is expressly subordinated to another facility.

LGD under the F-IRB approach: collateral recognition

12.8 In addition to the eligible financial collateral recognized in the standardized approach, under the F-IRB approach some other forms of collateral, known as eligible IRB collateral, are also recognized. These include receivables, specified commercial and residential real estate, and other physical collateral, where they meet the minimum requirements set out in paragraphs 16.130 to 16.146. For eligible financial collateral, the requirements are identical to the operational standards as set out in the credit risk mitigation section of the standardized approach (see chapter 9).

12.9 The simple approach to collateral presented in the standardized approach is not available to banks applying the IRB approach.

12.10 The LGD applicable to a collateralized transaction (LGD*) must be calculated as the exposure weighted average of the LGD applicable to the unsecured part of anexposure (LGD_U) and the LGD applicable to the collateralized part of an exposure(LGD_S). Specifically, the formula that follows must be used, where:

(1) E is the current value of the exposure (i.e. cash lent or securities lent or posted). In the case of securities lent or posted the exposure value has to beincreased by applying the appropriate haircuts (H_E) according to the comprehensive approach for financial collateral.

(2) E_S is the current value of the collateral received after the application of the haircut applicable for the type of collateral (H_C) and for any currency mismatches between the exposure and the collateral, as specified in paragraphs 12.11 to 12.12. E_S is capped at the value of $E \cdot (1+H_E)$.

(3) $E_U = E \cdot (1+H_E) - E_S$. The terms E_U and E_S are only used to calculate LGD*. Banks must continue to calculate EAD without taking into account the presence of any collateral, unless otherwise specified.

(4) LGDU is the LGD applicable for an unsecured exposure, as set out in paragraphs 12.6 and 12.7.

(5) LGD_S is the LGD applicable to exposures secured by the type of collateralused in the transaction, as specified in paragraph 12.11.

$$LGD^* = LGD_U \cdot \frac{E_U}{E \cdot (1+H_E)} + LGD_S \cdot \frac{E_S}{E \cdot (1+H_E)}$$

12.11 Table 16 below specifies the LGD_S and haircuts applicable in the formula setout in paragraph 12.10:

Table 16

Type of collateral	LGD_S	Haircut
Eligible financial collateral	0%	As determined by the haircuts that apply in the comprehensive formula of the standardized approach for credit risk (paragraph 9.49). The haircuts have to be adjusted for different holding periods and non-daily remargining or revaluation according to paragraphs 9.55 to 9.58 of the standardized approach.
Eligible receivables	20%	40%
Eligible residential real estate / commercial real estate	20%	40%
Other eligible physical collateral	25%	40%
Ineligible collateral	Not applicable	100%

12.12 When eligible collateral is denominated in a different currency to that of the exposure, the haircut for currency risk is the same haircut that applies in the comprehensive approach (paragraph 9.51 of the standardized approach).

12.13 Banks that lend securities or post collateral must calculate capital requirements for both of the following: (i) the credit risk or market risk of the securities, if this remains with the bank; and (ii) the counterparty credit risk arising from the risk that the borrower of the securities may default. Paragraphs 12.37 to 12.43 set out the calculation the EAD arising from transactions that give rise to counterparty credit risk. For such transactions the LGD of the counterparty must be determined using the LGD specified for unsecured exposures, as set out in paragraphs 12.6 and 12.7.

LGD under the F-IRB approach: methodology for the treatment of pools of collateral

12.14 In the case where a bank has obtained multiple types of collateral it may apply the formula set out in paragraph 12.10 sequentially for each individual type of collateral. In doing so, after each step of recognizing one individual type of collateral, the remaining value of the unsecured exposure (E_U) will be reduced by the adjusted value of the collateral (E_S) recognized in that step. In line with paragraph 12.10, the totalof E_S across all collateral types is capped at the value of $E \cdot (1+H_E)$. This results inthe formula that follows, where for each collateral type i:

(1) LGD_{Si} is the LGD applicable to that form of collateral (as specified in paragraph 0).

$$LGD^* = LGD_U \cdot \frac{E_U}{E \cdot (1 + H_E)} + \sum_i LGD_{Si} \cdot \frac{E_{Si}}{E \cdot (1 + H_E)}$$

(2) E_{Si} is the current value of the collateral received after the application of the haircut applicable for the type of collateral (H_c) (as specified in paragraph 0).

LGD under the advanced approach

12.15 Subject to certain additional minimum requirements specified below (and the conditions set out in paragraph 10.32), SAMA may permit banks to use their own internal estimates of LGD for corporate and sovereign exposures. LGD must be measured as the loss given default as a percentage of the EAD. Banks eligible forthe IRB approach that are unable to meet these additional minimum requirements must utilize the foundation LGD treatment described above.

12.16 The LGD for each corporate exposure that is used as input into the risk weight formula and the calculation of expected loss must not be less than the parameter floors indicated in table 17 below (the floors do not apply to the LGD for exposures in the sovereign asset class):

LGD parameter floors for corporate exposures — Table 17

Unsecured	Secured
25%	Varying by collateral type: • 0% financial • 10% receivables • 10% commercial or residential real estate • 15% other physical

12.17 The LGD floors for secured exposures in the table above apply when the exposure is fully secured (i.e. the value of collateral after the application of haircuts exceeds the value of the exposure). The LGD floor for a partially secured exposure is calculated as a weighted average of the unsecured LGD floor for the unsecured portion and the secured LGD floor for the secured portion. That is, the following formula should be used to determine the LGD floor, where:

(1) $LGD_{U\ floor}$ and $LGD_{S\ floor}$ are the floor values for fully unsecured and fully secured exposures respectively, as specified in the table in paragraph 12.10.

(2) The other terms are defined as set out in paragraphs 12.10 and 0.

$$Floor = LGD_{U\,floor} \cdot \frac{E_U}{E \cdot \left(1 + H_E\right)} + LGD_{S\,floor} \cdot \frac{E_S}{E \cdot \left(1 + H_E\right)}$$

12.18 In cases where a bank has met the conditions to use their own internal estimates of LGD for a pool of unsecured exposures, and takes collateral against one of these exposures, it may not be able to model the effects of the collateral (i.e. it may not have enough data to model the effect of the collateral on recoveries). In such cases, the bank is permitted to apply the formula set out in paragraphs 12.10 or 12.14, with the exception that the LGD_U term would be the bank's own internal estimate of the unsecured LGD. To adopt this treatment the collateral must be eligible under the F-IRB and the bank's estimate of LGD_U must not take account of any effects of collateral recoveries.

12.19 The minimum requirements for the derivation of LGD estimates are outlined in paragraphs 16.82 to 16.87.

Treatment of certain repo-style transactions

12.20 Banks that want to recognize the effects of master netting agreements on repo-style transactions for capital purposes must apply the methodology outlined in paragraph 12.38 for determining E* for use as the EAD in the calculation of counterparty credit risk. For banks using the advanced approach, own LGD estimates would bepermitted for the unsecured equivalent amount (E*) used to calculate counterparty credit risk. In both cases banks, in addition to counterparty credit risk, must also calculate the capital requirements relating to any credit or market risk to which they remain exposed arising from the underlying securities in the master netting agreement.

Treatment of guarantees and credit derivatives

12.21 There are two approaches for recognition of credit risk mitigation (CRM) in the form of guarantees and credit derivatives in the IRB approach: a foundation approach for banks using supervisory values of LGD, and an advanced approach for those banks using their own internal estimates of LGD.

12.22 Under either approach, CRM in the form of guarantees and credit derivatives must not reflect the effect of double default (see paragraph 16.101). As such, to the extent that the CRM is recognized by the bank, the adjusted risk weight will not be less than that of a comparable direct exposure to the protection provider. Consistent with the standardized approach, banks may choose not to recognize credit protection if doing so would result in a higher capital requirement.

Treatment of guarantees and credit derivatives: recognition under the foundation approach

12.23 For banks using the foundation approach for LGD, the approach to guarantees and credit derivatives closely follows the treatment under the standardized approach as specified in paragraphs 9.69 to 9.83. The range of eligible guarantors is the same as under the standardized approach except that companies that are internally rated may also be recognized under the foundation approach. To receive recognition, the requirements outlined in paragraphs 9.69 to 9.74 of the standardized approach must be met.

12.24 Eligible guarantees from eligible guarantors will be recognized as follows:

(1) For the covered portion of the exposure, a risk weight is derived by taking:

(a) The risk-weight function appropriate to the type of guarantor, and

(b) The pd appropriate to the guarantor's borrower grade.

(2) The bank may replace the LGD of the underlying transaction with the LGD applicable to the guarantee taking into account seniority and any collateralization of a guaranteed commitment. For example, when a bank has a subordinated claim on the borrower but the guarantee represents a seniorclaim on the guarantor this may be reflected by using an LGD applicable for senior exposures (see paragraph 12.6) instead of an LGD applicable for subordinated exposures.

(3) In case the bank applies the standardized approach to direct exposures

tothe guarantor it may only recognize the guarantee by applying the standardized approach to the covered portion of the exposure.

12.25 The uncovered portion of the exposure is assigned the risk weight associated with the underlying obligor.

12.26 Where partial coverage exists, or where there is a currency mismatch between the underlying obligation and the credit protection, it is necessary to split the exposure into a covered and an uncovered amount. The treatment in the foundation approach follows that outlined in paragraphs 9.79 to 9.80 of the standardized approach, and depends upon whether the cover is proportional or tranched.

Treatment of guarantees and credit derivatives: recognition under the advanced approach

12.27 Banks using the advanced approach for estimating LGDs may reflect the risk-mitigating effect of guarantees and credit derivatives through either adjusting PD or LGD estimates. Whether adjustments are done through PD or LGD, they must be done in a consistent manner for a given guarantee or credit derivative type. In doing so, banks must not include the effect of double default in such adjustments. Thus, the adjusted risk weight must not be less than that of a comparable direct exposure to the protection provider. In case the bank applies the standardized approach to direct exposures to the guarantor it may only recognize the guarantee by applying the standardized approach to the covered portion of the exposure. In case the bank applies the F-IRB approach to direct exposures to the guarantor it may only recognize the guarantee by determining the risk weight for the comparable direct exposure to the guarantor according to the F-IRB approach.

12.28 A bank relying on own-estimates of LGD has the option to adopt the treatment outlined in paragraphs 12.23 to 12.26 above for banks under the F-IRB approach, or to make an adjustment to its LGD estimate of the exposure to reflect the presence of the guarantee or credit derivative. Under this option, there are no limits to the range of eligible guarantors although the set of minimum requirements provided in paragraphs 16.103 to 16.104 the type of guarantee must be satisfied. For credit derivatives, the requirements of paragraphs 16.109 to 16.110 must be satisfied[57]. For exposures for which a bank has permission to use its own estimates of LGD, the bank may recognize the risk mitigating effects of first-to-default credit derivatives, but may not recognize the risk mitigating effects of second-to-default or more generally nth-to-default credit derivatives.

Exposure at default (EAD)

12.29 The following sections apply to both on and off-balance sheet positions. All exposures are measured gross of specific provisions or partial write-offs. The EAD on drawn amounts should not be less than the sum of: (i) the amount by which a bank's regulatory capital would be reduced if the exposure were written-off fully; and (ii) any specific provisions and partial write-offs. When the difference between the instrument's EAD and the sum of (i) and (ii) is positive, this amount is termed a discount. The calculation of risk-weighted assets is independent of any discounts. Under the limited circumstances described in paragraph 15.4, discounts may be included in the measurement of total eligible provisions for purposes of the EL-provision calculation set out in chapter 15.

Exposure measurement for on-balance sheet items

12.30 On-balance sheet netting of loans and deposits will be recognized subject to the same conditions as under paragraph 9.67 of the standardized approach. Where currency or maturity mismatched on-balance sheet netting exists, the treatment follows the standardized approach, as set out in paragraphs 9.10 and 9.12 to 9.15

[57] When credit derivatives do not cover the restructuring of the underlying obligation, the partial recognition set out in paragraph 9.74 of the standardized approach applies.

Exposure measurement for off-balance sheet items (with the exception of derivatives)

12.31 For off-balance sheet items there are two approaches for the estimation of EAD: a foundation approach and an advanced approach. When only the drawn balances of revolving facilities have been securitized, banks must ensure that they continue to hold required capital against the undrawn balances associated with the securitized exposures.

12.32 In the foundation approach, EAD is calculated as the committed but undrawn amount multiplied by a credit conversion factor (CCF). In the advanced approach, EAD for undrawn commitments may be calculated as the committed but undrawn amount multiplied by a CCF or derived from direct estimates of total facility EAD. In both the foundation approach and advanced approaches, the definition of commitments is the same as in the standardized approach, as set out in paragraph 7.86.

EAD under the foundation approach

12.33 The types of instruments and the CCFs applied to them under the F-IRB approach are the same as those in the standardized approach, as set out in paragraphs 7.86 to 7.93.

12.34 The amount to which the CCF is applied is the lower of the value of the unused committed credit line, and the value that reflects any possible constraining of the availability of the facility, such as the existence of a ceiling on the potential lending amount which is related to a borrower's reported cash flow. If the facility is constrained in this way, the bank must have sufficient line monitoring and management procedures to support this contention.

12.35 Where a commitment is obtained on another off-balance sheet exposure, banks under the foundation approach are to apply the lower of the applicable CCFs.

EAD under the advanced approach

12.36 Banks which meet the minimum requirements for use of their own estimates of EAD (see paragraphs 16.88 to 16.97) will be allowed for exposures for which A-IRB is permitted (see paragraph 10.31) to use their own internal estimates of EAD for undrawnrevolving commitments[58] to extend credit, purchase assets or issue credit substitutes provided the exposure is not subject to a CCF of 100% in the foundation approach (see paragraph 12.33). Standardized approach CCFs must be used for all other off-balance sheet items (for example, undrawn non-revolving commitments), and must be used where the minimum requirements for own estimates of EAD are not met. The EAD for each exposure that is not in the sovereign asset class that is used as input into the risk weight formula and the calculation of expected loss is subject to a floor that is the sum of: (i) the on balance sheet amount; and (ii) 50% of the off balance sheet exposure using the applicable CCF in the standardized approach.

Exposures that give rise to counterparty credit risk

12.37 For exposures that give rise to counterparty credit risk according to *The Counterparty Credit Risk (CCR) Framework* (i.e.OTC derivatives, exchange-traded derivatives, long settlement transactions and securities financing transactions (SFTs)), the EAD is to be calculated under the rules set in chapters 3 to 8 of *the Counterparty Credit Risk (CCR) framework*.

12.38 For SFTs, banks may recognize a reduction in the counterparty credit risk requirement arising from the effect of a master netting agreement providing that it satisfy the criteria set out in paragraphs 9.61 and 9.62 of the standardized approach. The bank must calculate E*, which is the exposure to be used for the counterparty credit risk requirement taking account of the risk mitigation of collateral received, using the formula set out in paragraph 9.64 of the standardized approach. In calculating risk-weighted assets and expected loss

[58] A revolving loan facility is one that lets a borrower obtain a loan where the borrower has the flexibility to decide how often to withdraw from the loan and at what time intervals. A revolving facility allows the borrower to drawdown, repay and re-draw loans advanced to it. Facilities that allow prepayments and subsequent redraws of those prepayments are considered as revolving.

(EL) amounts forthe counterparty credit risk arising from the set of transactions covered by the master netting agreement, E* must be used as the EAD of the counterparty.

12.39 As an alternative to the use of standard haircuts for the calculation of the counterparty credit risk requirement for SFTs set out in paragraph 12.38, banks may be permitted to use a value-at-risk (VaR) models approach to reflect price volatility of the exposures and the financial collateral. This approach can take into accountthe correlation effects between security positions. This approach applies to single SFTs and SFTs covered by netting agreements on a counterparty-by-counterpartybasis, both under the condition that the collateral is revalued on a daily basis. This holds for the underlying securities being different and unrelated to securitizations. The master netting agreement must satisfy the criteria set out in paragraphs 9.61 and 9.62 of the standardized approach. The VaR models approachis available to banks that have received supervisory recognition for an internal market risk model according to paragraph 10.2 in *The Market Risk Framework*. Banks which have not received market risk model recognition can separately apply for supervisory recognition to use their internal VaR models for the calculation of potential price volatility for SFTs, provided the model meets the requirements of paragraph 10.2 in *The Market Risk Framework*. Although the market risk standards have changed from a 99% VaR to a 97.5% expected shortfall, the VaR models approach to SFTs retains the use of a 99% VaR to calculate the counterparty credit risk for SFTs. The VaR model needs to capture risk sufficient to pass the back testing and profit and loss attribution tests of paragraph 10.4 in *The Market Risk Framework*. The default risk charge of paragraphs 13.18 to 13.39 in *The Market Risk Framework* is not required in the VaR model for SFTs.

12.40 The quantitative and qualitative criteria for recognition of internal market risk models for SFTs are in principle the same as in paragraphs 10.5 to 10.16 and 13.1 to 13.12 in *The Market Risk Framework*. The minimum liquidity horizon or the holding period for SFTs is 5 business days for margined repo-style transactions, rather than the 10 business days in paragraph 13.12 in *The Market Risk Framework*. For other transactions eligible for the VaR models approach, the 10 business day holding period will be retained. The minimum holding period should be adjusted upwards for market instruments where such a holding period would be inappropriate given the liquidity of the instrument concerned.

12.41 The calculation of the exposure E* for banks using their internal model to calculate their counterparty credit risk requirement will be as follows, where banks will use the previous day's VaR number:

$$E^{*} = \max\left\{0, \left[\left(\sum E - \sum C\right) + VaR\ output\ from\ internal\ model\right]\right\}$$

12.42 Subject to SAMA's approval, instead of using the VaR approach, banks may also calculate an effective expected positive exposure for repo-style and other similar SFTs, in accordance with the internal models method set out in the counterparty credit risk standards.

12.43 As in the standardized approach, for transactions where the conditions in paragraph 9.36 are met, and in addition, the counterparty is a core market participant as specified in paragraph 9.37, banks can apply a zero H. A netting set that contains any transaction that does not meet the requirements in paragraph 9.36 of the standardized approach is not eligible for this treatment.

Effective maturity (M)

12.44 Effective maturity (M) will be 2.5 years for exposures to which the bank applies the foundation approach, except for repo-style transactions where the effective maturity is 6 months (i.e. M=0.5). Banks using the foundation and advanced approaches are required to measure M for each facility using the definition provided below.

12.45 Banks using any element of the A-IRB approach are required to measure effective maturity for each facility as defined below.

12.46 Except as noted in paragraph 12.51, the effective maturity (M) is subject to a floor of one year and a cap of 5 years.

12.47 For an instrument subject to a determined cash flow schedule, effective maturity M is defined as follows, where CF_t denotes the cash flows (principal, interest payments and fees) contractually payable by the borrower in period t:

$$\textit{Effective maturity} = \mathrm{M} = \sum_t t \cdot CF_t \,/\, \sum_t CF_t$$

12.48 If a bank is not in a position to calculate the effective maturity of the contracted payments as noted above, it is allowed to use a more conservative measure of M such as that it equals the maximum remaining time (in years) that the borrower is permitted to take to fully discharge its contractual obligation (principal, interest, and fees) under the terms of loan agreement. Normally, this will correspond to the nominal maturity of the instrument.

12.49 For derivatives subject to a master netting agreement, the effective maturity is defined as the weighted average maturity of the transactions within the netting agreement. Further, the notional amount of each transaction should be used for weighting the maturity.

12.50 For revolving exposures, effective maturity must be determined using the maximum contractual termination date of the facility. Banks must not use the repayment date of the current drawing.

12.51 The one-year floor, set out in paragraph 12.46 above, does not apply to certain short- term exposures, comprising fully or nearly-fully collateralized[59] capital market- driven transactions (i.e. OTC derivatives transactions and margin lending) and repo- style transactions (i.e. repos/reverse repos and securities lending/borrowing) with an original maturity of less than one year, where the documentation contains daily remargining clauses. For all eligible transactions the documentation must require daily revaluation, and must include provisions that must allow for the prompt liquidation or setoff of the collateral in the event of default or failure to re-margin. The maturity of such transactions must be calculated as the greater of one-day, and the effective maturity (M, consistent with the definition above), except for transactions subject to a master netting agreement, where the floor is determined by the minimum holding period for the transaction type, as required by paragraph 12.54.

12.52 The one-year floor, set out in paragraph 12.46 above, also does not apply to the following exposures:

(1) Short-term self-liquidating trade transactions. Import and export letters ofcredit and similar transactions should be accounted for at their actual remaining maturity.

(2) Issued as well as confirmed letters of credit that are short term (i.e. have amaturity below one year) and self-liquidating.

12.53 In addition to the transactions considered in paragraph 12.51 above, other short-term exposures with an original maturity of less than one year that are not part of a bank's ongoing financing of an obligor may be eligible for exemption from the one-year floor. After a careful review of the particular circumstances, SAMA will define the types of short-term exposures that might be considered eligible for this treatment. The results of these reviews might, for example, include transactions such as:

(1) Some capital market-driven transactions and repo-style transactions thatmight not fall within the scope of paragraph 12.51.

[59] The intention is to include both parties of a transaction meeting these conditions where neither of the parties is systematically under- collateralized.

(2) Some trade finance transactions that are not exempted by paragraph 12.52.

(3) Some exposures arising from settling securities purchases and sales. This could also include overdrafts arising from failed securities settlements provided that such overdrafts do not continue more than a short, fixed number of business days.

(4) Some exposures arising from cash settlements by wire transfer, including overdrafts arising from failed transfers provided that such overdrafts do notcontinue more than a short, fixed number of business days.

(5) Some exposures to banks arising from foreign exchange settlements.

(6) Some short-term loans and deposits.

12.54 For transactions falling within the scope of paragraph 12.51 subject to a master netting agreement, the effective maturity is defined as the weighted average maturity of the transactions. A floor equal to the minimum holding period for the transactiontype set out in paragraph 9.56 of the standardized approach will apply to the average. Where more than one transaction type is contained in the master netting agreement a floor equal to the highest holding period will apply to the average. Further, the notional amount of each transaction should be used for weighting maturity.

12.55 Where there is no explicit definition, the effective maturity (M) assigned to all exposures is set at 2.5 years unless otherwise specified in paragraph 12.44.

Treatment of maturity mismatches

12.56 The treatment of maturity mismatches under IRB is identical to that in the standardized approach (see paragraphs 9.10 to 0).

Risk components for retail exposures

12.57 Paragraphs 12.57 to 12.67 set out the calculation of the risk components for retail exposures. In the case of an exposure that is guaranteed bya sovereign, the floors that apply to the risk components do not apply to that part of the exposure covered by the sovereign guarantee (i.e. any part of the exposure that is not covered by the guarantee is subject to the relevant floors).

Probability of default (PD) and loss given default (LGD)

12.58 For each identified pool of retail exposures, banks are expected to provide an estimate of the PD and LGD associated with the pool, subject to the minimum requirements as set out in chapter 16. Additionally, the PD for retail exposures is thegreater of: (i) the one-year PD associated with the internal borrower grade to which the pool of retail exposures is assigned; and (ii) 0.1% for qualifying revolving retail exposure (QRRE) revolvers (see paragraph 10.22 for the definition of QRRE revolvers) and 0.05% for all other exposures. The LGD for each exposure that is used as input into the risk weight formula and the calculation of expected loss must not be less than the parameter floors indicated in table 18 below:

LGD parameter floors for retail exposures **Table 18**

Type of exposure	*Unsecured*	*Secured*
Mortgages	Not applicable	5%
QRRE (transactors and revolvers)	50%	Not applicable
Other retail	30%	Varying by collateral type: • 0% financial • 10% receivables • 10% commercial or residentialreal estate • 15% other physical

12.59 Regarding the LGD parameter floors set out in the table above, the LGD floors forpartially secured exposures in the "other retail" category should be calculated according to the formula set out in paragraph 12.17. The LGD floor for residential mortgages is fixed at 5%, irrespective of the level of collateral provided by the property.

Recognition of guarantees and credit derivatives

12.60 Banks may reflect the risk-reducing effects of guarantees and credit derivatives, either in support of an individual obligation or a pool of exposures, through an adjustment of either the PD or LGD estimate, subject to the minimum requirements in paragraphs 16.99 to 16.110. Whether adjustments are done through PD or LGD, they must be done in a consistent manner for a given guarantee or credit derivative type. In case the bank applies the standardized approach to direct exposures to the guarantor it may only recognize the guarantee by applying the standardized approach risk weight to the covered portion of the exposure.

12.61 Consistent with the requirements outlined above for corporate and bank exposures, banks must not include the effect of double default in such adjustments. The adjusted risk weight must not be less than that of a comparable direct exposure to the protection provider. Consistent with the standardized approach, banks may choose not to recognize credit protection if doing so would result in a higher capital requirement.

Exposure at default (EAD)

12.62 Both on- and off-balance sheet retail exposures are measured gross of specific provisions or partial write-offs. The EAD on drawn amounts should not be less than the sum of: (i) the amount by which a bank's regulatory capital would be reduced if the exposure were written-off fully; and (ii) any specific provisions andpartial write-offs. When the difference between the instrument's EAD and the sum of (i) and (ii) is positive, this amount is termed a discount. The calculation ofrisk-weighted assets is independent of any discounts. Under the limited circumstances described in paragraph 15.4, discounts may be included in the measurement of total eligible provisions for purposes of the EL-provision calculation set out in chapter 15.

12.63 On-balance sheet netting of loans and deposits of a bank to or from a retail customer will be permitted subject to the same conditions outlined in paragraphs 9.67 and 9.68 of the standardized approach. The definition of commitment is the same as in the standardized approach, as set out in paragraph 7.86. Banks must use their own estimates of EAD for undrawn revolving commitments to extend credit,purchase assets or issue credit substitutes provided the exposure is not subject toa CCF of 100% in the standardized approach (see paragraph 7.84) and the minimum requirements in paragraphs 16.88 to 16.98 are satisfied. Foundation approach CCFs must be used for all other off-balance sheet items (for example, undrawn non- revolving commitments), and must be used where the minimum requirements forown estimates of EAD are not met.

12.64 Regarding own estimates of EAD, the EAD for each exposure that is used as inputinto the risk weight formula and the calculation of expected loss is subject to a floor that is the sum of: (i) the on balance sheet amount; and (ii) 50% of the off balance sheet exposure using the applicable CCF in the standardized approach.

12.65 For retail exposures with uncertain future drawdown such as credit cards, banks must take into account their history and/or expectation of additional drawings prior to default in their overall calibration of loss estimates. In particular, where abank does not reflect conversion factors for undrawn lines in its EAD estimates, itmust reflect in its LGD estimates the likelihood of additional drawings prior to default. Conversely, if the bank does not incorporate the possibility of additional drawings in its LGD estimates, it must do so in its EAD estimates.

12.66 When only the drawn balances of revolving retail facilities have been securitized,banks must ensure that they continue to hold required capital against the undrawn balances associated with the securitized exposures using the IRB approach to credit risk for commitments.

12.67 To the extent that foreign exchange and interest rate commitments exist within a bank's retail portfolio for IRB purposes, banks are not permitted to provide their internal assessments of credit equivalent amounts. Instead, the rules for the standardized approach continue to apply.

13.IRB Approach: Supervisory slotting approach for specialized lending

13.1 This chapter sets out the calculation of risk weighted assets and expected losses for specialized lending (SL) exposures subject to the supervisory slotting approach. The method for determining the difference between expected losses and provisions is set out in chapter 15.

Risk weights for specialized lending (PF, OF, CF and IPRE)

13.2 For project finance (PF), object finance (OF), commodities finance (CF) and income producing real estate (IPRE) exposures, banks that do not meet the requirements for the estimation of probability of default (PD) under the corporate internal ratings-based (IRB) approach will be required to map their internal grades to five supervisory categories, each of which is associated with a specific risk weight. The slotting criteria on which this mapping must be based are provided in paragraph 13.13 for PF exposures, paragraph 13.15 for OF exposures, paragraph 013.6 for CF exposures and paragraph 13.14 for IPRE exposures. The risk weights for unexpected losses (UL) associated with each supervisory category are shown in table 19 below:

Supervisory categories and unexpected loss (UL) risk weights for other SL exposures **Table 19**

Strong	Good	Satisfactory	Weak	Default
70%	90%	115%	250%	0%

13.3 Although banks are expected to map their internal ratings to the supervisory categories for specialized lending using the slotting criteria, each supervisory category broadly corresponds to a range of external credit assessments as outlined in table 20 below.

Table 20

Strong	Good	Satisfactory	Weak	Default
BBB- or better	BB+ or BB	BB- or B+	B to C-	Not applicable

13.4 SAMA may allow banks to assign preferential risk weights of 50% to "strong" exposures, and 70% to "good" exposures, provided they have a remaining maturity of less than 2.5 years or SAMA determines that banks' underwriting and other risk characteristics are substantially stronger than specified in the slotting criteria for the relevant supervisory risk category.

Risk weights for specialized lending (HVCRE)

13.5 For high-volatility commercial real estate (HVCRE) exposures, banks that do not meet the requirements for estimation of PD, or did not obtain SAMA's approval to implement the foundation or advanced approaches to HVCRE, must map their internal grades to five supervisory categories, each of which is associated with a specific risk weight. The slotting criteria on which this mapping must be based are the same as those for IPRE, as provided in paragraph 13.14. The risk weights associated with each supervisory category are shown in table 21 below:

Table 21

Supervisory categories and UL risk weights for high-volatility commercial real estate

Strong	Good	Satisfactory	Weak	Default
95%	120%	140%	250%	0%

13.6 As indicated in paragraph 13.3, each supervisory category broadly corresponds to a range of external credit assessments.

13.7 SAMA may allow banks to assign preferential risk weights of 70% to "strong" exposures, and 95% to "good" exposures, provided they have a remaining maturity of less than 2.5 years or SAMA determines that banks' underwriting and other risk characteristics are substantially stronger than specified in the slotting criteria for the relevant supervisory risk category.

Expected loss for specialized lending (SL) exposures subject to thesupervisory slotting criteria

13.8 For SL exposures subject to the supervisory slotting criteria, the expected loss (EL) amount is determined by multiplying 8% by the risk-weighted assets produced from the appropriate risk weights, as specified below, multiplied by exposure at default.

13.9 The risk weights for SL, other than HVCRE, are as shown in table 22 below:

Table 22

Strong	Good	Satisfactory	Weak	Default
5%	10%	35%	100%	625%

13.10 Where, SAMA allow banks to assign preferential riskweights to non-HVCRE SL exposures falling into the "strong" and "good" supervisory categories as outlined in paragraph 13.4, the corresponding expected loss (EL) risk weight is 0% for "strong" exposures, and 5% for "good" exposures.

13.11 The risk weights for HVCRE are as shown in table 23 below:

Table 23

Strong	Good	Satisfactory	Weak	Default
5%	5%	35%	100%	625%

13.12 Even where, SAMA allow banks to assign preferential risk weights to HVCRE exposures falling into the "strong" and "good" supervisory categories as outlined in paragraph 13.7, the corresponding EL risk weight will remain at5% for both "strong" and "good" exposures.

Supervisory slotting criteria for specialized lending

13.13 Table 24 below sets out the supervisory rating grades for project finance exposures subject to the supervisory slotting approach.

Table 24

	Strong	Good	Satisfactory	Weak
Financial strength				
Market conditions	Few competing suppliers or substantial and durable advantage in location, cost, or technology. Demand is strong and growing	Few competing suppliers or better than average location, cost, or technology but this situation may not last. Demand is strong and stable	Project has no advantage in location, cost, or technology. Demand is adequate and stable	Project has worse than average location, cost, or technology. Demand is weak and declining
Financial ratios (eg *debt service coverage ratio (DSCR), loan life coverage ratio, project life coverage ratio, and debt-to-equity ratio*)	Strong financial ratios considering the level of project risk; very robust economic assumptions	Strong to acceptable financial ratios considering the level of project risk; robust project economic assumptions	Standard financial ratios considering the level of project risk	Aggressive financial ratios considering the level of project risk

Stress analysis	The project can meet its financial obligations under sustained, severely stressed economic or sectoral conditions	The project can meet its financial obligations under normal stressed economic or sectoral conditions. The project is only likely to default under severe economic conditions	The project is vulnerable to stresses that are not uncommon through an economic cycle, and may default in a normal downturn	The project is likely to default unless conditions improve soon

Financial structure

Duration of the credit compared to the duration of the project	Useful life of the project significantly exceeds tenor of the loan	Useful life of the project exceeds tenor of the loan	Useful life of the project exceeds tenor of the loan	Useful life of the project may not exceed tenor of the loan
Amortisation schedule	Amortising debt	Amortising debt	Amortising debt repayments with limited bullet payment	Bullet repayment or amortising debt repayments with high bullet repayment

Political and legal environment				
Political risk, including transfer risk, considering project type and mitigants	Very low exposure; strong mitigation instruments, if needed	Low exposure; satisfactory mitigation instruments, if needed	Moderate exposure; fair mitigation instruments	High exposure; no or weak mitigation instruments
Force majeure risk (war, civil unrest, etc.),	Low exposure	Acceptable exposure	Standard protection	Significant risks, not fully mitigated
Government support and project's importance for the country over the long term	Project of strategic importance for the country (preferably export-oriented). Strong support from Government	Project considered important for the country. Good level of support from Government	Project may not be strategic but brings unquestionable benefits for the country. Support from Government may not be explicit	Project not key to the country. No or weak support from Government
Stability of legal and regulatory environment (risk of change in law)	Favourable and stable regulatory environment over the long term	Favourable and stable regulatory environment over the medium term	Regulatory changes can be predicted with a fair level of certainty	Current or future regulatory issues may affect the project
Acquisition of all necessary supports and approvals for such relief from local content laws	Strong	Satisfactory	Fair	Weak

Enforceability of contracts, collateral and security	Contracts, collateral and security are enforceable	Contracts, collateral and security are enforceable	Contracts, collateral and security are considered enforceable even if certain non-key issues may exist	There are unresolved key issues in respect if actual enforcement of contracts, collateral and security

Transaction characteristics

Design and technology risk	Fully proven technology and design	Fully proven technology and design	Proven technology and design — start-up issues are mitigated by a strong completion package	Unproven technology and design; technology issues exist and/or complex design

Construction risk

Permitting and siting	All permits have been obtained	Some permits are still outstanding but their receipt is considered very likely	Some permits are still outstanding but the permitting process is well defined and they are considered routine	Key permits still need to be obtained and are not considered routine. Significant conditions may be attached
Type of construction contract	Fixed-price date-certain turnkey construction engineering and procurement contract (EPC)	Fixed-price date-certain turnkey construction EPC	Fixed-price date-certain turnkey construction contract with one or several contractors	No or partial fixed-price turnkey contract and/or interfacing issues with multiple contractors
Completion guarantees	Substantial liquidated damages supported by financial substance and/or strong completion guarantee from sponsors with excellent financial standing	Significant liquidated damages supported by financial substance and/or completion guarantee from sponsors with good financial standing	Adequate liquidated damages supported by financial substance and/or completion guarantee from sponsors with good financial standing	Inadequate liquidated damages or not supported by financial substance or weak completion guarantees

Track record and financial strength of contractor in constructing similar projects.	Strong	Good	Satisfactory	Weak

Operating risk

Scope and nature of operations and maintenance (O & M) contracts	Strong long-term O&M contract, preferably with contractual performance incentives, and/or O&M reserve accounts	Long-term O&M contract, and/or O&M reserve accounts	Limited O&M contract or O&M reserve account	No O&M contract: risk of high operational cost overruns beyond mitigants
Operator's expertise, track record, and financial strength	Very strong, or committed technical assistance of the sponsors	Strong	Acceptable	Limited/weak, or local operator dependent on local authorities

Off-take risk

(a) If there is a take-or-pay or fixed-price off-take contract:	Excellent creditworthiness of off-taker; strong termination clauses; tenor of contract comfortably exceeds the	Good creditworthiness of off-taker; strong termination clauses; tenor of contract exceeds the maturity of the debt	Acceptable financial standing of off-taker; normal termination clauses; tenor of contract generally	Weak off-taker; weak termination clauses; tenor of contract does not exceed the maturity of the debt

	maturity of the debt		matches the maturity of the debt	
(b) If there is no take-or-pay or fixed-price off-take contract:	Project produces essential services or a commodity sold widely on a world market; output can readily be absorbed at projected prices even at lower than historic market growth rates	Project produces essential services or a commodity sold widely on a regional market that will absorb it at projected prices at historical growth rates	Commodity is sold on a limited market that may absorb it only at lower than projected prices	Project output is demanded by only one or a few buyers or is not generally sold on an organized market

Supply risk

Price, volume and transportation risk of feed-stocks; supplier's track record and financial strength	Long-term supply contract with supplier of excellent financial standing	Long-term supply contract with supplier of good financial standing	Long-term supply contract with supplier of good financial standing — a degree of price risk may remain	Short-term supply contract or long-term supply contract with financially weak supplier — a degree of price risk definitely remains
Reserve risks (e.g. natural resource development)	Independently audited, proven and developed reserves well in	Independently audited, proven and developed reserves in	Proven reserves can supply the project	Project relies to some extent on potential and

	excess of requirements over lifetime of the project	excess of requirements over lifetime of the project	adequately through the maturity of the debt	undeveloped reserves

Strength of Sponsor

Sponsor's track record, financial strength, and country/sector experience	Strong sponsor with excellent track record and high financial standing	Good sponsor with satisfactory track record and good financial standing	Adequate sponsor with adequate track record and good financial standing	Weak sponsor with no or questionable track record and/or financial weaknesses
Sponsor support, as evidenced by equity, ownership clause and incentive to inject additional cash if necessary	Strong. Project is highly strategic for the sponsor (core business — long-term strategy)	Good. Project is strategic for the sponsor (core business — long-term strategy)	Acceptable. Project is considered important for the sponsor (core business)	Limited. Project is not key to sponsor's long-term strategy or core business

Security Package

Assignment of contracts and accounts	Fully comprehensive	Comprehensive	Acceptable	Weak
Pledge of assets, taking into account quality, value and liquidity of assets	First perfected security interest in all project assets, contracts, permits and accounts necessary to run the project	Perfected security interest in all project assets, contracts, permits and accounts necessary to run the project	Acceptable security interest in all project assets, contracts, permits and accounts necessary to run the project	Little security or collateral for lenders; weak negative pledge clause
Lender's control over cash flow (eg cash sweeps, independent escrow accounts)	Strong	Satisfactory	Fair	Weak
Strength of the covenant package (mandatory prepayments, payment deferrals, payment cascade, dividend restrictions…)	Covenant package is strong for this type of project	Covenant package is satisfactory for this type of project	Covenant package is fair for this type of project	Covenant package is Insufficient for this type of project

	Project may issue no additional debt	Project may issue extremely limited additional debt	Project may issue limited additional debt	Project may issue unlimited additional debt

13.14 Table 25 below sets out the supervisory rating grades for income producing real estate exposures and high-volatility commercial real estate exposures subject to the supervisory slotting approach.

Table 25

	Strong	**Good**	**Satisfactory**	**Weak**
Financial strength				
Market conditions	The supply and demand for the project's type and location are currently in equilibrium. The number of competitive properties coming to market is equal or lower than forecasted demand	The supply and demand for the project's type and location are currently in equilibrium. The number of competitive properties coming to market is roughly equal to forecasted demand	Market conditions are roughly in equilibrium. Competitive properties are coming on the market and others are in the planning stages. The project's design and capabilities may not be state of the art compared to new projects	Market conditions are weak. It is uncertain when conditions will improve and return to equilibrium. The project is losing tenants at lease expiration. New lease terms are less favourable compared to those expiring

Financial ratios and advance rate	The property's DSCR is considered strong (DSCR is not relevant for the construction phase) and its loan-to-value ratio (LTV) is considered low given its property type. Where a secondary market exists, the transaction is underwritten to market standards	The DSCR (not relevant for development real estate) and LTV are satisfactory. Where a secondary market exists, the transaction is underwritten to market standards	The property's DSCR has deteriorated and its value has fallen, increasing its LTV	The property's DSCR has deteriorated significantly and its LTV is well above underwriting standards for new loans
Stress analysis	The property's resources, contingencies and liability structure allow it to meet its financial obligations during a period of severe financial	The property can meet its financial obligations under a sustained period of financial stress (eg interest rates, economic growth). The property is likely to default only under severe economic conditions	During an economic downturn, the property would suffer a decline in revenue that would limit its ability to fund capital expenditures and significantly increase the	The property's financial condition is strained and is likely to default unless conditions improve in the near term

	stress (e.g. interest rates, economic growth)		risk of default	

Cash-flow predictability

(a) For complete and stabilised property.	The property's leases are long-term with creditworthy tenants and their maturity dates are scattered. The property has a track record of tenant retention upon lease expiration. Its vacancy rate is low. Expenses (maintenance, insurance, security, and property taxes) are predictable	Most of the property's leases are long-term, with tenants that range in creditworthiness. The property experiences a normal level of tenant turnover upon lease expiration. Its vacancy rate is low. Expenses are predictable	Most of the property's leases are medium rather than long-term with tenants that range in creditworthiness. The property experiences a moderate level of tenant turnover upon lease expiration. Its vacancy rate is moderate. Expenses are relatively predictable but vary in relation to revenue	The property's leases are of various terms with tenants that range in creditworthiness. The property experiences a very high level of tenant turnover upon lease expiration. Its vacancy rate is high. Significant expenses are incurred preparing space for new tenants

(b) For complete but not stabilised property	Leasing activity meets or exceeds projections. The project should achieve stabilisation in the near future	Leasing activity meets or exceeds projections. The project should achieve stabilisation in the near future	Most leasing activity is within projections; however, stabilisation will not occur for some time	Market rents do not meet expectations. Despite achieving target occupancy rate, cash flow coverage is tight due to disappointing revenue
(c) For construction phase	The property is entirely pre-leased through the tenor of the loan or pre-sold to an investment grade tenant or buyer, or the bank has a binding commitment for take-out financing from an investment grade lender	The property is entirely pre-leased or pre-sold to a creditworthy tenant or buyer, or the bank has a binding commitment for permanent financing from a creditworthy lender	Leasing activity is within projections but the building may not be pre-leased and there may not exist a take-out financing. The bank may be the permanent lender	The property is deteriorating due to cost overruns, market deterioration, tenant cancellations or other factors. There may be a dispute with the party providing the permanent financing

Asset characteristics

Location	Property is located in highly desirable location that is convenient to services that tenants desire	Property is located in desirable location that is convenient to services that tenants desire	The property location lacks a competitive advantage	The property's location, configuration, design and maintenance have contributed to the property's difficulties
Design and condition	Property is favoured due to its design, configuration, and maintenance, and is highly competitive with new properties	Property is appropriate in terms of its design, configuration and maintenance. The property's design and capabilities are competitive with new properties	Property is adequate in terms of its configuration, design and maintenance	Weaknesses exist in the property's configuration, design or maintenance
Property is under construction	Construction budget is conservative and technical hazards are limited. Contractors are highly qualified	Construction budget is conservative and technical hazards are limited. Contractors are highly qualified	Construction budget is adequate and contractors are ordinarily qualified	Project is over budget or unrealistic given its technical hazards. Contractors may be under qualified

Strength of Sponsor/Developer

Financial capacity and willingness to support the property.	The sponsor/developer made a substantial cash contribution to the construction or purchase of the property. The sponsor/developer has substantial resources and limited direct and contingent liabilities. The sponsor/developer's properties are diversified geographically and by property type	The sponsor/developer made a material cash contribution to the construction or purchase of the property. The sponsor/developer's financial condition allows it to support the property in the event of a cash flow shortfall. The sponsor/developer's properties are located in several geographic regions	The sponsor/developer's contribution may be immaterial or non-cash. The sponsor/developer is average to below average in financial resources	The sponsor/developer lacks capacity or willingness to support the property

Reputation and track record with similar properties.	Experienced management and high sponsors' quality. Strong reputation and lengthy and successful record with similar properties	Appropriate management and sponsors' quality. The sponsor or management has a successful record with similar properties	Moderate management and sponsors' quality. Management or sponsor track record does not raise serious concerns	Ineffective management and substandard sponsors' quality. Management and sponsor difficulties have contributed to difficulties in managing properties in the past
Relationships with relevant real estate actors	Strong relationships with leading actors such as leasing agents	Proven relationships with leading actors such as leasing agents	Adequate relationships with leasing agents and other parties providing important real estate services	Poor relationships with leasing agents and/or other parties providing important real estate services

Security Package

Nature of lien	Perfected first lien	Perfected first lien. Lenders in some markets extensively use loan structures that include junior liens.	Perfected first lien. Lenders in some markets extensively use loan structures that include junior liens.	Ability of lender to foreclose is constrained

		Junior liens may be indicative of this level of risk if the total LTV inclusive of all senior positions does not exceed a typical first loan LTV.	Junior liens may be indicative of this level of risk if the total LTV inclusive of all senior positions does not exceed a typical first loan LTV.	
Assignment of rents (for projects leased to long-term tenants)	The lender has obtained an assignment. They maintain current tenant information that would facilitate providing notice to remit rents directly to the lender, such as a current rent roll and copies of the project's leases	The lender has obtained an assignment. They maintain current tenant information that would facilitate providing notice to the tenants to remit rents directly to the lender, such as current rent roll and copies of the project's leases	The lender has obtained an assignment. They maintain current tenant information that would facilitate providing notice to the tenants to remit rents directly to the lender, such as current rent roll and copies of the project's leases	The lender has not obtained an assignment of the leases or has not maintained the information necessary to readily provide notice to the building's tenants
Quality of the insurance coverage	Appropriate	Appropriate	Appropriate	Substandard

13.15 Table 26 below sets out the supervisory rating grades for object finance exposures subject to the supervisory slotting approach.

Table 26

	Strong	**Good**	**Satisfactory**	**Weak**
Financial strength				
Market conditions	Demand is strong and growing, strong entry barriers, low sensitivity to changes in technology and economic outlook	Demand is strong and stable. Some entry barriers, some sensitivity to changes in technology and economic outlook	Demand is adequate and stable, limited entry barriers, significant sensitivity to changes in technology and economic outlook	Demand is weak and declining, vulnerable to changes in technology and economic outlook, highly uncertain environment
Financial ratios (DSCR and LTV)	Strong financial ratios considering the type of asset. Very robust economic assumptions	Strong / acceptable financial ratios considering the type of asset. Robust project economic assumptions	Standard financial ratios for the asset type	Aggressive financial ratios considering the type of asset
Stress analysis	Stable long-term revenues, capable of withstanding severely stressed conditions through an economic cycle	Satisfactory short-term revenues. Loan can withstand some financial adversity. Default is only likely under severe economic	Uncertain short-term revenues. Cash flows are vulnerable to stresses that are not uncommon through an economic	Revenues subject to strong uncertainties; even in normal economic conditions the asset may default, unless conditions

		conditions	cycle. The loan may default in a normal downturn	improve
Market liquidity	Market is structured on a worldwide basis; assets are highly liquid	Market is worldwide or regional; assets are relatively liquid	Market is regional with limited prospects in the short term, implying lower liquidity	Local market and/or poor visibility. Low or no liquidity, particularly on niche markets

Political and legal environment

Political risk, including transfer risk	Very low; strong mitigation instruments, if needed	Low; satisfactory mitigation instruments, if needed	Moderate; fair mitigation instruments	High; no or weak mitigation instruments
Legal and regulatory risks	Jurisdiction is favourable to repossession and enforcement of contracts	Jurisdiction is favourable to repossession and enforcement of contracts	Jurisdiction is generally favourable to repossession and enforcement of contracts, even if repossession might be long and/or difficult	Poor or unstable legal and regulatory environment. Jurisdiction may make repossession and enforcement of contracts lengthy or impossible

Transaction characteristics				
Financing term compared to the economic life of the asset	Full payout profile/minimum balloon. No grace period	Balloon more significant, but still at satisfactory levels	Important balloon with potentially grace periods	Repayment in fine or high balloon

Operating risk				
Permits / licensing	All permits have been obtained; asset meets current and foreseeable safety regulations	All permits obtained or in the process of being obtained; asset meets current and foreseeable safety regulations	Most permits obtained or in process of being obtained, outstanding ones considered routine, asset meets current safety regulations	Problems in obtaining all required permits, part of the planned configuration and/or planned operations might need to be revised
Scope and nature of O & M contracts	Strong long-term O&M contract, preferably with contractual performance incentives, and/or O&M reserve accounts (if needed)	Long-term O&M contract, and/or O&M reserve accounts (if needed)	Limited O&M contract or O&M reserve account (if needed)	No O&M contract: risk of high operational cost overruns beyond mitigants

Operator's financial strength, track record in managing the asset type and capability to re-market asset when it comes off-lease	Excellent track record and strong re-marketing capability	Satisfactory track record and re-marketing capability	Weak or short track record and uncertain re-marketing capability	No or unknown track record and inability to re-market the asset

Asset characteristics

Configuration, size, design and maintenance (ie age, size for a plane) compared to other assets on the same market	Strong advantage in design and maintenance. Configuration is standard such that the object meets a liquid market	Above average design and maintenance. Standard configuration, maybe with very limited exceptions — such that the object meets a liquid market	Average design and maintenance. Configuration is somewhat specific, and thus might cause a narrower market for the object	Below average design and maintenance. Asset is near the end of its economic life. Configuration is very specific; the market for the object is very narrow
Resale value	Current resale value is well above debt value	Resale value is moderately above debt value	Resale value is slightly above debt value	Resale value is below debt value
sensitivity of the asset value and liquidity to economic cycles	Asset value and liquidity are relatively insensitive to economic cycles	Asset value and liquidity are sensitive to economic cycles	Asset value and liquidity are quite sensitive to economic cycles	Asset value and liquidity are highly sensitive to economic cycles

Strength of sponsor

Operator's financial strength, track record in managing the asset type and capability to re-market asset when it comes off-lease	Excellent track record and strong re-marketing capability	Satisfactory track record and re-marketing capability	Weak or short track record and uncertain re-marketing capability	No or unknown track record and inability to re-market the asset
Sponsors' track record and financial strength	Sponsors with excellent track record and high financial standing	Sponsors with good track record and good financial standing	Sponsors with adequate track record and good financial standing	Sponsors with no or questionable track record and/or financial weaknesses

Security Package

Asset control	Legal documentation provides the lender effective control (e.g. a first perfected security interest, or a leasing structure including such security) on the	Legal documentation provides the lender effective control (e.g. a perfected security interest, or a leasing structure including such security) on the	Legal documentation provides the lender effective control (e.g. a perfected security interest, or a leasing structure including such security) on the	The contract provides little security to the lender and leaves room to some risk of losing control on the asset

	asset, or on the company owning it	asset, or on the company owning it	asset, or on the company owning it	
Rights and means at the lender's disposal to monitor the location and condition of the asset	The lender is able to monitor the location and condition of the asset, at any time and place (regular reports, possibility to lead inspections)	The lender is able to monitor the location and condition of the asset, almost at any time and place	The lender is able to monitor the location and condition of the asset, almost at any time and place	The lender is able to monitor the location and condition of the asset are limited
Insurance against damages	Insurance against damages	Insurance against damages	Insurance against damages	Insurance against damages

13.16 Table 27 below sets out the supervisory rating grades for commoditiesfinance exposures subject to the supervisory slotting approach.

Table 27

	Strong	**Good**	**Satisfactory**	**Weak**
Financial strength				
Degree of over-collateralisation of trade	Strong	Good	Satisfactory	Weak
Political and legal environment				
Country risk	No country risk	Limited exposure to country risk (in particular, offshore location of reserves in an emerging country)	Exposure to country risk (in particular, offshore location of reserves in an emerging country)	Strong exposure to country risk (in particular, inland reserves in an emerging country)
Mitigation of country risks	Very strong mitigation: Strong offshore mechanisms Strategic commodity 1st class buyer	Strong mitigation: Offshore mechanisms Strategic commodity Strong buyer	Acceptable mitigation: Offshore mechanisms Less strategic commodity Acceptable buyer	Only partial mitigation: No offshore mechanisms Non-strategic commodity Weak buyer
Asset characteristics				
Liquidity and susceptibility to damage	Commodity is quoted and can be hedged	Commodity is quoted and can be hedged	Commodity is not quoted but is liquid. There	Commodity is not quoted. Liquidity is

	through futures or over-the-counter (OTC) instruments. Commodity is not susceptible to damage	through OTC instruments. Commodity is not susceptible to damage	is uncertainty about the possibility of hedging. Commodity is not susceptible to damage	limited given the size and depth of the market. No appropriate hedging instruments. Commodity is susceptible to damage

Strength of sponsor

Financial strength of trader	Very strong, relative to trading philosophy and risks	Strong	Adequate	Weak
Track record, including ability to manage the logistic process	Extensive experience with the type of transaction in question. Strong record of operating success and cost efficiency	Sufficient experience with the type of transaction in question. Above average record of operating success and cost efficiency	Limited experience with the type of transaction in question. Average record of operating success and cost efficiency	Limited or uncertain track record in general. Volatile costs and profits
Trading controls and hedging policies	Strong standards for counterparty selection, hedging, and monitoring	Adequate standards for counterparty selection, hedging, and monitoring	Past deals have experienced no or minor problems	Trader has experienced significant losses on past deals
Quality of financial disclosure	Excellent	Good	Satisfactory	Financial disclosure contains some

				uncertainties or is insufficient

Security package

Asset control	First perfected security interest provides the lender legal control of the assets at any time if needed	First perfected security interest provides the lender legal control of the assets at any time if needed	At some point in the process, there is a rupture in the control of the assets by the lender. The rupture is mitigated by knowledge of the trade process or a third party undertaking as the case may be	Contract leaves room for some risk of losing control over the assets. Recovery could be jeopardised
Insurance against damages	Strong insurance coverage including collateral damages with top quality insurance companies	Satisfactory insurance coverage (not including collateral damages) with good quality insurance companies	Fair insurance coverage (not including collateral damages) with acceptable quality insurance companies	Weak insurance coverage (not including collateral damages) or with weak quality insurance companies

14.IRB Approach: RWA for purchased receivables

14.1 This chapter presents the method of calculating the unexpected loss capital requirements for purchased receivables. For such assets, there are internal ratings-based (IRB) capital charges for both default risk and dilution risk.

Risk-weighted assets for default risk

14.2 For receivables belonging unambiguously to one asset class, the IRB risk weight for default risk is based on the risk-weight function applicable to that particular exposure type, as long as the bank can meet the qualification standards for this particular risk-weight function. For example, if banks cannot comply with the standards for qualifying revolving retail exposures (defined in paragraph 10.22), they should use the risk-weight function for other retail exposures. For hybrid pools containing mixtures of exposure types, if the purchasing bank cannot separate the exposures by type, the risk-weight function producing the highest capital requirements for the exposure types in the receivable pool applies.

14.3 For purchased retail receivables, a bank must meet the risk quantification standards for retail exposures but can utilize external and internal reference data to estimate the probabilities of default (PDs) and losses-given-default (LGDs). Theestimates for PD and LGD (or expected loss, EL) must be calculated for the receivables on a stand-alone basis; that is, without regard to any assumption of recourse or guarantees from the seller or other parties.

14.4 For purchased corporate receivables the purchasing bank is expected to apply the existing IRB risk quantification standards for the bottom-up approach. However, for eligible purchased corporate receivables, and subject to supervisory permission, a bank may employ the following top-down procedure for calculating IRB risk weights for default risk:

(1) The purchasing bank will estimate the pool's one-year EL for default risk, expressed in percentage of the exposure amount (i.e. the total exposure-at-default, or EAD, amount to the bank by all obligors in the receivables pool). The estimated EL must be calculated for the receivables on a stand-alone basis; that is, without regard to any assumption of recourse or guarantees from the seller or other parties. The treatment of recourse or guarantees covering default risk (and/or dilution risk) is discussed separately below.

(2) Given the EL estimate for the pool's default losses, the risk weight for default risk is determined by the risk-weight function for corporate exposures[60]. As described below, the precise calculation of risk weights for default risk depends on the bank's ability to decompose EL into its PD and LGD components in a reliable manner. Banks can utilize external and internal data to estimate PDs and LGDs. However, the advanced approach will not be available for banks that use the foundation approach for corporate exposures.

Foundation IRB treatment

14.5 The risk weight under the foundation IRB treatment is determined as follows:

(1) If the purchasing bank is unable to decompose EL into its PD and LGD components in a reliable manner, the risk weight is determined from the corporate risk-weight function using the following specifications:

(a) If the bank can demonstrate that the exposures are exclusively seniorclaims to corporate borrowers:

(i) An LGD of 40% can be used.

(ii) PD will be calculated by dividing the EL using this LGD.

(iii) EAD will be calculated as the outstanding amount minus the capital charge for dilution prior to credit risk

[60] The firm-size adjustment for small or medium-sized entities, as defined in paragraph 11.8, will be the weighted average by individual exposure of the pool of purchased corporate receivables. If the bank does not have the information to calculate the average size of the pool, the firm-size adjustment will not apply.

mitigation ($K_{Dilution}$).

(iv) EAD for a revolving purchase facility is the sum of the currentamount of receivables purchased plus 40% of any undrawn purchase commitments minus $K_{Dilution}$.

(b) If the bank cannot demonstrate that the exposures are exclusively seniorclaims to corporate borrowers:

(i) PD is the bank's estimate of EL.

(ii) LGD will be 100%.

(iii) EAD is the amount outstanding minus $K_{Dilution}$.

(iv) EAD for a revolving purchase facility is the sum of the currentamount of receivables purchased plus 40% of any undrawn purchase commitments minus $K_{Dilution}$.

(2) If the purchasing bank is able to estimate PD in a reliable manner, the risk weight is determined from the corporate risk-weight functions according to the specifications for LGD, effective maturity (M) and the treatment of guarantees under the foundation approach as given in paragraphs 12.6 to 12.14, 12.20 to 12.26 and 12.44.

Advanced IRB treatment

14.6 Under the advanced IRB approach, if the purchasing bank can estimate either the pool's default-weighted average loss rates given default (as defined in paragraph 16.82) or average PD in a reliable manner, the bank may estimate the other parameter based on an estimate of the expected long-run loss rate. The bank may: (i) use an appropriate PD estimate to infer the long-run default-weighted average loss rate given default; or (ii) use a long-run default-weighted average loss rate given default to infer the appropriate PD. In either case, the LGD used for the IRB capital calculation for purchased receivables cannot be less than the long-run default-weighted average loss rate given default and must be consistent with the concepts defined in paragraph 16.82. The risk weight for the purchased receivables will be determined using the bank's estimated PD and

LGD as inputs to the corporaterisk-weight function. Similar to the foundation IRB treatment, EAD will be the amount outstanding minus $K_{Dilution}$. EAD for a revolving purchase facility will be the sum of the current amount of receivables purchased plus 40% of any undrawn purchase commitments minus $K_{Dilution}$ (thus, banks using the advanced IRB approach will not be permitted to use their internal EAD estimates for undrawn purchase commitments).

14.7 For drawn amounts, M will equal the pool's exposure-weighted average effective maturity (as defined in paragraphs 12.44 to 12.55). This same value of M will also be used for undrawn amounts under a committed purchase facility provided the facility contains effective covenants, early amortization triggers, or other features that protect the purchasing bank against a significant deterioration in the qualityof the future receivables it is required to purchase over the facility's term. Absentsuch effective protections, the M for undrawn amounts will be calculated as the sum of: (a) the longest-dated potential receivable under the purchase agreement;and (b) the remaining maturity of the purchase facility.

Risk-weighted assets for dilution risk

14.8 Dilution refers to the possibility that the receivable amount is reduced through cash or non-cash credits to the receivable's obligor[61]. For both corporate and retail receivables, unless the bank can demonstrate to its supervisor that the dilution risk for the purchasing bank is immaterial, the treatment of dilution risk must be the following:

(1) At the level of either the pool as a whole (top-down approach) or the individual receivables making up the pool (bottom-up approach), the purchasing bank will estimate the one-year EL for dilution risk, also expressed in percentage of the receivables amount. Banks can utilize externaland internal data to estimate EL. As with the treatments of

[61] Examples include offsets or allowances arising from returns of goods sold, disputes regarding product quality, possible debts of the borrower to a receivables obligor, and any payment or promotional discounts offered by the borrower (e.g. a credit for cash payments within 30 days)

default risk, this estimate must be computed on a stand-alone basis; that is, under the assumption of no recourse or other support from the seller or third-party guarantors.

(2) For the purpose of calculating risk weights for dilution risk, the corporaterisk-weight function must be used with the following settings:

(a) The PD must be set equal to the estimated EL.

(b) The LGD must be set at 100%.

(c) An appropriate maturity treatment applies when determining the capital requirement for dilution risk. If a bank can demonstrate that the dilutionrisk is appropriately monitored and managed to be resolved within one year, the supervisor may allow the bank to apply a one-year maturity.

14.9 This treatment will be applied regardless of whether the underlying receivables are corporate or retail exposures, and regardless of whether the risk weights for default risk are computed using the standard IRB treatments or, for corporate receivables, the top-down treatment described above.

Treatment of purchase price discounts for receivables

14.10 In many cases, the purchase price of receivables will reflect a discount (not to be confused with the discount concept defined in paragraphs 12.29 and 12.62) that provides first loss protection for default losses, dilution losses or both. To the extent that a portion of such a purchase price discount may be refunded to the seller based on the performance of the receivables, the purchaser may recognizethis refundable amount as first-loss protection and hence treat this exposure under the securitization chapters 18 to 23, while the seller providing such a refundable purchase price discount must treat the refundable amount as a first-loss position under the securitization chapters. Non-refundable purchase price discounts for receivables do not affect either the EL-provision calculation in chapter 15 or the calculation of risk-weighted assets.

14.11 When collateral or partial guarantees obtained on receivables provide first loss protection (collectively referred to as mitigants in this paragraph), and these mitigants cover default losses, dilution losses, or both, they may also be treated as first loss protection under the securitization chapters (see paragraph 22.10). When the same mitigant covers both default and dilution risk, banks using the Securitization Internal Ratings-Based Approach (SEC-IRBA) that are able to calculate an exposure-weighted LGD must do so as defined in paragraph 22.21.

Recognition of credit risk mitigants

14.12 Credit risk mitigants will be recognized generally using the same type of framework as set forth in paragraphs 12.21 to 12.28[62].In particular, a guarantee provided by the seller or a third party will be treated using the existing IRB rules for guarantees, regardless of whether the guarantee covers default risk, dilution risk, or both.

(1) If the guarantee covers both the pool's default risk and dilution risk, the bankwill substitute the risk weight for an exposure to the guarantor in place of the pool's total risk weight for default and dilution risk.

(2) If the guarantee covers only default risk or dilution risk, but not both, the bank will substitute the risk weight for an exposure to the guarantor in placeof the pool's risk weight for the corresponding risk component (default or dilution). The capital requirement for the other component will then be added.

(3) If a guarantee covers only a portion of the default and/or dilution risk, the uncovered portion of the default and/or dilution risk will be treated as per the existing credit risk mitigation rules for proportional or tranched coverage (i.e. the risk weights of the uncovered risk components will be added to the risk weights of the covered risk components)

[62] At SAMA's discretion, banks may recognize guarantors that are internally rated and associated with a PD equivalent to less than A- under the foundation IRB approach for purposes of determining capital requirements for dilution risk.

15.IRB Approach: Treatment of expected losses and provisions

15.1 This chapter discusses the calculation of expected losses (EL) under the internal ratings-based (IRB) approach, and the method by which the difference between provisions (e.g. specific provisions, partial write-offs, portfolio-specific general provisions such as country risk provisions or general provisions) and EL may be included in or must be deducted from regulatory capital, as outlined in the definition of capital rules, articles 2.2.3 and 4.1.4 – Section A of *SAMA Guidance Document Concerning the Implementation of Basel III (Circular No. 341000015689, Date: 19 December 2012)*. The treatment of EL and provisions related to securitization exposures is outlined in paragraph 18.36.

Calculation of expected losses

15.2 A bank must sum the EL amount (defined as EL multiplied by exposure at default)associated with its exposures to which the IRB approach is applied (excluding theEL amount associated with securitization exposures) to obtain a total EL amount.

15.3 Banks must calculate EL as probability of default (PD) x loss-given-default (LGD) for corporate, sovereign, bank, and retail exposures not in default. For corporate,sovereign, bank, and retail exposures that are in default, banks must use their best estimate of expected loss as defined in paragraph 16.85 for exposures subject to the advanced approach and for exposures subject to the foundation approach banks must use the supervisory LGD. For exposures subject to the supervisory slotting criteria EL is calculated as described in the chapter on the supervisory slotting approach (paragraphs 13.8 to 13.12). Securitization exposures do not contribute to the EL amount, as set out in in paragraph 18.36.

Calculation of provisions

Exposures subject to the IRB approach for credit risk

15.4 Total eligible provisions are defined as the sum of all provisions (e.g. specific provisions, partial write-offs, portfolio-specific general provisions such as countryrisk provisions or general provisions) that are attributed to exposures treated under the IRB approach. In addition, total eligible provisions may include any discounts on defaulted assets. General and specific provisions set aside against securitization exposures must not be included in total eligible provisions.

Portion of exposures subject to the standardized approach for credit risk

15.5 Banks using the standardized approach for a portion of their credit risk exposures (see paragraphs 10.43 to 10.48), must determine the portion of general provisions attributed to the standardized or IRB treatment of provisions according to the methods outlined in paragraphs 15.6 and 15.7 below.

15.6 Banks should generally attribute total general provisions on a pro rata basis according to the proportion of credit risk-weighted assets subject to the standardized and IRB approaches. However, when one approach to determining credit risk-weighted assets (i.e. standardized or IRB approach) is used exclusively within an entity, general provisions booked within the entity using the standardized approach may be attributed to the standardized treatment. Similarly, general provisions booked within entities using the IRB approach may be attributed to the total eligible provisions as defined in paragraph 15.4.

15.7 At SAMA's discretion, banks using both the standardized and IRB approaches may rely on their internal methods for allocating general provisions for recognition in capital under either the standardized or IRB approach, subject to the following conditions. Where the internal allocation method is made available, the national supervisor will establish the standards surrounding their use. Banks will need to obtain prior approval from their

SAMA to use an internal allocation method for this purpose.

Treatment of EL and provisions

15.8 As specified in articles 2.2.3 and 4.1.4 – Section A of *SAMA Guidance Document Concerning the Implementation of Basel III (Circular No. 341000015689, Date: 19 December 2012),* Banks using the IRB approach must compare the total amount of total eligible provisions (as defined in paragraph 15.4) with the total EL amount as calculated within the IRB approach (as defined in paragraph 15.2). In addition, article 2.2.3 in the aforementioned rules outlines the treatment for that portion of a bank that is subject to the standardized approach for credit risk when the bank uses both the standardized and IRB approaches.

15.9 Where the calculated EL amount is lower than the total eligible provisions of the bank, SAMA will consider whether the EL fully reflects the conditions in the market in which it operates before allowing the difference to be included in Tier 2 capital. If specific provisions exceed the EL amount on defaulted assets thisassessment also needs to be made before using the difference to offset the EL amount on non-defaulted assets.

16.IRB Approach: Minimum requirements to use IRB approach

16.1 This chapter presents the minimum requirements for entry and on-going use of the internal ratings-based (IRB) approach. The minimum requirements are set outin the following 11 sections:

(1) Composition of minimum requirements

(2) Compliance with minimum requirements

(3) Rating system design

(4) Risk rating system operations

(5) Corporate governance and oversight

(6) Use of internal ratings

(7) Risk quantification

(8) Validation of internal estimates

(9) Supervisory loss-given-default (LGD) and exposure at default (EAD) estimates

(10) Requirements for recognition of leasing

(11) Disclosure requirements

16.2 The minimum requirements in the sections that follow cut across asset classes. Therefore, more than one asset class may be discussed within the context of agiven minimum requirement.

Section 1: composition of minimum requirements

16.3 To be eligible for the IRB approach a bank must demonstrate to SAMA that it meets certain minimum requirements at the outset and on an ongoing basis. Many of these requirements are in the form of objectives that a qualifying bank's risk rating systems must fulfil. The focus is on banks' abilities to rank orderand quantify risk in a consistent, reliable and valid fashion.

16.4 The overarching principle behind these requirements is that rating and risk estimation systems and processes provide for a meaningful assessment of borrower and transaction characteristics; a meaningful differentiation of risk; and reasonably accurate and consistent quantitative estimates of risk. Furthermore, the systems and processes must be consistent with internal use of these estimates.

16.5 The minimum requirements set out in this chapter apply to all asset classes unless noted otherwise. The standards related to the process of assigning exposures to borrower or facility grades (and the related oversight, validation, etc.) apply equally to the process of assigning retail exposures to pools of homogenous exposures, unless noted otherwise.

16.6 The minimum requirements set out in this chapter apply to both foundation and advanced approaches unless noted otherwise. Generally, all IRB banks must produce their own estimates of probability of default (PD[63]) and must adhere to the overall requirements for rating system design, operations, controls, and corporate governance, as well as the requisite requirements for estimation and validation of PD measures. Banks wishing to use their own estimates of LGD and EAD must also meet the incremental minimum requirements for these risk factors included in paragraphs 16.82 to 16.110.

[63] Banks are not required to produce their own estimates of PD for exposures subject to the supervisory slotting approach

Section 2: compliance with minimum requirements

16.7 To be eligible for an IRB approach, a bank must demonstrate to SAMA that it meets the IRB requirements in this framework, at the outset and on an ongoing basis. Banks' overall credit risk management practices must also be consistent with the evolving sound practice/guidelines issued by SAMA.

16.8 There may be circumstances when a bank is not in complete compliance with all the minimum requirements. Where this is the case, the bank must produce a plan for a timely return to compliance, and seek approval from its supervisor, or the bank must demonstrate that the effect of such non-compliance is immaterial in terms of the risk posed to the institution. Failure to produce an acceptable plan or satisfactorily implement the plan or to demonstrate immateriality will lead SAMA to reconsider the bank's eligibility for the IRB approach. Furthermore, for the duration of any non-compliance, SAMA will consider the need for the bank to hold additional capital under the supervisory review process or take other appropriate supervisory action.

Section 3: rating system design

16.9 The term "rating system" comprises all of the methods, processes, controls, anddata collection and IT systems that support the assessment of credit risk, the assignment of internal risk ratings, and the quantification of default and loss estimates.

16.10 Within each asset class, a bank may utilize multiple rating methodologies /systems. For example, a bank may have customized rating systems for specific industries or market segments (e.g. middle market, and large corporate). If a bank chooses to use multiple systems, the rationale for assigning a borrower to a rating system must be documented and applied in a manner that best reflects thelevel of risk of the borrower. Banks must not allocate borrowers across rating systems inappropriately to minimize regulatory capital requirements (i.e. cherry- picking by choice of rating system). Banks must demonstrate that each system used for IRB purposes is in compliance with the minimum requirements at the outset and on an ongoing basis.

Rating dimensions : standards for corporate, sovereign and bank exposures

16.11 A qualifying IRB rating system must have two separate and distinct dimensions:

(1) the risk of borrower default; and

(2) transaction-specific factors.

16.12 The first dimension must be oriented to the risk of borrower default. Separate exposures to the same borrower must be assigned to the same borrower grade, irrespective of any differences in the nature of each specific transaction. There are two exceptions to this. Firstly, in the case of country transfer risk, where a bank may assign different borrower grades depending on whether the facility is denominated in local or foreign currency. Secondly, when the treatment of associated guarantees to a facility may be reflected in an adjusted borrower grade. In either case, separate exposures may result in multiple grades for the same borrower. A bank must articulate in its credit policy the relationship between borrower grades in terms of the level of risk each grade

implies. Perceived and measured risk must increase as credit quality declines from one grade to the next. The policy must articulate the risk of each grade in terms of both a description of the probability of default risk typical for borrowers assigned the grade and the criteria used to distinguish that level of credit risk.

16.13 The second dimension must reflect transaction-specific factors, such as collateral, seniority, product type, etc. For exposures subject to the foundation IRB approach, this requirement can be fulfilled by the existence of a facility dimension, which reflects both borrower and transaction-specific factors. For example, a rating dimension that reflects expected loss (EL) by incorporating both borrower strength (PD) and loss severity (LGD) considerations would qualify. Likewise a rating system that exclusively reflects LGD would qualify. Where a rating dimension reflects EL and does not separately quantify LGD, the supervisory estimates of LGD must be used.

16.14 For banks using the advanced approach, facility ratings must reflect exclusively LGD. These ratings can reflect any and all factors that can influence LGD including, but not limited to, the type of collateral, product, industry, and purpose. Borrower characteristics may be included as LGD rating criteria only to the extent they are predictive of LGD. Banks may alter the factors that influence facility grades across segments of the portfolio as long as they can satisfy their supervisor that it improves the relevance and precision of their estimates.

16.15 Banks using the supervisory slotting criteria are exempt from this two-dimensional requirement for these exposures. Given the interdependence between borrower/transaction characteristics in exposures subject to the supervisory slotting approaches, banks may satisfy the requirements under this heading through a single rating dimension that reflects EL by incorporating both borrower strength (PD) and loss severity (LGD) considerations. This exemption does not apply to banks using the general corporate foundation or advanced approach for the specialized lending (SL) sub-class.

Rating dimensions: standards for retail exposures

16.16 Rating systems for retail exposures must be oriented to both borrower and transaction risk, and must capture all relevant borrower and transaction characteristics. Banks must assign each exposure that falls within the definition of retail for IRB purposes into a particular pool. Banks must demonstrate that this process provides for a meaningful differentiation of risk, provides for a grouping of sufficiently homogenous exposures, and allows for accurate and consistent estimation of loss characteristics at pool level.

16.17 For each pool, banks must estimate PD, LGD, and EAD. Multiple pools may share identical PD, LGD and EAD estimates. At a minimum, banks should consider the following risk drivers when assigning exposures to a pool:

(1) Borrower risk characteristics (e.g. borrower type, demographics such as age /occupation).

(2) Transaction risk characteristics, including product and/or collateral types (e.g. loan to value measures, seasoning[64],guarantees; and seniority (first vs. second lien)). Banks must explicitly address cross collateral provisions wherepresent.

(3) Delinquency of exposure: Banks are expected to separately identify exposures that are delinquent and those that are not.

[64] For each pool where the banks estimate PD and LGD, banks should analyze the representativeness of the age of the facilities (in terms of time since origination for PD and time since the date of default for LGD) in the data used to derive the estimates of the bank's actual facilities. In certain market conditions, default rates peak several years after origination or recovery rates show a low point several years after default, as such banks should adjust the estimates with an adequate margin of conservatism to account for the lack of representativeness as well as anticipated implications of rapid exposure growth.

Rating structure : standards for corporate, sovereign and bank exposures

16.18 A bank must have a meaningful distribution of exposures across grades with no excessive concentrations, on both its borrower-rating and its facility-rating scales.

16.19 To meet this objective, a bank must have a minimum of seven borrower grades for non-defaulted borrowers and one for those that have defaulted. Banks with lending activities focused on a particular market segment may satisfy this requirement with the minimum number of grades.

16.20 A borrower grade is defined as an assessment of borrower risk on the basis of aspecified and distinct set of rating criteria, from which estimates of PD are derived. The grade definition must include both a description of the degree of default risk typical for borrowers assigned the grade and the criteria used to distinguish that level of credit risk. Furthermore, "+" or "-" modifiers to alpha or numeric grades will only qualify as distinct grades if the bank has developed complete rating descriptions and criteria for their assignment, and separately quantifies PDs for these modified grades.

16.21 Banks with loan portfolios concentrated in a particular market segment and rangeof default risk must have enough grades within that range to avoid undue concentrations of borrowers in particular grades. Significant concentrations within a single grade or grades must be supported by convincing empirical evidence that the grade or grades cover reasonably narrow PD bands and that the default risk posed by all borrowers in a grade fall within that band.

16.22 There is no specific minimum number of facility grades for banks using the advanced approach for estimating LGD. A bank must have a sufficient number offacility grades to avoid grouping facilities with widely varying LGDs into a single grade. The criteria used to define facility grades must be grounded in empirical evidence.

16.23 Banks using the supervisory slotting criteria must have at least four grades for non-defaulted borrowers, and one for defaulted borrowers. The requirements for SL exposures that qualify for the corporate foundation and advanced approachesare the same as those for general corporate exposures.

Rating structure: standards for retail exposures

16.24 For each pool identified, the bank must be able to provide quantitative measures of loss characteristics (PD, LGD, and EAD) for that pool. The level of differentiation for IRB purposes must ensure that the number of exposures in a given pool is sufficient so as to allow for meaningful quantification and validation of the loss characteristics at the pool level. There must be a meaningful distribution of borrowers and exposures across pools. A single pool must not include an undue concentration of the bank's total retail exposure.

Rating criteria

16.25 A bank must have specific rating definitions, processes and criteria for assigningexposures to grades within a rating system. The rating definitions and criteria must be both plausible and intuitive and must result in a meaningful differentiation of risk.

(1) The grade descriptions and criteria must be sufficiently detailed to allow those charged with assigning ratings to consistently assign the same grade to borrowers or facilities posing similar risk. This consistency should exist across lines of business, departments and geographic locations. If rating criteria and procedures differ for different types of borrowers or facilities, thebank must monitor for possible inconsistency, and must alter rating criteria to improve consistency when appropriate.

(2) Written rating definitions must be clear and detailed enough to allow third parties to understand the assignment of ratings, such as internal audit or anequally independent function and supervisors, to replicate rating assignments and evaluate the appropriateness of the grade/pool assignments.

(3) The criteria must also be consistent with the bank's internal lending standards and its policies for handling troubled borrowers and facilities.

16.26 To ensure that banks are consistently taking into account available information, they must use all relevant and material information in assigning ratings to borrowers and facilities. Information must be current. The less information a bank has, the more conservative must be its assignments of exposures to borrower and facility grades or pools. An external rating can be the primary factor determining an internal rating assignment; however, the bank must ensure that it considers other relevant information.

Rating criteria: exposures subject to the supervisory slotting approach

16.27 Banks using the supervisory slotting criteria must assign exposures to their internal rating grades based on their own criteria, systems and processes, subject to compliance with the requisite minimum requirements. Banks must then map these internal rating grades into the five supervisory rating categories. The slotting criteria tables in the supervisory slotting approach chapter 13 provide, for each sub-class of SL exposures, the general assessment factors and characteristics exhibited by the exposures that fall under each of the supervisorycategories. Each lending activity has a unique table describing the assessment factors and characteristics.

16.28 The criteria that banks use to assign exposures tointernal grades will not perfectly align with criteria that define the supervisory categories; however, banks must demonstrate that their mapping process has resulted in an alignment of grades which is consistent with the preponderance of the characteristics in the respective supervisory category. Banks should take special care to ensure that any overrides of their internal criteria do not render the mapping process ineffective.

Rating assignment horizon

16.29 Although the time horizon used in PD estimation is one year (as described in paragraph 16.62), banks are expected to use a longer time horizon in assigning ratings.

16.30 A borrower rating must represent the bank's assessment of the borrower's ability and willingness to contractually perform despite adverse economic conditions or the occurrence of unexpected events. The range of economic conditions that are considered when making assessments must be consistent with current conditionsand those that are likely to occur over a business cycle within the respective industry/geographic region. Rating systems should be designed in such a way that idiosyncratic or industry-specific changes are a driver of migrations from onecategory to another, and business cycle effects may also be a driver.

16.31 PD estimates for borrowers that are highly leveraged or for borrowers whose assets are predominantly traded assets must reflect the performance of the underlying assets based on periods of stressed volatilities.

16.32 Given the difficulties in forecasting future events and the influence they will have on a particular borrower's financial condition, a bank must take a conservative view of projected information. Furthermore, where limited data are available, a bank must adopt a conservative bias to its analysis.

Use of models

16.33 The requirements in this section apply to statistical models and other mechanical methods used to assign borrower or facility ratings or in estimation of PDs, LGDs, or EADs. Credit scoring models and other mechanical rating procedures generally use only a subset of available information. Although mechanical rating procedures may sometimes avoid some of the idiosyncratic errors made by rating systems in which human judgement plays a large role, mechanical use of limited information also is a source of rating errors. Credit scoring models and other mechanical procedures are permissible as the primary or partial basis of rating assignments, and may play a role in the estimation of loss characteristics. Sufficient human judgement and human oversight is necessary to ensure that all relevant and material information, including that which is outside the scope of the model, is also taken into consideration, and that the model is used appropriately.

(1) The burden is on the bank to satisfy its supervisor that a model or procedure has good predictive power and that regulatory capital requirements will not be distorted as a result of its use. The variables that are input to the model must form a reasonable set of predictors. The model must be accurate on average across the range of borrowers or facilities to which the bank is exposed and there must be no known material biases.

(2) The bank must have in place a process for vetting data inputs into a statistical default or loss prediction model which includes an assessment ofthe accuracy, completeness and appropriateness of the data specific to theassignment of an approved rating.

(3) The bank must demonstrate that the data used to build the model are representative of the population of the bank's actual borrowers or facilities.

(4) When combining model results with human judgement, the judgement must take into account all relevant and material information not considered by the model. The bank must have written guidance describing how human judgement and model results are to be combined.

(5) The bank must have procedures for human review of model-based rating assignments. Such procedures should focus on finding and limiting errors associated with known model weaknesses and must also include credibleongoing efforts to improve the model's performance.

(6) The bank must have a regular cycle of model validation that includes monitoring of model performance and stability; review of model relationships; and testing of model outputs against outcomes.

Documentation of rating system design

16.34 Banks must document in writing their rating systems' design and operational details. The documentation must evidence banks' compliance with the minimumstandards, and must address topics such as portfolio differentiation, rating criteria, responsibilities of parties that rate borrowers and facilities, definition of what constitutes a rating exception, parties that have authority to approve exceptions, frequency of rating reviews, and management oversight of the ratingprocess. A bank must document the rationale for its choice of internal rating criteria and must be able to provide analyses demonstrating that rating criteria and procedures are likely to result in ratings that meaningfully differentiate risk. Rating criteria and procedures must be periodically reviewed to determine whether they remain fully applicable to the current portfolio and to external conditions. In addition, a bank must document a history of major changes in the risk rating process, and such documentation must support identification of changes made to the risk rating process subsequent to the last supervisory review. The organization of rating assignment, including the internal controlstructure, must also be documented.

16.35 Banks must document the specific definitions of default and loss used internally and demonstrate consistency with the reference definitions set out in paragraphs 16.67 to 16.75.

16.36 If the bank employs statistical models in the rating process, the bank must document their methodologies. This material must:

(1) Provide a detailed outline of the theory, assumptions and/or mathematicaland empirical basis of the assignment of estimates to grades, individual obligors, exposures, or pools, and the data source(s) used to estimate the model;

(2) Establish a rigorous statistical process (including out-of-time and out-of-sample performance tests) for validating the model; and

(3) Indicate any circumstances under which the model does not work effectively.

16.37 Use of a model obtained from a third-party vendor that claims proprietary technology is not a justification for exemption from documentation or any other of the requirements for internal rating systems. The burden is on the model's vendor and the bank to satisfy SAMA.

Section 4: risk rating system operations

Coverage of ratings

16.38 For corporate, sovereign and bank exposures, each borrower and all recognized guarantors must be assigned a rating and each exposure must be associated witha facility rating as part of the loan approval process. Similarly, for retail, each exposure must be assigned to a pool as part of the loan approval process.

16.39 Each separate legal entity to which the bank is exposed must be separately rated. A bank must have policies acceptable to its supervisor regarding the treatment of individual entities in a connected group including circumstances under which the same rating may or may not be assigned to some or all related entities. Those policies must include a process for the identification of specific wrong way risk for each legal entity to which the bank is exposed. Transactions with counterparties where specific wrong way risk has been identified need to be treated differently when calculating the EAD for such exposures (see paragraph 7.48 in the CCR framework).

Integrity of rating process: standards for corporate, sovereign and bank exposures

16.40 Rating assignments and periodic rating reviews must be completed or approved by a party that does not directly stand to benefit from the extension of credit. Independence of the rating assignment process can be achieved through a range of practices that will be carefully reviewed by SAMA. These operational processes must be documented in the bank's procedures and incorporated into bank policies. Credit policies and underwriting procedures must reinforce and foster the independence of the rating process.

16.41 Borrowers and facilities must have their ratings refreshed at least on an annual basis. Certain credits, especially higher risk borrowers or problem exposures, must be subject to more frequent review. In addition, banks must initiate a new rating if material information on the borrower or facility comes to light.

16.42 The bank must have an effective process to obtain and update relevant and material information on the borrower's financial condition, and on facility characteristics that affect LGDs and EADs (such as the condition of collateral). Upon receipt, the bank needs to have a procedure to update the borrower's rating in a timely fashion.

Integrity of rating process: standards for retail exposures

16.43 A bank must review the loss characteristics and delinquency status of each identified risk pool on at least an annual basis. It must also review the status of individual borrowers within each pool as a means of ensuring that exposures continue to be assigned to the correct pool. This requirement may be satisfied byreview of a representative sample of exposures in the pool.

Overrides

16.44 For rating assignments based on expert judgement, banks must clearly articulate the situations in which bank officers may override the outputs of the rating process, including how and to what extent such overrides can be used and by whom. For model-based ratings, the bank must have guidelines and processes for monitoring cases where human judgement has overridden the model's rating, variables were excluded or inputs were altered. These guidelines must include identifying personnel that are responsible for approving these overrides. Banks must identify overrides and separately track their performance.

Data maintenance

16.45 A bank must collect and store data on key borrower and facility characteristics to provide effective support to its internal credit risk measurement and management process, to enable the bank to meet the other requirements in this document, and to serve as a basis for supervisory reporting. These data should be sufficiently detailed to allow retrospective re-allocation of obligors and facilities to grades, for example if increasing sophistication of the internal rating system suggests that finer segregation of portfolios can be achieved. Furthermore, banks must collect and retain data on aspects of their internal ratings as required by *Pillar 3 Disclosure Requirements Framework*.

Data maintenance: for corporate, sovereign and bank exposures

16.46 Banks must maintain rating histories on borrowers and recognized guarantors, including the rating since the borrower/guarantor was assigned an internal grade, the dates the ratings were assigned, the methodology and key data used to derive the rating and the person/model responsible. The identity of borrowers and facilities that default, and the timing and circumstances of such defaults, must be retained. Banks must also retain data on the PDs and realized default rates associated with rating grades and ratings migration in order to track the predictive power of the borrower rating system.

16.47 Banks using the advanced IRB approach must also collect and store a completehistory of data on the LGD and EAD estimates associated with each facility andthe key data used to derive the estimate and the person/model responsible. Banks must also collect data on the estimated and realized LGDs and EADs associated with each defaulted facility. Banks that reflect the credit risk mitigating effects of guarantees/credit derivatives through LGD must retain data on the LGDof the facility before and after evaluation of the effects of the guarantee/credit derivative. Information about the components of loss or recovery for each defaulted exposure must be retained, such as amounts recovered, source of recovery (e.g. collateral, liquidation proceeds and guarantees), time period required for recovery, and administrative costs.

16.48 Banks under the foundation approach which utilize supervisory estimates are encouraged to retain the relevant data (i.e. data on loss and recovery experience for corporate exposures under the foundation approach, data on realized losses for banks using the supervisory slotting criteria).

Data maintenance: for retail exposures

16.49 Banks must retain data used in the process of allocating exposures to pools, including data on borrower and transaction risk characteristics used either directly or through use of a model, as well as data on delinquency. Banks must also retain data on the estimated PDs, LGDs and EADs, associated with pools of exposures. For defaulted exposures, banks must retain the data on the pools to which the exposure was assigned over the year prior to default and the realized outcomes on LGD and EAD.

Stress tests used in assessment of capital adequacy

16.50 An IRB bank must have in place sound stress testing processes for use in the assessment of capital adequacy. Stress testing must involve identifying possible events or future changes in economic conditions that could have unfavorable effects on a bank's credit exposures and assessment of the bank's ability to withstand such changes. Examples of scenarios that could be used are:

(1) Economic or industry downturns;

(2) Market-risk events; and

(3) Liquidity conditions.

16.51 In addition to the more general tests described above, the bank must perform a credit risk stress test to assess the effect of certain specific conditions on its IRB regulatory capital requirements. The test to be employed would be one chosen by the bank, subject to supervisory review. The test to be employed must be meaningful and reasonably conservative. Individual banks may develop different approaches to undertaking this stress test requirement, depending on their circumstances. For this purpose, the objective is not to require banks to consider worst-case scenarios. The bank's stress test in this context should, however, consider at least the effect of mild recession scenarios. In this case, one example might be to use two consecutive quarters of zero growth to assess the effect on the bank's PDs, LGDs and EADs, taking account – on a conservative basis – of the bank's international diversification.

16.52 Whatever method is used, the bank must include a consideration of the following sources of information. First, a bank's own data should allow estimation of the ratings migration of at least some of its exposures. Second, banks should consider information about the impact of smaller deterioration in the credit environment on a bank's ratings, giving some information on the likely effect of bigger, stress circumstances. Third, banks should evaluate evidence of ratings migration in external ratings. This would include the bank broadly matching its buckets to rating categories.

Section 5: corporate governance and oversight

Corporate governance

16.53 All material aspects of the rating and estimation processes must be approved by the bank's board of directors or a designated authority. These parties must possess a general understanding of the bank's risk rating system and detailed comprehension of its associated management reports. Senior management must provide notice to the board of directors or a designated committee thereof of material changes or exceptions from established policies that will materially impact the operations of the bank's rating system.

16.54 Senior management also must have a good understanding of the rating system's design and operation, and must approve material differences between established procedure and actual practice. Management must also ensure, on an ongoing basis, that the rating system is operating properly. Management and staff in the credit control function must meet regularly to discuss the performance of the rating process, areas needing improvement, and the status ofefforts to improve previously identified deficiencies.

16.55 Internal ratings must be an essential part of the reporting to these parties. Reporting must include risk profile by grade, migration across grades, estimation of the relevant parameters per grade, and comparison of realized default rates (and LGDs and EADs for banks on advanced approaches) against expectations. Reporting frequencies may vary with the significance and type of information andthe level of the recipient.

Credit risk control

16.56 Banks must have independent credit risk control units that are responsible for the design or selection, implementation and performance of their internal rating systems. The unit(s) must be functionally independent from the personnel and management functions responsible for originating exposures. Areas of responsibility must include:

(1) Testing and monitoring internal grades;

(2) Production and analysis of summary reports from the bank's rating system, to include historical default data sorted by rating at the time of default and one year prior to default, grade migration analyses, and monitoring of trendsin key rating criteria;

(3) Implementing procedures to verify that rating definitions are consistentlyapplied across departments and geographic areas;

(4) Reviewing and documenting any changes to the rating process, including thereasons for the changes; and

(5) Reviewing the rating criteria to evaluate if they remain predictive of risk. Changes to the rating process, criteria or individual rating parameters mustbe documented and retained for SAMA to review.

16.57 A credit risk control unit must actively participate in the development, selection,implementation and validation of rating models. It must assume oversight and supervision responsibilities for any models used in the rating process, and ultimate responsibility for the ongoing review and alterations to rating models.

Internal and external audit

16.58 Internal audit or an equally independent function must review at least annually, the bank's rating system and its operations, including the operations of the creditfunction and the estimation of PDs, LGDs and EADs. Areas of review include adherence to all applicable minimum requirements. Internal audit must document its findings.

Section 6: use of internal ratings

16.59 Internal ratings and default and loss estimates must play an essential role in the credit approval, risk management, internal capital allocations, and corporate governance functions of banks using the IRB approach. Ratings systems and estimates designed and implemented exclusively for the purpose of qualifying for the IRB approach and used only to provide IRB inputs are not acceptable. It is recognized that banks will not necessarily be using exactly the same estimates for both IRB and all internal purposes. For example, pricing models are likely to use PDs and LGDs relevant to the life of the asset. Where there are such differences, a bank must document them and demonstrate their reasonableness to SAMA.

16.60 A bank must have a credible track record in the use of internal ratings information. Thus, the bank must demonstrate that it has been using a rating system that was broadly in line with the minimum requirements articulated in this document for at least the three years prior to qualification. A bank using the advanced IRB approach must demonstrate that it has been estimating and employing LGDs and EADs in a manner that is broadly consistent with the minimum requirements for use of own estimates of LGDs and EADs for at least the three years prior to qualification. Improvements to a bank's rating system will not render a bank non-compliant with the three-year requirement.

Section 7: risk quantification

Overall requirements for estimation (structure and intent)

16.61 This section addresses the broad standards for own-estimates of PD, LGD, and EAD. Generally, all banks using the IRB approaches must estimate a PD[65] for each internal borrower grade for corporate, sovereign and bank exposures or for eachpool in the case of retail exposures.

16.62 PD estimates must be a long-run average of one-year default rates for borrowers in the grade, with the exception of retail exposures as set out in paragraphs 16.80 and 16.81. Requirements specific to PD estimation are provided in paragraphs 16.76 to 16.81. Banks on the advanced approach must estimate an appropriate LGD (as defined in paragraphs 16.82 to 16.87) for each of its facilities (or retail pools). For exposures subject to the advanced approach, banks must also estimate an appropriate long-run default-weighted average EAD for each of its facilities as defined in paragraphs 16.88 and 16.89. Requirements specific to EAD estimation appear in paragraphs 16.88 to 16.98. For corporate, sovereign and bank exposures, banks that do not meet the requirements for own-estimates of EAD or LGD, above, must use the supervisory estimates of these parameters. Standards for useof such estimates are set out in paragraphs 16.127 to 16.144.

16.63 Internal estimates of PD, LGD, and EAD must incorporate all relevant, material and available data, information and methods. A bank may utilize internal dataand data from external sources (including pooled data). Where internal or external data is used, the bank must demonstrate that its estimates are representative of long run experience.

16.64 Estimates must be grounded in historical experience and empirical evidence, and not based purely on subjective or judgmental considerations. Any changes in lending practice or the process for pursuing recoveries over the observation period must be taken into account. A bank's estimates must promptly reflect the implications of technical advances and new data and other information, as it becomes available. Banks must review their estimates

[65] Banks are not required to produce their own estimates of PD for exposures subject to the supervisory slotting approach.

on a yearly basis or more frequently.

16.65 The population of exposures represented in the data used for estimation, and lending standards in use when the data were generated, and other relevant characteristics should be closely matched to or at least comparable with those ofthe bank's exposures and standards. The bank must also demonstrate that economic or market conditions that underlie the data are relevant to current andforeseeable conditions. For estimates of LGD and EAD, banks must take into account paragraphs 16.82 to 16.98. The number of exposures in the sample and the data period used for quantification must be sufficient to provide the bank with confidence in the accuracy and robustness of its estimates. The estimation technique must perform well in out-of-sample tests.

16.66 In general, estimates of PDs, LGDs, and EADs are likely to involve unpredictable errors. In order to avoid over-optimism, a bank must add to its estimates a margin of conservatism that is related to the likely range of errors. Where methods and data are less satisfactory and the likely range of errors is larger, the margin of conservatism must be larger. SAMA may, on case by case basis, allow some flexibility in application of the required standards for data that are collected prior to the date of implementation of this Framework. However, in such cases banks must demonstrate that appropriate adjustments have been made to achieve broad equivalence to the data without such flexibility. Data collected beyond the date of implementation must conform to the minimum standards unless otherwise stated.

Definition of default

16.67 A default is considered to have occurred with regard to a particular obligor wheneither or both of the two following events have taken place.

(1) The bank considers that the obligor is unlikely to pay its credit obligations tothe banking group in full, without recourse by the bank to actions such as realizing security (if held).

(2) The obligor is past due more than 90 days on any material credit obligation to the banking group. Overdrafts will be considered as being past due once the customer has breached an advised limit or been advised of a limit smaller than current outstandings.

16.68 The elements to be taken as indications of unlikeliness to pay include:

(1) The bank puts the credit obligation on non-accrued status.

(2) The bank makes a charge-off or account-specific provision resulting from a significant perceived decline in credit quality subsequent to the bank taking on the exposure.

(3) The bank sells the credit obligation at a material credit-related economic loss.

(4) The bank consents to a distressed restructuring of the credit obligation where this is likely to result in a diminished financial obligation caused by the material forgiveness, or postponement, of principal, interest or (whererelevant) fees.

(5) The bank has filed for the obligor's bankruptcy or a similar order in respectof the obligor's credit obligation to the banking group.

(6) The obligor has sought or has been placed in bankruptcy or similar protection where this would avoid or delay repayment of the credit obligation to the banking group.

16.69 SAMA will provide appropriate guidance as to how these elements must be implemented and monitored.

16.70 For retail exposures, the definition of default can be applied at the level of a particular facility, rather than at the level of the obligor. As such, default by a borrower on one obligation does not require a bank to treat all other obligationsto the banking group as defaulted.

16.71 A bank must record actual defaults on IRB exposure classes using this reference definition. A bank must also use the reference definition for its estimation of PDs, and (where relevant) LGDs and EADs. In arriving at these estimations, a bank may use external data available to it that is not itself consistent with that definition, subject to the requirements set out in paragraph 16.77. However, in such cases, banks must demonstrate to SAMA that appropriate adjustments to the data have been made to achieve broad equivalence with the reference definition. This same condition would apply to any internal data used up to implementation of this Framework. Internal data (including that pooled by banks) used in such estimates beyond the date of implementation of this Framework must be consistent with the reference

definition.

16.72 If the bank considers that a previously defaulted exposure's status is such that no trigger of the reference definition any longer applies, the bank must rate the borrower and estimate LGD as they would for a non-defaulted facility. Should the reference definition subsequently be triggered, a second default would be deemed to have occurred.

Re-ageing

16.73 The bank must have clearly articulated and documented policies in respect of the counting of days past due, in particular in respect of the re-ageing of the facilities and the granting of extensions, deferrals, renewals and rewrites to existing accounts. At a minimum, the re-ageing policy must include: (a) approval authorities and reporting requirements; (b) minimum age of a facility before it is eligible for re-ageing; (c) delinquency levels of facilities that are eligible for re- ageing; (d) maximum number of re-ageings per facility; and (e) a reassessment of the borrower's capacity to repay. These policies must be applied consistently over time, and must support the 'use test' (ie if a bank treats a re-aged exposure in a similar fashion to other delinquent exposures more than the past-due cut off point, this exposure must be recorded as in default for IRB purposes).

Treatment of overdrafts

16.74 Authorized overdrafts must be subject to a credit limit set by the bank and brought to the knowledge of the client. Any break of this limit must be monitored; if the account were not brought under the limit after 90 to 180 days (subject to the applicable past-due trigger), it would be considered as defaulted. Non-authorized overdrafts will be associated with a zero limit for IRB purposes. Thus, days past due commence once any credit is granted to an unauthorized customer; if such credit were not repaid within 90 to 180 days, the exposure would be considered in default. Banks must have in place rigorous internal policies for assessing the creditworthiness of customers who are offered overdraft accounts.

Definition of loss for all asset classes

16.75 The definition of loss used in estimating LGD is economic loss. When measuring economic loss, all relevant factors should be taken into account. This must include material discount effects and material direct and indirect costs associated with collecting on the exposure. Banks must not simply measure the loss recorded in accounting records, although they must be able to compare accounting and economic losses. The bank's own workout and collection expertise significantly influences their recovery rates and must be reflected in their LGD estimates, but adjustments to estimates for such expertise must be conservative until the bank has sufficient internal empirical evidence of the impact of its expertise.

Requirements specific to PD estimation : corporate, sovereign and bank exposures

16.76 Banks must use information and techniques that take appropriate account of the long-run experience when estimating the average PD for each rating grade. For example, banks may use one or more of the three specific techniques set out below: internal default experience, mapping to external data, and statistical default models.

16.77 Banks may have a primary technique and use others as a point of comparison and potential adjustment. SAMA will not be satisfied by mechanical application of a technique without supporting analysis. Banks must recognize the importance of judgmental considerations in combining results of techniques and in making adjustments for limitations of techniques and information. For all methods listed below, banks must estimate a PD for each rating grade based on the observed historical average one-year default rate that is a simple average based on number of obligors (count weighted). Weighting approaches, such as EAD weighting, are not permitted.

(1) A bank may use data on internal default experience for the estimation of PD. A bank must demonstrate in its analysis that the estimates are reflective of underwriting standards and of any differences in the rating system that generated the data and the current rating system. Where

only limited data are available, or where underwriting standards or rating systems have changed, the bank must add a greater margin of conservatism in its estimate of PD. The use of pooled data across institutions may also be recognized. A bank must demonstrate that the internal rating systems and criteria of other banks in the pool are comparable with its own.

(2) Banks may associate or map their internal grades to the scale used by an external credit assessment institution or similar institution and then attribute the default rate observed for the external institution's grades to the bank's grades. Mappings must be based on a comparison of internal rating criteria to the criteria used by the external institution and on a comparison of the internal and external ratings of any common borrowers. Biases or inconsistencies in the mapping approach or underlying data must be avoided. The external institution's criteria underlying the data used for quantification must be oriented to the risk of the borrower and not reflect transaction characteristics. The bank's analysis must include a comparison of the default definitions used, subject to the requirements in paragraphs 16.67 to 16.72. The bank must document the basis for the mapping.

(3) A bank is allowed to use a simple average of default-probability estimates for individual borrowers in a given grade, where such estimates are drawn from statistical default prediction models. The bank's use of default probability models for this purpose must meet the standards specified in paragraph 16.33.

16.78 Irrespective of whether a bank is using external, internal, or pooled data sources, or a combination of the three, for its PD estimation, the length of the underlying historical observation period used must be at least five years for at least one source. If the available observation period spans a longer period for any source, and this data are relevant and material, this longer period must be used. The data should include a representative mix of good and bad years.

Requirements specific to PD estimation: retail exposures

16.79 Given the bank-specific basis of assigning exposures to pools, banks must regard internal data as the primary source of information for estimating loss characteristics. Banks are permitted to use external data or statistical models for quantification provided a strong link can be demonstrated between: (a) the bank' s process of assigning exposures to a pool and the process used by the external data source; and (b) between the bank's internal risk profile and the composition of the external data. In all cases banks must use all relevant and material data sources as points of comparison.

16.80 One method for deriving long-run average estimates of PD and default-weightedaverage loss rates given default (as defined in paragraph 16.82) for retail would be based on an estimate of the expected long-run loss rate. A bank may (i) use an appropriate PD estimate to infer the long-run default-weighted average loss rate given default, or (ii) use a long-run default-weighted average loss rate given default to infer the appropriate PD. In either case, it is important to recognize that the LGD used for the IRB capital calculation cannot be less than the long-run default-weighted average loss rate given default and must be consistent with theconcepts defined in paragraph 16.82.

16.81 Irrespective of whether banks are using external, internal, pooled data sources, or a combination of the three, for their estimation of loss characteristics, the length of the underlying historical observation period used must be at least five years. If the available observation spans a longer period for any source, and these data are relevant, this longer period must be used. The data should include a representative mix of good and bad years of the economic cycle relevant for the portfolio. The PD should be based on the observed historical average one-year default rate.

Requirements specific to own-LGD estimates: standards for all asset classes

16.82 A bank must estimate an LGD for each facility that aims to reflect economic downturn conditions where necessary to capture the relevant risks. This LGD cannot be less than the long-run default-weighted average loss rate given defaultcalculated based on the average economic loss of all observed defaults within the data source for that type of facility. In addition, a bank must take into account the potential for the LGD of the facility to be higher than the default-weighted average during a period when credit losses are substantially higher than average. For certain types of exposures, loss severities may not exhibit such cyclical variability and LGD estimates may not differ materially from the long-run default- weighted average. However, for other exposures, this cyclical variability in loss severities may be important and banks will need to incorporate it into their LGD estimates. For this purpose, banks may make reference to the averages of loss severities observed during periods of high credit losses, forecasts based on appropriately conservative assumptions, or other similar methods. Appropriate estimates of LGD during periods of high credit losses might be formed using either internal and/or external data. SAMA will continue to monitor and encourage the development of appropriate approaches to this issue.

16.83 In its analysis, the bank must consider the extent of any dependence between the risk of the borrower and that of the collateral or collateral provider. Cases where there is a significant degree of dependence must be addressed in a conservative manner. Any currency mismatch between the underlying obligation and the collateral must also be considered and treated conservatively in the bank's assessment of LGD.

16.84 LGD estimates must be grounded in historical recovery rates and, when applicable, must not solely be based on the collateral's estimated market value. This requirement recognizes the potential inability of banks to gain both control of their collateral and liquidate it expeditiously. To the extent that LGD estimates take into account the existence of collateral, banks must establish internal requirements for collateral management, operational procedures, legal certainty and risk management process that are generally consistent with those required for the foundation IRB approach.

16.85 Recognizing the principle that realized losses can at times systematically exceed expected levels, the LGD assigned to a defaulted asset should reflect the possibility that the bank would have to recognize additional, unexpected losses during the recovery period. For each defaulted asset, the bank must also construct its best estimate of the expected loss on that asset based on current economic circumstances and facility status. The amount, if any, by which the LGD on a defaulted asset exceeds the bank's best estimate of expected loss on the asset represents the capital requirement for that asset, and should be set by the bank on a risk-sensitive basis in accordance with paragraph 11.3. Instances where the best estimate of expected loss on a defaulted asset is less than the sum of specific provisions and partial charge-offs on that asset will attract supervisory scrutiny and must be justified by the bank.

Requirements specific to own-LGD estimates: additional standards for corporateand sovereign exposures

16.86 Estimates of LGD must be based on a minimum data observation period that should ideally cover at least one complete economic cycle but must in any case be no shorter than a period of seven years for at least one source. If the available observation period spans a longer period for any source, and the data are relevant, this longer period must be used.

Requirements specific to own-LGD estimates: additional standards for retail exposures

16.87 The minimum data observation period for LGD estimates for retail exposures isfive years. The less data a bank has the more conservative it must be in its estimation.

Requirements specific to own-EAD estimates: standards for all asset classes

16.88 EAD for an on-balance sheet or off-balance sheet item is defined as the expected gross exposure of the facility upon default of the obligor. For on-balance sheet items, banks must estimate EAD at no less than the current drawn amount, subject to recognizing the effects of on-balance sheet netting as specified in the foundation approach. The minimum requirements for the recognition of netting are the same as those under the foundation approach. The additional minimum requirements for internal estimation of EAD under the advanced approach, therefore, focus on the estimation of EAD for off-balance sheet items (excluding transactions that expose banks to counterparty credit risk as set out in chapter 5 of *the Counterparty Credit Risk (CCR) framework*). Banks using the advanced approach must have established procedures in place for the estimation of EAD for off-balance sheet items. These must specify the estimates of EAD to be used for each facility type. Banks' estimates of EAD shouldreflect the possibility of additional drawings by the borrower up to and after the time a default event is triggered. Where estimates of EAD differ by facility type, the delineation of these facilities must be clear and unambiguous.

16.89 Under the advanced approach, banks must assign an estimate of EAD for each eligible facility. It must be an estimate of the long-run default-weighted average EAD for similar facilities and borrowers over a sufficiently long period of time, butwith a margin of conservatism appropriate to the likely range of errors in the estimate. If a positive correlation can reasonably be expected between the defaultfrequency and the magnitude of EAD, the EAD estimate must incorporate a largermargin of conservatism. Moreover, for exposures for which EAD estimates are volatile over the economic cycle, the bank must use EAD estimates that are appropriate for an economic downturn, if these are more conservative than the long-run average. For banks that have been able to develop their own EAD models, this could be achieved by considering the cyclical nature, if any, of the drivers of such models. Other banks may have sufficient internal data to examine the impact of previous recession(s). However, some banks may only have the option of making conservative use of external data. Moreover, where a bank bases its estimates on alternative measures of central tendency (such as the median or a higher percentile estimate) or only on 'downturn' data, it should explicitly confirm

that the basic downturn requirement of the framework is met, ie the bank's estimates do not fall below a (conservative) estimate of the long-run default-weighted average EAD for similar facilities.

16.90 The criteria by which estimates of EAD are derived must be plausible and intuitive, and represent what the bank believes to be the material drivers of EAD.The choices must be supported by credible internal analysis by the bank. The bank must be able to provide a breakdown of its EAD experience by the factors itsees as the drivers of EAD. A bank must use all relevant and material informationin its derivation of EAD estimates. Across facility types, a bank must review its estimates of EAD when material new information comes to light and at least on an annual basis.

16.91 Due consideration must be paid by the bank to its specific policies and strategiesadopted in respect of account monitoring and payment processing. The bank must also consider its ability and willingness to prevent further drawings in circumstances short of payment default, such as covenant violations or other technical default events. Banks must also have adequate systems and procedures in place to monitor facility amounts, current outstandings against committed lines and changes in outstandings per borrower and per grade. The bank must be able to monitor outstanding balances on a daily basis.

16.92 Banks' EAD estimates must be developed using a 12-month fixed-horizon approach; i.e. for each observation in the reference data set, default outcomes must be linked to relevant obligor and facility characteristics twelve months priorto default.

16.93 As set out in paragraph 16.65, banks' EAD estimates should be based on reference data that reflect the obligor, facility and bank management practice characteristics of the exposures to which the estimates are applied. Consistent with this principle, EAD estimates applied to particular exposures should not be based on data that comingle the effects of disparate characteristics or data from exposures that exhibit different characteristics (e.g. same broad product grouping but different customers that are managed differently by the bank). The estimates should be based on appropriately homogenous segments. Alternatively, the estimates should be based on an estimation approach that effectively disentangles the impact of the different characteristics exhibited within the relevant dataset. Practices that generally do not comply with this

principle include use of estimatesbased or partly based on:

(1) SME/midmarket data being applied to large corporate obligors.

(2) Data from commitments with ‘small’ unused limit availability being appliedto facilities with ‘large’ unused limit availability.

(3) Data from obligors already identified as problematic at reference date being applied to current obligors with no known issues (e.g. customers at reference date who were already delinquent, watch listed by the bank, subject to recent bank-initiated limit reductions, blocked from further drawdowns or subject to other types of collections activity).

(4) Data that has been affected by changes in obligors’ mix of borrowing and other credit-related products over the observation period unless that data has been effectively mitigated for such changes, e.g. by adjusting the data to remove the effects of the changes in the product mix. SAMA expects banks to demonstrate a detailed understanding of the impact of changes in customer product mix on EAD reference data sets (and associated EAD estimates) and that the impact is immaterial or has been effectively mitigated within each bank’s estimation process. Banks’ analyses in this regard will be actively challenged by SAMA. Effective mitigation would not include: setting floors to credit conversion factor (CCF)/EAD observations; use of obligor-level estimates that do not fully cover the relevant product transformation options or inappropriately combine products with very different characteristics (e.g. revolving and non-revolving products); adjusting only ‘material’ observations affected by product transformation; generally excluding observations affected by product profile transformation (thereby potentially distorting the representativeness of the remaining data).

16.94 A well-known feature of the commonly used undrawn limit factor (ULF) approach[66] to estimating CCFs is the region of instability associated with facilities close to being fully drawn at reference date. Banks should ensure that their EAD estimatesare effectively quarantined from the potential effects of this region of instability.

(1) An acceptable approach could include using an estimation method other than the ULF approach that avoids the instability issue by not using potentially small undrawn limits that could approach zero in the denominator or, as appropriate, switching to a method other than the ULF as the region of instability is approached, e.g. a limit factor, balance factor or additional utilization factor approach[67]. Note that, consistent with paragraph 16.93, including limit utilization as a driver in EAD models could quarantine much of the relevant portfolio from this issue but, in the absence of other actions, leaves open how to develop appropriate EAD estimates to be applied to exposures within the region of instability.

(2) Common but ineffective approaches to mitigating this issue include cappingand flooring reference data (e.g. observed CCFs at 100 per cent and zero respectively) or omitting observations that are judged to be affected.

16.95 EAD reference data must not be capped to the principal amount outstanding or facility limits. Accrued interest, other due payments and limit excesses should be included in EAD reference data.

---

[66] A specific type of CCF, where predicted additional drawings in the lead- up to default are expressed as a percentage of the undrawn limit that remains available to the obligor under the terms and conditions of a facility, ie EAD=B0=Bt+ULF[Lt –Bt], where B0 = facility balance at date of default; Bt = current balance (for predicted EAD) or balance at reference date (for observed EAD); Lt = current limit (for predicted EAD) or limit at reference date (for realized/observed EAD).

[67] A limit factor (LF) is a specific type of CCF, where the predicted balance at default is expressed as a percentage of the total limit that is available to the obligor under the terms and conditions of a credit facility, ie EAD=B0= LF[Lt], where B0 = facility balance at date of default; Bt = current balance (for predicted EAD) or balance at reference date (for observed EAD); Lt = current limit (for predicted EAD) or limit at reference date (for realized/observed EAD). A balance factor (BF) is a specific type of CCF, where the predicted balance at default is expressed as a percentage of the current balance that has been drawn down under a credit facility, i.e. EAD=B0=BF[Bt]. An additional utilization factor (AUF) is a specific type of CCF, where predicted additional drawings in the lead-up to default are expressed as a percentage of the total limit that is available to the obligor under the terms and conditions of a credit facility, i.e. EAD = B0 = Bt + AUF[Lt].

16.96 For transactions that expose banks to counterparty credit risk, estimates of EAD must fulfil the requirements set forth in the counterparty credit risk standards.

Requirements specific to own-EAD estimates: additional standards for corporate and sovereign exposures

16.97 Estimates of EAD must be based on a time period that must ideally cover a complete economic cycle but must in any case be no shorter than a period of seven years. If the available observation period spans a longer period for any source, and the data are relevant, this longer period must be used. EAD estimates must be calculated using a default-weighted average and not a time-weighted average.

Requirements specific to own-EAD estimates: additional standards for retail exposures

16.98 The minimum data observation period for EAD estimates for retail exposures is five years. The less data a bank has, the more conservative it must be in its estimation.

Requirements for assessing effect of guarantees : standards for corporate and sovereign exposures where own estimates of LGD are used and standards for retailexposures

16.99 When a bank uses its own estimates of LGD, it may reflect the risk-mitigating effect of guarantees through an adjustment to PD or LGD estimates. The option to adjust LGDs is available only to those banks that have been approved to use their own internal estimates of LGD. For retail exposures, where guarantees exist, either in support of an individual obligation or a pool of exposures, a bank may reflect the risk-reducing effect either through its estimates of PD or LGD, provided this is done consistently. In adopting one or the other technique, a bank must adopt a consistent approach, both across types of guarantees and over time.

16.100 In all cases, both the borrower and all recognized guarantors must be assigned aborrower rating at the outset and on an ongoing basis. A bank must follow all minimum requirements for assigning borrower ratings set out in this document,including the regular monitoring of the guarantor's condition and ability and willingness to honour its obligations. Consistent with the requirements in paragraphs 16.46 and 16.47, a bank must retain all relevant information on the borrower absent the guarantee and the guarantor. In the case of retail guarantees, these requirements also apply to the assignment of an exposure to a pool, and the estimation of PD.

16.101 In no case can the bank assign the guaranteed exposure an adjusted PD or LGD such that the adjusted risk weight would be lower than that of a comparable, direct exposure to the guarantor. Neither criteria nor rating processes are permitted to consider possible favorable effects of imperfect expected correlation between default events for the borrower and guarantor for purposes of regulatory minimum capital requirements. As such, the adjusted risk weight must not reflect the risk mitigation of "double default."

16.102 In case the bank applies the standardized approach to direct exposures to the guarantor, the guarantee may only be recognized by treating the covered portion of the exposure as a direct exposure to the guarantor under the standardized approach. Similarly, in case the bank applies the foundation IRB approach to direct exposures to the guarantor, the guarantee may only be recognized by applying the foundation IRB approach to the covered portion of the exposure. Alternatively, banks may choose to not recognize the effect of guarantees on their exposures.

16.103 There are no restrictions on the types of eligible guarantors. The bank must, however, have clearly specified criteria for the types of guarantors it will recognize for regulatory capital purposes.

16.104 The guarantee must be evidenced in writing, non-cancellable on the part of the guarantor, in force until the debt is satisfied in full (to the extent of the amount and tenor of the guarantee) and legally enforceable against the guarantor in a jurisdiction where the guarantor has assets to attach and enforce a judgement. The guarantee must also be unconditional; there should be no clause in the protection contract outside the direct control of the bank that could prevent the protection provider from being obliged to pay out in a timely manner in the event that the original counterparty fails to make the payment(s) due. However, under the advanced IRB approach, guarantees that only cover loss remaining after the bank has first pursued the original obligor for payment and has completed the workout process may be recognized.

16.105 In case of guarantees where the bank applies the standardized approach to the covered portion of the exposure, the scope of guarantors and the minimum requirements as under the standardized approach apply.

16.106 A bank must have clearly specified criteria for adjusting borrower grades or LGD estimates (or in the case of retail and eligible purchased receivables, the process of allocating exposures to pools) to reflect the impact of guarantees for regulatory capital purposes. These criteria must be as detailed as the criteria for assigning exposures to grades consistent with paragraphs 16.25 and 16.26, and must follow all minimum requirements for assigning borrower or facility ratings set out in this document.

16.107 The criteria must be plausible and intuitive, and must address the guarantor's ability and willingness to perform under the guarantee. The criteria must also address the likely timing of any payments and the degree to which the guarantor' s ability to perform under the guarantee is correlated with the borrower's ability to repay. The bank's criteria must also consider the extent to which residual risk to the borrower remains, for example a currency mismatch between the guarantee and the underlying exposure.

16.108 In adjusting borrower grades or LGD estimates (or in the case of retail and eligible purchased receivables, the process of allocating exposures to pools), banks must take all relevant available information into account.

Requirements for assessing effect of credit derivatives: standards for corporate andsovereign exposures where own estimates of LGD are used and standards for retail exposures

16.109 The minimum requirements for guarantees are relevant also for single-name credit derivatives. Additional considerations arise in respect of asset mismatches. The criteria used for assigning adjusted borrower grades or LGD estimates (or pools) for exposures hedged with credit derivatives must require that the asset on which the protection is based (the reference asset) cannot be different from the underlying asset, unless the conditions outlined in the foundation approach are met.

16.110 In addition, the criteria must address the payout structure of the credit derivative and conservatively assess the impact this has on the level and timing of recoveries. The bank must also consider the extent to which other forms of residual risk remain.

Requirements for assessing effect of guarantees and credit derivatives: standards for banks using foundation LGD estimates

16.111 The minimum requirements outlined in paragraphs 16.99 to 16.110 apply to banks using the foundation LGD estimates with the following exceptions:

(1) The bank is not able to use an 'LGD-adjustment' option; and
(2) The range of eligible guarantees and guarantors is limited to those outlined in paragraph 12.28.

Requirements specific to estimating PD and LGD (or EL) for qualifying purchasedreceivables

16.112 The following minimum requirements for risk quantification must be satisfied for any purchased receivables (corporate or retail) making use of the top-down treatment of default risk and/or the IRB treatments of dilution risk.

16.113 The purchasing bank will be required to group the receivables into sufficiently homogeneous pools so that accurate and consistent estimates of PD and LGD (or EL) for default losses and EL estimates of dilution losses can be determined. In general, the risk bucketing process will reflect the seller's underwriting practices and the heterogeneity of its customers. In addition, methods and data for estimating PD, LGD, and EL must comply with the existing risk quantification standards for retail exposures. In particular, quantification should reflect all information available to the purchasing bank regarding the quality of the underlying receivables, including data for similar pools provided by the seller, by the purchasing bank, or by external sources. The purchasing bank must determine whether the data provided by the seller are consistent with expectations agreed upon by both parties concerning, for example, the type, volume and on-going quality of receivables purchased. Where this is not the case, the purchasing bank is expected to obtain and rely upon more relevant data.

16.114 A bank purchasing receivables has to justify confidence that current and future advances can be repaid from the liquidation of (or collections against) the receivables pool. To qualify for the top-down treatment of default risk, the receivable pool and overall lending relationship should be closely monitored and controlled. Specifically, a bank will have to demonstrate the following:

(1) Legal certainty (see paragraph 16.115).

(2) Effectiveness of monitoring systems (see paragraph 16.116)

(3) Effectiveness of work-out systems (see paragraph 16.117)

(4) Effectiveness of systems for controlling collateral, credit availability, and cash (see paragraph 16.118)

(5) Compliance with the bank's internal policies and procedures (see paragraphs 16.119 and 16.120)

16.115 Legal certainty: the structure of the facility must ensure that under all foreseeable circumstances the bank has effective ownership and control of the cash remittances from the receivables, including incidences of seller or servicer distress and bankruptcy. When the obligor makes payments directly to a seller or servicer, the bank must verify regularly that payments are forwarded completely and within the contractually agreed terms. As well, ownership over the receivables and cash receipts should be protected against bankruptcy 'stays' or legal challenges that could materially delay the lender's ability to liquidate/assign the receivables or retain control over cash receipts.

16.116 Effectiveness of monitoring systems: the bank must be able to monitor both the quality of the receivables and the financial condition of the seller and servicer. Inparticular:

(1) The bank must:

(a) assess the correlation among the quality of the receivables and the financial condition of both the seller and servicer; and

(b) have in place internal policies and procedures that provide adequate safeguards to protect against such contingencies, including the assignment of an internal risk rating for each seller and servicer.

(2) The bank must have clear and effective policies and procedures for determining seller and servicer eligibility. The bank or its agent must conductperiodic reviews of sellers and servicers in order to verify the accuracy of reports from the seller/servicer, detect fraud or operational weaknesses, and verify the quality of the seller's credit policies and servicer's collection policies and procedures. The findings of these reviews must be well documented.

(3) The bank must have the ability to assess the characteristics of the receivablespool, including:

(a) over-advances;

(b) history of the seller's arrears, bad debts, and bad debt allowances;

(c) payment terms; and

(d) potential contra accounts.

(4) The bank must have effective policies and procedures for monitoring on anaggregate basis single-obligor concentrations both within and across receivables pools.

(5) The bank must receive timely and sufficiently detailed reports of receivables ageings and dilutions to:

(a) ensure compliance with the bank's eligibility criteria and advancing policies governing purchased receivables; and

(b) provide an effective means with which to monitor and confirm the seller's terms of sale (e.g. invoice date ageing) and dilution.

16.117 Effectiveness of work-out systems: an effective programme requires systems and procedures not only for detecting deterioration in the seller's financial condition and deterioration in the quality of the receivables at an early stage, but also for addressing emerging problems pro-actively. In particular:

(1) The bank should have clear and effective policies, procedures, and information systems to monitor compliance with (a) all contractual terms of the facility (including covenants, advancing formulas, concentration limits, early amortization triggers, etc.) as well as (b) the bank's internal policies governing advance rates and receivables eligibility. The bank's systems should track covenant violations and waivers as well as exceptions to established policies and procedures.

(2) To limit inappropriate draws, the bank should have effective policies andprocedures for detecting, approving, monitoring, and correcting over- advances.

(3) The bank should have effective policies and procedures for dealing with financially weakened sellers or servicers and/or deterioration in the quality ofreceivable pools. These include, but are not necessarily limited to, early termination triggers in revolving facilities and other covenant protections, a structured and disciplined approach to dealing with covenant violations, and clear and effective policies and procedures for initiating legal actions and dealing with problem receivables.

16.118 Effectiveness of systems for controlling collateral, credit availability, and cash: the bank must have clear and effective policies and procedures governing the control of receivables, credit, and cash. In particular:

(1) Written internal policies must specify all material elements of the receivables purchase programme, including the advancing rates, eligible collateral, necessary documentation, concentration limits, and how cash receipts are to be handled. These elements should take appropriate account of all relevant and material factors, including the seller's/servicer's financial condition, risk concentrations, and trends in the quality of the receivables and the seller's customer base.

(2) Internal systems must ensure that funds are advanced only against specified supporting collateral and documentation (such as servicer attestations, invoices, shipping documents, etc.).

16.119 Compliance with the bank's internal policies and procedures: given the relianceon monitoring and control systems to limit credit risk, the bank should have aneffective internal process for assessing compliance with all critical policies and procedures, including:

(1) Regular internal and/or external audits of all critical phases of the bank's receivables purchase programme.

(2) Verification of the separation of duties:

(a) between the assessment of the seller/servicer and the assessment of the obligor; and

(b) between the assessment of the seller/servicer and the field audit of the seller/servicer.

16.120 A bank's effective internal process for assessing compliance with all critical policies and procedures should also include evaluations of back office operations,with particular focus on qualifications, experience, staffing levels, and supporting systems.

Section 8: validation of internal estimates

16.121 Banks must have a robust system in place to validate the accuracy and consistency of rating systems, processes, and the estimation of all relevant risk components. A bank must demonstrate to its supervisor that the internal validation process enables it to assess the performance of internal rating and riskestimation systems consistently and meaningfully.

16.122 Banks must regularly compare realized default rates with estimated PDs for eachgrade and be able to demonstrate that the realized default rates are within the expected range for that grade. Banks using the advanced IRB approach must complete such analysis for their estimates of LGDs and EADs. Such comparisonsmust make use of historical data that are over as long a period as possible. The methods and data used in such comparisons by the bank must be clearly documented by the bank. This analysis and documentation must be updated at least annually.

16.123 Banks must also use other quantitative validation tools and comparisons with relevant external data sources. The analysis must be based on data that are appropriate to the portfolio, are updated regularly, and cover a relevant observation period. Banks' internal assessments of the performance of their ownrating systems must be based on long data histories, covering a range of economic conditions, and ideally one or more complete business cycles.

16.124 Banks must demonstrate that quantitative testing methods and other validation methods do not vary systematically with the economic cycle. Changes in methodsand data (both data sources and periods covered) must be clearly and thoroughlydocumented.

16.125 Banks must have well-articulated internal standards for situations where deviations in realized PDs, LGDs and EADs from expectations become significantenough to call the validity of the estimates into question. These standards must take account of business cycles and similar systematic variability in default experiences. Where realized values continue to be higher than expected values, banks must revise estimates upward to reflect their default and loss experience.

16.126 Where banks rely on supervisory, rather than internal, estimates of risk parameters, they are encouraged to compare realized LGDs and EADs to those set by SAMA. The information on realized LGDs and EADs should formpart of the bank's assessment of economic capital.

Section 9: supervisory LGD and EAD estimates

16.127 Banks under the foundation IRB approach, which do not meet the requirements for own-estimates of LGD and EAD, above, must meet the minimum requirements described in the standardized approach to receive recognition for eligible financial collateral (as set out in the credit risk mitigation section of the standardized approach, chapter 9). They must meet the following additional minimum requirements in order to receive recognition for additional collateral types.

Definition of eligibility of commercial and residential real estate as collateral

16.128 Eligible commercial and residential real estate collateral for corporate, sovereign and bank exposures are defined as:

(1) Collateral where the risk of the borrower is not materially dependent upon the performance of the underlying property or project, but rather on the underlying capacity of the borrower to repay the debt from other sources. Assuch, repayment of the facility is not materially dependent on any cash flow generated by the underlying commercial or residential real estate serving as collateral; and

(2) Additionally, the value of the collateral pledged must not be materially dependent on the performance of the borrower. This requirement is not intended to preclude situations where purely macro-economic factors affectboth the value of the collateral and the performance of the borrower.

16.129 In light of the generic description above and the definition of corporate exposures, income producing real estate that falls under the SL asset class is specifically excluded from recognition as collateral for corporate exposures.[68]

Operational requirements for eligible commercial or residential real estate

16.130 Subject to meeting the definition above, commercial and residential real estate will be eligible for recognition as collateral for corporate claims only if all of the following operational requirements are met.

(1) Legal enforceability: any claim on collateral taken must be legally enforceable in all relevant jurisdictions, and any claim on collateral must be properly filed on a timely basis. Collateral interests must reflect a perfected lien (i.e. all legal requirements for establishing the claim have been fulfilled). Furthermore, the collateral agreement and the legal process underpinning it must be such that they provide for the bank to realize the value of the collateral within a reasonable timeframe.

(2) Objective market value of collateral: the collateral must be valued at or less than the current fair value under which the property could be sold under private contract between a willing seller and an arm's-length buyer on the date of valuation.

(3) Frequent revaluation: the bank is expected to monitor the value of the collateral on a frequent basis and at a minimum once every year. More frequent monitoring is suggested where the market is subject to significant changes in conditions. Statistical methods of evaluation (e.g. reference to house price indices, sampling) may be used to update

[68] In exceptional circumstances for well-developed and long-established markets, mortgages on office and/or multi-purpose commercial premises and/or multi-tenanted commercial premises may have the potential to receive recognition as collateral in the corporate portfolio. This exceptional treatment will be subject to very strict conditions. In particular, two tests must be fulfilled, namely that (i) losses stemming from commercial real estate lending up to the lower of 50% of the market value or 60% of loan-to value based on mortgage-lending- value must not exceed 0.3% of the outstanding loans in any given year; and that (ii) overall losses stemming from commercial real estate lending must not exceed 0.5% of the outstanding loans in any given year. This is, if either of these tests is not satisfied in a given year, the eligibility to use this treatment will cease and the original eligibility criteria would need to be satisfied again before it could be applied in the future. Countries applying such a treatment must publicly disclose that these are met.

estimates or to identify collateral that may have declined in value and that may need re- appraisal. A qualified professional must evaluate the property when information indicates that the value of the collateral may have declined materially relative to general market prices or when a credit event, such as default, occurs.

(4) Junior liens: In some member countries, eligible collateral will be restricted to situations where the lender has a first charge over the property. Junior liens may be taken into account where there is no doubt that the claim for collateral is legally enforceable and constitutes an efficient credit risk mitigant. Where junior liens are recognized the bank must first take the haircut value of the collateral, then reduce it by the sum of all loans with liens that rank higher than the junior lien, the remaining value is the collateral that supports the loan with the junior lien. In cases where liens are held by third parties that rank pari passu with the lien of the bank, only the proportion of the collateral (after the application of haircuts and reductions due to the value of loans with liens that rank higher than the lien of the bank) that is attributable to the bank may be recognized.

16.131 Additional collateral management requirements are as follows:

(1) The types of commercial and residential real estate collateral accepted by the bank and lending policies (advance rates) when this type of collateral is taken must be clearly documented.

(2) The bank must take steps to ensure that the property taken as collateral is adequately insured against damage or deterioration.

(3) The bank must monitor on an ongoing basis the extent of any permissible prior claims (e.g. tax) on the property.

(4) The bank must appropriately monitor the risk of environmental liability arising in respect of the collateral, such as the presence of toxic material on a property.

Requirements for recognition of financial receivables : definition of eligiblereceivables

16.132 Eligible financial receivables are claims with an original maturity of less than or equal to one year where repayment will occur through the commercial or financial flows related to the underlying assets of the borrower. This includes both self-liquidating debt arising from the sale of goods or services linked to a commercial transaction and general amounts owed by buyers, suppliers, renters, national and local governmental authorities, or other non-affiliated parties not related to the sale of goods or services linked to a commercial transaction. Eligible receivables do not include those associated with securitizations, sub- participations or credit derivatives.

Requirements for recognition of financial receivables: legal certainty

16.133 The legal mechanism by which collateral is given must be robust and ensure that the lender has clear rights over the proceeds from the collateral.

16.134 Banks must take all steps necessary to fulfil local requirements in respect of the enforceability of security interest, e.g. by registering a security interest with a registrar. There should be a framework that allows the potential lender to have a perfected first priority claim over the collateral.

16.135 All documentation used in collateralized transactions must be binding on all parties and legally enforceable in all relevant jurisdictions. Banks must have conducted sufficient legal review to verify this and have a well-founded legal basis to reach this conclusion, and undertake such further review as necessary toensure continuing enforceability.

16.136 The collateral arrangements must be properly documented, with a clear and robust procedure for the timely collection of collateral proceeds. Banks' procedures should ensure that any legal conditions required for declaring the default of the customer and timely collection of collateral are observed. In the event of the obligor's financial distress or default, the bank should have legal authority to sell or assign the receivables to other parties without consent of thereceivables' obligors.

Requirements for recognition of financial receivables: risk management

16.137 The bank must have a sound process for determining the credit risk in the receivables. Such a process should include, among other things, analyses of the borrower's business and industry (e.g. effects of the business cycle) and the types of customers with whom the borrower does business. Where the bank relies on the borrower to ascertain the credit risk of the customers, the bank must review the borrower's credit policy to ascertain its soundness and credibility.

16.138 The margin between the amount of the exposure and the value of the receivables must reflect all appropriate factors, including the cost of collection, concentration within the receivables pool pledged by an individual borrower, and potential concentration risk within the bank's total exposures.

16.139 The bank must maintain a continuous monitoring process that is appropriate for the specific exposures (either immediate or contingent) attributable to the collateral to be utilized as a risk mitigant. This process may include, as appropriate and relevant, ageing reports, control of trade documents, borrowing base certificates, frequent audits of collateral, confirmation of accounts, control of the proceeds of accounts paid, analyses of dilution (credits given by the borrowerto the issuers) and regular financial analysis of both the borrower and the issuers of the receivables, especially in the case when a small number of large-sized receivables are taken as collateral. Observance of the bank's overall concentrationlimits should be monitored. Additionally, compliance with loan covenants, environmental restrictions, and other legal requirements should be reviewed on aregular basis

16.140 The receivables pledged by a borrower should be diversified and not be unduly correlated with the borrower. Where the correlation is high, e.g. where some issuers of the receivables are reliant on the borrower for their viability or the borrower and the issuers belong to a common industry, the attendant risks should be taken into account in the setting of margins for the collateral pool as a whole. Receivables from affiliates of the borrower (including subsidiaries and employees) will not be recognized as risk mitigants.

16.141 The bank should have a documented process for collecting receivable paymentsin distressed situations. The requisite facilities for collection should be in place, even when the bank normally looks to the borrower for collections.

Requirements for recognition of other physical collateral

16.142 SAMA may allow for recognition of the credit risk mitigating effect of certain other physical collateral when the following conditions are met:

(1) The bank demonstrates to the satisfaction of SAMA that there are liquid markets for disposal of collateral in an expeditious and economically efficient manner. Banks must carry out a reassessment of this condition both periodically and when information indicates material changes in the market.

(2) The bank demonstrates to the satisfaction of SAMA that there are well-established, publicly available market prices for the collateral. Banks must also demonstrate that the amount they receive when collateral is realized does not deviate significantly from these market prices.

16.143 In order for a given bank to receive recognition for additional physical collateral, it must meet all the requirements in paragraphs 16.130 and 16.131, subject to the following modifications:

(1) With the sole exception of permissible prior claims specified in the footnote to paragraph 16.130, only first liens on, or charges over, collateral are permissible. As such, the bank must have priority over all other lenders to the realized proceeds of the collateral.

(2) The loan agreement must include detailed descriptions of the collateral andthe right to examine and revalue the collateral whenever this is deemed necessary by the lending bank.

(3) The types of physical collateral accepted by the bank and policies and practices in respect of the appropriate amount of each type of collateral relative to the exposure amount must be clearly documented in internal credit policies and procedures and available for examination and/or auditreview.

(4) Bank credit policies with regard to the transaction structure must address appropriate collateral requirements relative to the exposure amount, the ability to liquidate the collateral readily, the ability to establish objectively a price or market value, the frequency with which the value can readily be obtained (including a professional appraisal or valuation), and the volatility of the value of the collateral. The periodic revaluation process must pay particular attention to "fashion-sensitive" collateral to ensure that valuations are appropriately adjusted downward of fashion, or model-year, obsolescence as well as physical obsolescence or deterioration.

(5) In cases of inventories (e.g. raw materials, work-in-process, finished goods, dealers' inventories of autos) and equipment, the periodic revaluation process must include physical inspection of the collateral.

16.144 General Security Agreements, and other forms of floating charge, can provide the lending bank with a registered claim over a company's assets. In cases where the registered claim includes both assets that are not eligible as collateral under the foundation IRB and assets that are eligible as collateral under the foundation IRB, the bank may recognize the latter. Recognition is conditional on the claims meeting the operational requirements set out in paragraphs 16.127 to 16.143.

Section 10: requirements for recognition of leasing

16.145 Leases other than those that expose the bank to residual value risk (see paragraph 16.146) will be accorded the same treatment as exposures collateralized by the same type of collateral. The minimum requirements for the collateral type must be met (commercial or residential real estate or other collateral). In addition, the bank must also meet the following standards:

(1) Robust risk management on the part of the lessor with respect to the location of the asset, the use to which it is put, its age, and planned obsolescence;

(2) A robust legal framework establishing the lessor's legal ownership of the asset and its ability to exercise its rights as owner in a timely fashion; and

(3) The difference between the rate of depreciation of the physical asset and the rate of amortization of the lease payments must not be so large as to overstate the credit risk mitigation attributed to the leased assets.

16.146 Leases that expose the bank to residual value risk will be treated in the following manner. Residual value risk is the bank's exposure to potential loss due to the fair value of the equipment declining below its residual estimate at lease inception.

(1) The discounted lease payment stream will receive a risk weight appropriate for the lessee's financial strength (PD) and supervisory or own-estimate of LGD, whichever is appropriate.

(2) The residual value will be risk-weighted at 100%.

Section 11: disclosure requirements

16.147 In order to be eligible for the IRB approach, banks must meet the disclosure requirements set out in *Pillar 3 Disclosure Requirements Framework*. These areminimum requirements for use of IRB: failure to meet these will render banksineligible to use the relevant IRB approach.

Transition

Phase-in for standardized approach treatment of equity exposures

17.1 The risk weight treatment described in paragraph 7.50 will be subject to a five-year linear phase-in arrangement from 1 January 2023. For speculative unlisted equity exposures, the applicable risk weight will start at 100% and increase by 60 percentage points at the end of each year until the end of Year 5. For all other equity holdings, the applicable risk weight will start at 100% and increase by 30 percentage points at the end of each year until the end of Year 5.

Phase-in for the removal of the internal ratings-based approach for equity exposures

17.2 The requirement to use the standardized approach for equity exposures in paragraph 10.41 will be subject to a five-year linear phase-in arrangement from 1 January 2023. During the phase-in period, the risk weight for equity exposures will be the greater of:

(1) The risk weight as calculated using the internal ratings-based approach that applied to equity exposures prior to 1 January 2023; and

(2) The risk weight set for the linear phase-in arrangement under the standardized approach for credit risk (see paragraph 17.1 above).

18. Securitization: general provisions

Scope and definitions of transactions covered under the securitization framework

18.1 Banks must apply the securitization framework for determining regulatory capital requirements on exposures arising from traditional and synthetic securitizations or similar structures that contain features common to both. Since securitizations may be structured in many different ways, the capital treatment of a securitization exposure must be determined on the basis of its economic substance rather than its legal form. Banks are encouraged to consult with SAMA when there is uncertainty about whether a given transaction should be considered a securitization. For example, transactions involving cash flows from real estate (e.g. rents) may be considered specialized lending exposures, if warranted.

18.2 A traditional securitization is a structure where the cash flow from an underlying pool of exposures is used to service at least two different stratified risk positions or tranches reflecting different degrees of credit risk. Payments to the investors depend upon the performance of the specified underlying exposures, as opposed to being derived from an obligation of the entity originating those exposures. The stratified/tranched structures that characterize securitizations differ from ordinary senior/subordinated debt instruments in that junior securitization tranches can absorb losses without interrupting contractual payments to more senior tranches, whereas subordination in a senior/subordinated debt structure is a matter of priority of rights to the proceeds of liquidation.

18.3 A synthetic securitization is a structure with at least two different stratified risk positions or tranches that reflect different degrees of credit risk where credit risk of an underlying pool of exposures is transferred, in whole or in part, through the use of funded (e.g. credit-linked notes) or unfunded (e.g. credit default swaps) credit derivatives or guarantees that serve to hedge the credit risk of the portfolio. Accordingly, the investors' potential risk is dependent upon the performance of the underlying pool.

18.4 Banks' exposures to a securitization are hereafter referred to as "securitization exposures". Securitization exposures can include but are not restricted to the following: asset-backed securities, mortgage-backed securities, credit enhancements, liquidity facilities, interest rate or currency swaps, credit derivatives and tranched cover as described in 9.81. Reserve accounts, such as cash collateral accounts, recorded as an asset by the originating bank must also be treated as securitization exposures.

18.5 Resecuritization exposure is a securitization exposure in which the risk associated with an underlying pool of exposures is tranched and at least one of the underlying exposures is a securitization exposure. In addition, an exposure to one or more resecuritization exposures is a resecuritization exposure. An exposure resulting from retranching of a securitization exposure is not a resecuritization exposure if the bank is able to demonstrate that the cash flows to and from the bank could be replicated in all circumstances and conditions by an exposure to the securitization of a pool of assets that contains no securitization exposures.

18.6 Underlying instruments in the pool being securitized may include but are not restricted to the following: loans, commitments, asset-backed and mortgage-backed securities, corporate bonds, equity securities, and private equity investments. The underlying pool may include one or more exposures.

Definitions and general terminology

18.7 For risk-based capital purposes, a bank is considered to be an originator with regard to a certain securitization if it meets either of the following conditions:

(1) The bank originates directly or indirectly underlying exposures included in the securitization; or

(2) The bank serves as a sponsor of an asset-backed commercial paper (ABCP) conduit or similar programme that acquires exposures from third-party entities. In the context of such programmes, a bank would generally be considered a sponsor and, in turn, an originator if it, in fact or in substance, manages or advises the programme, places securities

into the market, or provides liquidity and/or credit enhancements.

18.8 An ABCP programme predominantly issues commercial paper to third-party investors with an original maturity of one year or less and is backed by assets or other exposures held in a bankruptcy-remote, special purpose entity.

18.9 A clean-up call is an option that permits the securitization exposures (e.g. asset- backed securities) to be called before all of the underlying exposures or securitization exposures have been repaid. In the case of traditional securitizations, this is generally accomplished by repurchasing the remaining securitization exposures once the pool balance or outstanding securities have fallen below some specified level. In the case of a synthetic transaction, the clean- up call may take the form of a clause that extinguishes the credit protection.

18.10 A credit enhancement is a contractual arrangement in which the bank or other entity retains or assumes a securitization exposure and, in substance, provide some degree of added protection to other parties to the transaction.

18.11 A credit-enhancing interest-only strip (I/O) is an on-balance sheet asset that

(1) Represents a valuation of cash flows related to future margin income, and

(2) Is subordinated.

18.12 An early amortization provision is a mechanism that, once triggered, accelerates the reduction of the investor's interest in underlying exposures of a securitization of revolving credit facilities and allows investors to be paid out prior to the originally stated maturity of the securities issued. A securitization of revolving credit facilities is a securitization in which one or more underlying exposures represent, directly or indirectly, current or future draws on a revolving credit facility. Examples of revolving credit facilities include but are not limited to credit card exposures, home equity lines of credit, commercial lines of credit, and other lines of credit.

18.13 Excess spread (or future margin income) is defined as gross finance charge collections and other income received by the trust or special purpose entity (SPE, as defined below) minus certificate interest, servicing fees, charge-offs, and other senior trust or SPE expenses.

18.14 Implicit support arises when a bank provides support to a securitization in excess of its predetermined contractual obligation.

18.15 For risk-based capital purposes, an internal ratings-based (IRB) pool means a securitization pool for which a bank is able to use an IRB approach to calculate capital requirements for all underlying exposures given that it has approval to apply IRB for the type of underlying exposures and it has sufficient information to calculate IRB capital requirements for these exposures. A bank which has a SAMA-approved IRB approach for the entire pool of exposures underlying a given securitization exposure that cannot estimate capital requirements for all underlying exposures using an IRB approach would be expected to demonstrate to SAMA why it is unable to do so. However, SAMA may prohibit a bank from treating an IRB pool as such in the case of particular structures or transactions, including transactions with highly complex loss allocations, tranches whose credit enhancement could be eroded for reasons other than portfolio losses, and tranches of portfolios with high internal correlations (such as portfolios with high exposure to single sectors or with high geographical concentration).

18.16 For risk-based capital purposes, a mixed pool means a securitization pool for which a bank is able to calculate IRB parameters for some, but not all, underlying exposures in a securitization.

18.17 For risk-based capital purposes, a standardized approach (SA) pool means a securitization pool for which a bank does not have approval to calculate IRB parameters for any underlying exposures; or for which, while the bank has approval to calculate IRB parameters for some or all of the types of underlying exposures, it is unable to calculate IRB parameters for any underlying exposures because of lack of relevant data, or is prohibited by SAMA from treating the pool as an IRB pool pursuant to 18.15.

18.18 A securitization exposure (tranche) is considered to be a senior exposure (tranche) if it is effectively backed or secured by a first claim on the entire

amount of the assets in the underlying securitized pool.[69] While this generally includes only the most senior position within a securitization transaction, in some instances there may be other claims that, in a technical sense, may be more senior in the waterfall (e.g. a swap claim) but may be disregarded for the purpose of determining which positions are treated as senior. Different maturities of several senior tranches that share pro rata loss allocation shall have no effect on the seniority of these tranches, since they benefit from the same level of credit enhancement. The material effects of differing tranche maturities are captured by maturity adjustments on the risk weights to be assigned to the securitization exposures. For example:

(1) In a typical synthetic securitization, an unrated tranche would be treated as a senior tranche, provided that all of the conditions for inferring a rating from a lower tranche that meets the definition of a senior tranche are fulfilled.

(2) In a traditional securitization where all tranches above the first-loss piece are rated, the most highly rated position would be treated as a senior tranche. When there are several tranches that share the same rating, only the most senior tranche in the cash flow waterfall would be treated as senior (unless the only difference among them is the effective maturity). Also, when the different ratings of several senior tranches only result from a difference in maturity, all of these tranches should be treated as a senior tranche.

(3) Usually, a liquidity facility supporting an ABCP programme would not be the most senior position within the programme; the commercial paper, which benefits from the liquidity support, typically would be the most senior position. However, a liquidity facility may be viewed as covering all losses on the underlying receivables pool that exceed the amount of overcollateralization/reserves provided by the seller and as being most senior if it is sized to cover all of the outstanding commercial paper and other senior debt supported by the pool, so that no cash flows from the

[69] If a senior tranche is retranched or partially hedged (i.e. not on a pro rata basis), only the new senior part would be treated as senior for capital purposes.

underlying pool could be transferred to the other creditors until any liquidity draws were repaid in full. In such a case, the liquidity facility can be treated as a senior exposure. Otherwise, if these conditions are not satisfied, or if for other reasons the liquidity facility constitutes a mezzanine position in economic substance rather than a senior position in the underlying pool, the liquidity facility should be treated as a non-senior exposure.

18.19 For risk-based capital purposes, the exposure amount of a securitization exposure is the sum of the on-balance sheet amount of the exposure, or carrying value – which takes into account purchase discounts and writedowns/specific provisions the bank took on this securitization exposure – and the off-balance sheet exposure amount, where applicable.

18.20 A bank must measure the exposure amount of its off-balance sheet securitization exposures as follows:

(1) For credit risk mitigants sold or purchased by the bank, use the treatment set out in 18.56 to 18.62;

(2) For facilities that are not credit risk mitigants, use a credit conversion factor (CCF) of 100%. If contractually provided for, servicers may advance cash to ensure an uninterrupted flow of payments to investors so long as the servicer is entitled to full reimbursement and this right is senior to other claims on cash flows from the underlying pool of exposures. The undrawn portion of servicer cash advances or facilities may receive the CCF for unconditionally cancellable commitments under chapters 5 to 7 and;

(3) For derivatives contracts other than credit risk derivatives contracts, such as interest rate or currency swaps sold or purchased by the bank, use the measurement approach set out in counterparty credit risk overview chapter of Minimum Capital Requirements for Counterparty Credit Risk and Credit Valuation Adjustment.

18.21 An SPE is a corporation, trust or other entity organized for a specific purpose, the activities of which are limited to those appropriate to accomplish the purpose of the SPE, and the structure of which is intended to isolate the SPE from the credit risk of an originator or seller of exposures. SPEs, normally a trust or similar entity, are commonly used as financing vehicles in which exposures are sold to the SPE in exchange for cash or other assets funded by debt issued by the trust.

18.22 For risk-based capital purposes, tranche maturity (M_T) is the tranche's remaining effective maturity in years and can be measured at the bank's discretion in either of the following manners. In all cases, M_T will have a floor of one year and a cap of five years.

(1) As the euro[70] weighted-average maturity of the contractual cash flows of the tranche, as expressed below, where CF_t denotes the cash flows (principal, interest payments and fees) contractually payable by the borrower in period t. The contractual payments must be unconditional and must not be dependent on the actual performance of the securitized assets. If such unconditional contractual payment dates are not available, the final legal maturity shall be used.

$$\mathrm{M_T} = \frac{\sum_t \mathrm{tCF_t}}{\sum_t \mathrm{CF_t}}$$

(2) On the basis of final legal maturity of the tranche, where M_L is the final legal maturity of the tranche.

$$M_T = 1 + 80\% \ (M_L - 1)$$

18.23 When determining the maturity of a securitization exposure, banks should take into account the maximum period of time they are exposed to potential losses from the securitized assets. In cases where a bank provides a commitment, the bank should calculate the maturity of the securitization exposure resulting from this commitment as the sum of the contractual maturity of the commitment and the longest maturity of the asset(s) to which

[70] The euro designation is used for illustrative purposes only.

the bank would be exposed after a draw has occurred. If those assets are revolving, the longest contractually possible remaining maturity of the asset that might be added during the revolving period would apply, rather than the (longest) maturity of the assets currently in the pool. The same treatment applies to all other instruments where the risk of the commitment/protection provider is not limited to losses realized until the maturity of that instrument (e.g. total return swaps). For credit protection instruments that are only exposed to losses that occur up to the maturity of that instrument, a bank would be allowed to apply the contractual maturity of the instrument and would not have to look through to the protected position.

Operational requirements for the recognition of risk transference

18.24 An originating bank may exclude underlying exposures from the calculation of risk-weighted assets only if all of the following conditions have been met. Banks meeting these conditions must still hold regulatory capital against any securitization exposures they retain.

(1) Significant credit risk associated with the underlying exposures has been transferred to third parties.

(2) The transferor does not maintain effective or indirect control over the transferred exposures. The exposures are legally isolated from the transferor in such a way (e.g. through the sale of assets or through subparticipation) that the exposures are put beyond the reach of the transferor and its creditors, even in bankruptcy or receivership. Banks should obtain legal opinion[71] that confirms true sale. The transferor's retention of servicing rights to the exposures will not necessarily constitute indirect control of the exposures. The transferor is deemed to have maintained effective control over the transferred credit risk exposures if it:

(a) Is able to repurchase from the transferee the previously transferred exposures in order to realize their benefits; or

(b) Is obligated to retain the risk of the transferred exposures.

(3) The securities issued are not obligations of the transferor. Thus, investors who purchase the securities only have claim to the underlying exposures.

(4) The transferee is an SPE and the holders of the beneficial interests in that entity have the right to pledge or exchange them without restriction, unless such restriction is imposed by a risk retention requirement.

[71] Legal opinion is not limited to legal advice from qualified legal counsel, but allows written advice from in-house lawyers.

(5) Clean-up calls must satisfy the conditions set out in 18.28.

(6) The securitization does not contain clauses that

(a) Require the originating bank to alter the underlying exposures such that the pool's credit quality is improved unless this is achieved by selling exposures to independent and unaffiliated third parties at market prices;

(b) Allow for increases in a retained first-loss position or credit enhancement provided by the originating bank after the transaction's inception; or

(c) Increase the yield payable to parties other than the originating bank, such as investors and third-party providers of credit enhancements, in response to a deterioration in the credit quality of the underlying pool.

(7) There must be no termination options/triggers except eligible clean-up calls, termination for specific changes in tax and regulation or early amortization provisions such as those set out in 18.27.

18.25 For synthetic securitizations, the use of credit risk mitigation (CRM) techniques (i.e. collateral, guarantees and credit derivatives) for hedging the underlying exposure may be recognized for risk-based capital purposes only if the conditions outlined below are satisfied:

(1) Credit risk mitigants must comply with the requirements set out in chapter 9.

(2) Eligible collateral is limited to that specified in 9.34. Eligible collateral pledged by SPEs may be recognized.

(3) Eligible guarantors are defined in 9.76. Banks may not recognize SPEs as eligible guarantors in the securitization framework.

(4) Banks must transfer significant credit risk associated with the underlying exposures to third parties.

(5) The instruments used to transfer credit risk may not contain terms or conditions that limit the amount of credit risk transferred, such as those

provided below:

(a) Clauses that materially limit the credit protection or credit risk transference (e.g. an early amortization provision in a securitization of revolving credit facilities that effectively subordinates the bank's interest; significant materiality thresholds below which credit protection is deemed not to be triggered even if a credit event occurs; or clauses that allow for the termination of the protection due to deterioration in the credit quality of the underlying exposures);

(b) Clauses that require the originating bank to alter the underlying exposure to improve the pool's average credit quality;

(c) Clauses that increase the banks' cost of credit protection in response to deterioration in the pool's quality;

(d) Clauses that increase the yield payable to parties other than the originating bank, such as investors and third-party providers of credit enhancements, in response to a deterioration in the credit quality of the reference pool; and

(e) Clauses that provide for increases in a retained first-loss position or credit enhancement provided by the originating bank after the transaction's inception.

(6) A bank should obtain legal opinion that confirms the enforceability of the contract.

(7) Clean-up calls must satisfy the conditions set out in 18.28.

18.26 A securitization transaction is deemed to fail the operational requirements set out in 18.24 or 18.25 if the bank

(1) Originates/sponsors a securitization transaction that includes one or more revolving credit facilities, and

(2) The securitization transaction incorporates an early amortization or similar provision that, if triggered, would

(a) Subordinate the bank's senior or pari passu interest in the underlying revolving credit facilities to the interest of other investors;

(b) Subordinate the bank's subordinated interest to an even greater degree relative to the interests of other parties; or

(c) In other ways increases the bank's exposure to losses associated with the underlying revolving credit facilities.

18.27 If a securitization transaction contains one of the following examples of an early amortization provision and meets the operational requirements set forth in 18.24 or 18.25, an originating bank may exclude the underlying exposures associated with such a transaction from the calculation of risk-weighted assets, but must still hold regulatory capital against any securitization exposures they retain in connection with the transaction:

(1) Replenishment structures where the underlying exposures do not revolve and the early amortization ends the ability of the bank to add new exposures;

(2) Transactions of revolving credit facilities containing early amortization features that mimic term structures (i.e. where the risk on the underlying revolving credit facilities does not return to the originating bank) and where the early amortization provision in a securitization of revolving credit facilities does not effectively result in subordination of the originator's interest;

(3) Structures where a bank securitizes one or more revolving credit facilities and where investors remain fully exposed to future drawdowns by borrowers even after an early amortization event has occurred; or

(4) The early amortization provision is solely triggered by events not related to the performance of the underlying assets or the selling bank, such as material changes in tax laws or regulations.

18.28 For securitization transactions that include a clean-up call, no capital will be required due to the presence of a clean-up call if the following conditions are met:

(1) The exercise of the clean-up call must not be mandatory, in form or in substance, but rather must be at the discretion of the originating bank;

(2) The clean-up call must not be structured to avoid allocating losses to credit enhancements or positions held by investors or otherwise structured to provide credit enhancement; and

(3) The clean-up call must only be exercisable when 10% or less of the original underlying portfolio or securities issued remains, or, for synthetic securitizations, when 10% or less of the original reference portfolio value remains.

18.29 Securitization transactions that include a clean-up call that does not meet all of the criteria stated in 18.28 above result in a capital requirement for the originating bank. For a traditional securitization, the underlying exposures must be treated as if they were not securitized. Additionally, banks must not recognize in regulatory capital any gain on sale, in accordance with *SAMA Circular No. 341000015689, Date: 19 December 2012*. For synthetic securitizations, the bank purchasing protection must hold capital against the entire amount of the securitized exposures as if they did not benefit from any credit protection. If a synthetic securitization incorporates a call (other than a clean-up call) that effectively terminates the transaction and the purchased credit protection on a specific date, the bank must treat the transaction in accordance with 18.65.

18.30 If a clean-up call, when exercised, is found to serve as a credit enhancement, the exercise of the clean-up call must be considered a form of implicit support provided by the bank and must be deducted from regulatory capital.

Due diligence requirements

18.31 For a bank to use the risk weight approaches of the securitization framework, it must have the information specified in 18.32 to 18.34. Otherwise, the bank must assign a 1250% risk weight to any securitization exposure for which it cannot perform the required level of due diligence.

18.32 As a general rule, a bank must, on an ongoing basis, have a comprehensive understanding of the risk characteristics of its individual securitization exposures, whether on- or off-balance sheet, as well as the risk characteristics of the pools underlying its securitization exposures.

18.33 Banks must be able to access performance information on the underlying pools on an ongoing basis in a timely manner. Such information may include, as appropriate: exposure type; percentage of loans 30, 60 and 90 days past due; default rates; prepayment rates; loans in foreclosure; property type; occupancy; average credit score or other measures of credit worthiness; average loan-to- value ratio; and industry and geographical diversification. For resecuritizations, banks should have information not only on the underlying securitization tranches, such as the issuer name and credit quality, but also on the characteristics and performance of the pools underlying the securitization tranches.

18.34 A bank must have a thorough understanding of all structural features of a securitization transaction that would materially impact the performance of the bank's exposures to the transaction, such as the contractual waterfall and waterfall-related triggers, credit enhancements, liquidity enhancements, market value triggers, and deal-specific definitions of default.

Calculation of capital requirements and risk-weighted assets

18.35 Regulatory capital is required for banks' securitization exposures, including those arising from the provision of credit risk mitigants to a securitization transaction, investments in asset-backed securities, retention of a subordinated tranche, and extension of a liquidity facility or credit enhancement, as set forth in the following sections. Repurchased securitization exposures must be treated as retained securitization exposures.

18.36 For the purposes of the expected loss (EL) provision calculation set out in chapter 15, securitization exposures do not contribute to the EL amount. Similarly, neither general nor specific provisions against securitization exposures or underlying assets still held on the balance sheet of the originator are to be included in the measurement of eligible provisions. However, originator banks can offset 1250% risk-weighted securitization exposures by reducing the securitization exposure amount by the amount of their specific provisions on underlying assets of that transaction and non-refundable purchase price discounts on such underlying assets. Specific provisions on securitization exposures will be taken into account in the calculation of the exposure amount, as defined in 18.19 and 18.20. General provisions on underlying securitized exposures are not to be taken into account in any calculation.

18.37 The risk-weighted asset amount of a securitization exposure is computed by multiplying the exposure amount by the appropriate risk weight determined in accordance with the hierarchy of approaches in 18.41 to 18.48. Risk weight caps for senior exposures in accordance with 18.50 and 18.51 or overall caps in accordance with 18.52 to 18.55 may apply. Overlapping exposures will be risk-weighted as defined in 18.38 and 18.40.

18.38 For the purposes of calculating capital requirements, a bank's exposure A overlaps another exposure B if in all circumstances the bank will preclude any loss for the bank on exposure B by fulfilling its obligations with respect to exposure A. For example, if a bank provides full credit support to some notes and holds a portion of these notes, its full credit support obligation precludes any loss from its exposure to the notes. If a bank can verify that fulfilling its obligations with respect to exposure A will preclude a loss from

its exposure to B under any circumstance, the bank does not need to calculate risk-weighted assets for its exposure B.

18.39 To arrive at an overlap, a bank may, for the purposes of calculating capital requirements, split or expand[72] its exposures. For example, a liquidity facility may not be contractually required to cover defaulted assets or may not fund an ABCP programme in certain circumstances. For capital purposes, such a situation would not be regarded as an overlap to the notes issued by that ABCP conduit. However, the bank may calculate risk-weighted assets for the liquidity facility as if it were expanded (either in order to cover defaulted assets or in terms of trigger events) to preclude all losses on the notes. In such a case, the bank would only need to calculate capital requirements on the liquidity facility.

18.40 Overlap could also be recognized between relevant capital charges for exposures in the trading book and capital charges for exposures in the banking book, provided that the bank is able to calculate and compare the capital charges for the relevant exposures.

18.41 Securitization exposures will be treated differently depending on the type of underlying exposures and/or on the type of information available to the bank. Securitization exposures to which none of the approaches laid out in 18.42 to 18.48 can be applied must be assigned a 1250% risk weight.

18.42 A bank must use the Securitization Internal ratings-based approach (SEC-IRBA) as described in chapter 22 for a securitization exposure of an IRB pool as defined in 18.15, unless otherwise determined by SAMA.

[72] That is, splitting exposures into portions that overlap with another exposure held by the bank and other portions that do not overlap; and expanding exposures by assuming for capital purposes that obligations with respect to one of the overlapping exposures are larger than those established contractually. The latter could be done, for instance, by expanding either the trigger events to exercise the facility and/or the extent of the obligation.

18.43 If a bank cannot use the SEC-IRBA, it must use the Securitization External Ratings-Based Approach (SEC-ERBA) as described in 20.1 to 20.7 for a securitization exposure to an SA pool as defined in 18.17 provided that

(1) The bank is located in a jurisdiction that permits use of the SEC-ERBA and

(2) The exposure has an external credit assessment that meets the operational requirements for an external credit assessment in paragraph 20.8, or there is an inferred rating that meets the operational requirements for inferred ratings in 20.9 and 20.10.

18.44 A bank operating in Saudi Arabia that permit to use the SEC-ERBA may use an Internal Assessment Approach (SEC-IAA) as described in 21.1 to 21.4 for an unrated securitization exposure (e.g. liquidity facilities and credit enhancements) to an SA pool within an ABCP programme. In order to use an SEC-IAA, a bank must have SAMA approval to use the IRB approach for non- securitization exposures. A bank should consult with SAMA on whether and when it can apply the IAA to its securitization exposures, especially where the bank can apply the IRB for some, but not all, underlying exposures.

18.45 A bank that cannot use the SEC-ERBA or an SEC-IAA for its exposure to an SApool may use the Standardized Approach (SEC-SA) as described in 19.1 to 19.15.

18.46 Securitization exposures of mixed pools: where a bank can calculate K_{IRB} on at least 95% of the underlying exposure amounts of a securitization, the bank must apply the SEC-IRBA calculating the capital charge for the underlying pool as follows, where d is the percentage of the exposure amount of underlying exposures for which the bank can calculate K_{IRB} over the exposure amount of all underlying exposures; and K_{IRB} and K_{SA} are as defined in 22.2 to 22.5 and 19.2 to 19.4, respectively:

$$\text{Capital charge for mixed pool} = d \times K_{IRB} + (1 - d) \times K_{SA}$$

18.47 Where the bank cannot calculate KIRB on at least 95% of the underlying exposures, the bank must use the hierarchy for securitization exposures of SA pools as set out in 18.43 to 18.45.

18.48 For resecuritization exposures, banks must apply the SEC-SA, with the adjustments in paragraph 19.16. For exposures to securitizations of non-performing loans as defined in paragraph 23.1, banks must apply the framework with the adjustments laid out in Securitization of non-performing loans in chapter 23.

18.49 When a bank provides implicit support to a securitization, it must, at a minimum, hold capital against all of the underlying exposures associated with the securitization transaction as if they had not been securitized. Additionally, banks would not be permitted to recognize in regulatory capital any gain on sale, in accordance with *SAMA Circular No. 341000015689, Date: 19 December 2012*.

Caps for securitization exposures

18.50 Banks may apply a "look-through" approach to senior securitization exposures, whereby the senior securitization exposure could receive a maximum risk weight equal to the exposure weighted-average risk weight applicable to the underlying exposures, provided that the bank has knowledge of the composition of the underlying exposures at all times. The applicable risk weight under the IRB framework would be calculated taking into account the expected loss portion. In particular:

(1) In the case of pools where the bank uses exclusively the SA or the IRB approach, the risk weight cap for senior exposures would equal the exposure weighted-average risk weight that would apply to the underlying exposures under the SA or IRB framework, respectively.

(2) In the case of mixed pools, when applying the SEC-IRBA, the SA part of the underlying pool would receive the corresponding SA risk weight, while the IRB portion would receive IRB risk weights. When applying the SEC-SA or the SEC-ERBA, the risk weight cap for senior exposures would be based on the SA exposure weighted-average risk weight of

the underlying assets, whether or not they are originally IRB.

18.51 Where the risk weight cap results in a lower risk weight than the floor risk weight of 15%, the risk weight resulting from the cap should be used.

18.52 A bank (originator, sponsor or investors) using the SEC-IRBA for a securitization exposure may apply a maximum capital requirement for the securitization exposures it holds equal to the IRB capital requirement (including the expected loss portion) that would have been assessed against the underlying exposures had they not been securitized and treated under the appropriate sections of chapters 10 to chapter 16. In the case of mixed pools, the overall cap should be calculated by adding up the capital before securitization; that is, by adding up the capital required under the general credit risk framework for the IRB and for the SA part of the underlying pool.

18.53 An originating or sponsor bank using the SEC-ERBA or SEC-SA for a securitization exposure may apply a maximum capital requirement for the securitization exposures it holds equal to the capital requirement that would have been assessed against the underlying exposures had they not been securitized. In the case of mixed pools, the overall cap should be calculated by adding up the capital before securitization; that is, by adding up the capital required under the general credit risk framework for the IRB and for the SA part of the underlying pool, respectively. The IRB part of the capital requirement includes the expected loss portion.

18.54 The maximum aggregated capital requirement for a bank's securitization exposures in the same transaction will be equal to $K_P * P$. In order to apply a maximum capital charge to a bank's securitization exposure, a bank will need the following inputs:

(1) The largest proportion of interest that the bank holds for each tranche of a given pool (P). In particular:

(a) For a bank that has one or more securitization exposure(s) that reside in a single tranche of a given pool, P equals the proportion (expressed as a percentage) of securitization exposure(s) that the bank holds in that given tranche (calculated as the total nominal

amount of the bank's securitization exposure(s) in the tranche) divided by the nominal amount of the tranche.

(b) For a bank that has securitization exposures that reside in different tranches of a given securitization, P equals the maximum proportion of interest across tranches, where the proportion of interest for each of the different tranches should be calculated as described above.

(2) Capital charge for underlying pool (KP):

(a) For an IRB pool, K_P equals K_{IRB} as defined in 22.2 to 22.13.

(b) For an SA pool, K_P equals K_{SA} as defined in 19.2 to 19.5.

(c) For a mixed pool, K_P equals the exposure-weighted average capital charge of the underlying pool using K_{SA} for the proportion of the underlying pool for which the bank cannot calculate K_{IRB}, and K_{IRB} for the proportion of the underlying pool for which a bank can calculate K_{IRB}

18.55 In applying the capital charge cap, the entire amount of any gain on sale and credit-enhancing interest-only strips arising from the securitization transaction must be deducted in accordance with *SAMA Circular No. 341000015689, Date: 19 December 2012.*

Treatment of credit risk mitigation for securitization exposures

18.56 A bank may recognize credit protection purchased on a securitization exposure when calculating capital requirements subject to the following:

(1) Collateral recognition is limited to that permitted under the credit risk mitigation framework – in particular, paragraph 9.34 when the bank applies the SEC-ERBA or SEC-SA, and paragraph 12.7 when the bank applies the SEC-IRBA. Collateral pledged by SPEs may be recognized;

(2) Credit protection provided by the entities listed in paragraph 9.75 may

berecognized. SPEs cannot be recognized as eligible guarantors; and

(3) Where guarantees or credit derivatives fulfil the minimum operational conditions as specified in paragraphs 9.69 to 9.74, banks can take account of such credit protection in calculating capital requirements for securitization exposures.

18.57 When a bank provides full (or pro rata) credit protection to a securitization exposure, the bank must calculate its capital requirements as if it directly holds the portion of the securitization exposure on which it has provided credit protection (in accordance with the definition of tranche maturity given in 18.22 and 18.23).

18.58 Provided that the conditions set out in 18.56 are met, the bank buying full (or pro rata) credit protection may recognize the credit risk mitigation on the securitization exposure in accordance with the CRM framework.

18.59 In the case of tranched credit protection, the original securitization tranche will be decomposed into protected and unprotected sub-tranches:[73]

(1) The protection provider must calculate its capital requirement as if directly exposed to the particular sub-tranche of the securitization exposure on which it is providing protection, and as determined by the hierarchy of approaches for securitization exposures and according to 18.60 to 18.62.

(2) Provided that the conditions set out in 18.56 are met, the protection buyer may recognize tranched protection on the securitization exposure. In doing so, it must calculate capital requirements for each sub-tranche separately and as follows:

(a) For the resulting unprotected exposure(s), capital requirements will be calculated as determined by the hierarchy of approaches for securitization exposures and according to 18.60 to 18.62.

[73] The envisioned decomposition is theoretical and it should not be viewed as a new securitization transaction. The resulting subtranches should not be considered resecuritisations solely due to the presence of the credit protection.

(b) For the guaranteed/protected portion, capital requirements will be calculated according to the applicable CRM framework (in accordance with the definition of tranche maturity given in 18.22 and 18.23).

18.60 If, according to the hierarchy of approaches determined by 18.41 to 18.48, the bank must use the SEC-IRBA or SEC-SA, the parameters A and D should be calculated separately for each of the subtranches as if the latter would have been directly issued as separate tranches at the inception of the transaction. The value for KIRB (respectively KSA) will be computed on the underlying portfolio of the original transaction.

18.61 If, according to the hierarchy of approaches determined by 18.41 to 18.48, the bank must use the SEC-ERBA for the original securitization exposure; the relevant risk weights for the different subtranches will be calculated subject to the following:

(1) For the sub-tranche of highest priority,[74] the bank will use the risk weight of the original securitization exposure.

(2) For a sub-tranche of lower priority:

(a) Banks must infer a rating from one of the subordinated tranches in the original transaction. The risk weight of the sub-tranche of lower priority will be then determined by applying the inferred rating to the SEC- ERBA. Thickness input T will be computed for the sub-tranche of lower priority only.

(b) Should it not be possible to infer a rating the risk weight for the sub-tranche of lower priority will be computed using the SEC-SA applying the adjustments to the determination of A and D described in 18.60 above. The risk weight for this sub-tranche will be obtained

[74] 'Sub-tranche of highest priority' only describes the relative priority of the decomposed tranche. The calculation of the risk weight of each sub- tranche is independent from the question if this sub-tranche is protected (i.e. risk is taken by the protection provider) or is unprotected (i.e. risk is taken by the protection buyer).

as the greater of

(i) The risk weight determined through the application of the SEC-SA with the adjusted A, D points and

(ii) The SEC-ERBA risk weight of the original securitization exposure prior to recognition of protection.

18.62 Under all approaches, a lower-priority sub-tranche must be treated as a non-senior securitization exposure even if the original securitization exposure prior to protection qualifies as senior as defined in 18.18.

18.63 A maturity mismatch exists when the residual maturity of a hedge is less than that of the underlying exposure.

18.64 When protection is bought on a securitization exposure(s), for the purpose of setting regulatory capital against a maturity mismatch, the capital requirement will be determined in accordance with 9.10 to 9.14. When the exposures being hedged have different maturities, the longest maturity must be used.

18.65 When protection is bought on the securitized assets, maturity mismatches may arise in the context of synthetic securitizations (when, for example, a bank uses credit derivatives to transfer part or all of the credit risk of a specific pool of assets to third parties). When the credit derivatives unwind, the transaction will terminate. This implies that the effective maturity of all the tranches of the synthetic securitization may differ from that of the underlying exposures. Banks that synthetically securitize exposures held on their balance sheet by purchasing tranched credit protection must treat such maturity mismatches in the following manner: For securitization exposures that are assigned a risk weight of 1250%, maturity mismatches are not taken into account. For all other securitization exposures, the bank must apply the maturity mismatch treatment set forth in 9.10 to 9.14. When the exposures being hedged have different maturities, the longest maturity must be used.

Simple, transparent and comparable securitizations: scope of and conditions for alternative treatment

18.66 Only traditional securitizations including exposures to ABCP conduits and exposures to transactions financed by ABCP conduits fall within the scope of the simple, transparent and comparable (STC) framework. Exposures to securitizations that are STC-compliant can be subject to alternative capital treatment as determined by 19.20 to 19.22, 20.11 to 20.14 and 22.27 to 22.29.

18.67 For regulatory capital purposes, the following will be considered STC-compliant:

(1) Exposures to non-ABCP, traditional securitizations that meet the criteria in 18.72 to 18.95; and

(2) Exposures to ABCP conduits and/or transactions financed by ABCP conduits, where the conduit and/or transactions financed by it meet the criteria in 18.96 to 18.165.

18.68 The originator/sponsor must disclose to investors all necessary information at the transaction level to allow investors to determine whether the securitization is STC- compliant. Based on the information provided by the originator/sponsor, the investor must make its own assessment of the securitization's STC compliance status as defined in 18.67 above, before applying the alternative capital treatment.

18.69 For retained positions where the originator has achieved significant risk transfer in accordance with 18.24, the determination shall be made only by the originator retaining the position.

18.70 STC criteria need to be met at all times. Checking the compliance with some of the criteria might only be necessary at origination (or at the time of initiating the exposure, in case of guarantees or liquidity facilities) to an STC securitization. Notwithstanding, investors and holders of the securitization positions are expected to take into account developments that may invalidate the previous compliance assessment, for example deficiencies in the frequency and content of the investor reports, in the alignment of interest, or changes in the transaction documentation at variance with relevant STC criteria.

18.71 In cases where the criteria refer to underlying assets – including, but not limited to 18.94 and 18.95 and the pool is dynamic, the compliance with the criteria will be subject to dynamic checks every time that assets are added to the pool.

Simple, transparent and comparable term securitizations: criteria for regulatory capital purposes

18.72 All criteria must be satisfied in order for a securitization to receive alternative regulatory capital treatment.

Criterion A1: Nature of assets

18.73 In simple, transparent and comparable securitizations, the assets underlying the securitization should be credit claims or receivables that are homogeneous. In assessing homogeneity, consideration should be given to asset type, jurisdiction, legal system and currency. As more exotic asset classes require more complex and deeper analysis, credit claims or receivables should have contractually identified periodic payment streams relating to rental,[75] principal, interest, or principal and interest payments. Any referenced interest payments or discount rates should be based on commonly encountered market interest rates,[76] but should not reference complex or complicated formulae or exotic derivatives.[77]

(1) For capital purposes, the "homogeneity" criterion should be assessed taking into account the following principles:

(a) The nature of assets should be such that investors would not need to analyze and assess materially different legal and/or credit risk factors and risk profiles when carrying out risk analysis and due diligence checks.

[75] Payments on operating and financing leases are typically considered to be rental payments rather than payments of principal and interest.

[76] Commonly encountered market interest rates may include rates reflective of a lender's cost of funds, to the extent that sufficient data are provided to investors to allow them to assess their relation to other market rates.

[77] The Global Association of Risk Professionals defines an exotic instrument as a financial asset or instrument with features making it more complex than simpler, plain vanilla, products.

(b) Homogeneity should be assessed on the basis of common risk drivers, including similar risk factors and risk profiles.

(c) Credit claims or receivables included in the securitization should have standard obligations, in terms of rights to payments and/or income from assets and that result in a periodic and well-defined stream of payments to investors. Credit card facilities should be deemed to resultin a periodic and well-defined stream of payments to investors for the purposes of this criterion.

(d) Repayment of noteholders should mainly rely on the principal and interest proceeds from the securitized assets. Partial reliance on refinancing or re-sale of the asset securing the exposure may occur provided that re-financing is sufficiently distributed within the pool and the residual values on which the transaction relies are sufficiently low and that the reliance on refinancing is thus not substantial.

(2) Examples of "commonly encountered market interest rates" would include:

(a) Interbank rates and rates set by monetary policy authorities, such as the London Interbank Offered Rate (Libor), the Euro Interbank Offered Rate (Euribor) and the fed funds rate; and

(b) Sectoral rates reflective of a lender's cost of funds, such as internal interest rates that directly reflect the market costs of a bank's funding or that of a subset of institutions.

(3) Interest rate caps and/or floors would not automatically be considered exotic derivatives.

Criterion A2: Asset performance history

18.74 In order to provide investors with sufficient information on an asset class to conduct appropriate due diligence and access to a sufficiently rich data set to enable a more accurate calculation of expected loss in different stress scenarios, verifiable loss performance data, such as delinquency and default data, should be available for credit claims and receivables with substantially similar risk characteristics to those being securitized, for a time period long enough to permit meaningful evaluation by investors. Sources of and access to data and the basis for claiming similarity to credit claims or receivables being securitized should be clearly disclosed to all market participants.

(1) In addition to the history of the asset class within a jurisdiction, investors should consider whether the originator, sponsor, servicer and other parties with a fiduciary responsibility to the securitization have an established performance history for substantially similar credit claims or receivables to those being securitized and for an appropriately long period of time. It is not the intention of the criteria to form an impediment to the entry of new participants to the market, but rather that investors should take into account the performance history of the asset class and the transaction parties when deciding whether to invest in a securitization.[78]

(2) The originator/sponsor of the securitization, as well as the original lender who underwrites the assets, must have sufficient experience in originating exposures similar to those securitized. For capital purposes, investors must determine whether the performance history of the originator and the original lender for substantially similar claims or receivables to those being securitized has been established for an "appropriately long period of time". This performance history must be no shorter than a period of seven years for non-retail exposures. For retail exposures, the minimum performance history is five years.

[78] This "additional consideration" may form part of investors' due diligence process, but does not form part of the criteria when determining whether a securitization can be considered "simple, transparent and comparable".

Criterion A3: Payment status

18.75 Non-performing credit claims and receivables are likely to require more complex and heightened analysis. In order to ensure that only performing credit claims and receivables are assigned to a securitization, credit claims or receivables being transferred to the securitization may not, at the time of inclusion in the pool, include obligations that are in default or delinquent or obligations for which the transferor[79] or parties to the securitization[80] are aware of evidence indicating a material increase in expected losses or of enforcement actions.

(1) To prevent credit claims or receivables arising from credit-impaired borrowers from being transferred to the securitization, the originator or sponsor should verify that the credit claims or receivables meet the following conditions:

(a) The obligor has not been the subject of an insolvency or debt restructuring process due to financial difficulties within three years priorto the date of origination;[81] and

(b) The obligor is not recorded on a public credit registry of persons with an adverse credit history; and,

(c) The obligor does not have a credit assessment by an ECAI or a credit score indicating a significant risk of default; and

(d) The credit claim or receivable is not subject to a dispute between the obligor and the original lender.

(2) The assessment of these conditions should be carried out by the

[79] Eg the originator or sponsor.

[80] Eg the servicer or a party with a fiduciary responsibility

[81] This condition would not apply to borrowers that previously had credit incidents but were subsequently removed from credit registries as a result of the borrower cleaning their records. This is the case in jurisdictions in which borrowers have the "right to be forgotten".

originator or sponsor no earlier than 45 days prior to the closing date. Additionally, at the time of this assessment, there should to the best knowledge of the originator or sponsor be no evidence indicating likely deterioration in the performance status of the credit claim or receivable.

(3) Additionally, at the time of their inclusion in the pool, at least one payment should have been made on the underlying exposures, except in the case of revolving asset trust structures such as those for credit card receivables, trade receivables, and other exposures payable in a single instalment, at maturity.

Criterion A4: Consistency of underwriting

18.76 Investor analysis should be simpler and more straightforward where the securitization is of credit claims or receivables that satisfy materially non-deteriorating origination standards. To ensure that the quality of the securitized credit claims and receivables is not affected by changes in underwriting standards, the originator should demonstrate to investors that any credit claims or receivables being transferred to the securitization have been originated in the ordinary course of the originator's business to materially non-deteriorating underwriting standards. Where underwriting standards change, the originator should disclose the timing and purpose of such changes. Underwriting standards should not be less stringent than those applied to credit claims and receivables retained on the balance sheet. These should be credit claims or receivables which have satisfied materially non-deteriorating underwriting criteria and for which the obligors have been assessed as having the ability and volition to make timely payments on obligations; or on granular pools of obligors originated in the ordinary course of the originator's business where expected cash flows have been modelled to meet stated obligations of the securitization under prudently stressed loan loss scenarios.

(1) In all circumstances, all credit claims or receivables must be originated in accordance with sound and prudent underwriting criteria based on an assessment that the obligor has the "ability and volition to make timely payments" on its obligations.

(2) The originator/sponsor of the securitization is expected, where underlying credit claims or receivables have been acquired from third parties, to review the underwriting standards (i.e. to check their existence and assess their quality) of these third parties and to ascertain that they have assessed the obligors' "ability and volition to make timely payments on obligations".

Criterion A5: Asset selection and transfer

18.77 Whilst recognizing that credit claims or receivables transferred to a securitization will be subject to defined criteria,[82] the performance of the securitization should not rely upon the ongoing selection of assets through active management[83] on a discretionary basis of the securitization's underlying portfolio. Credit claims or receivables transferred to a securitization should satisfy clearly defined eligibility criteria. Credit claims or receivables transferred to a securitization after the closing date may not be actively selected, actively managed or otherwise cherry- picked on a discretionary basis. Investors should be able to assess the credit risk of the asset pool prior to their investment decisions.

18.78 In order to meet the principle of true sale, the securitization should effect true sale such that the underlying credit claims or receivables:

(1) Are enforceable against the obligor and their enforceability is included in the representations and warranties of the securitization;

(2) Are beyond the reach of the seller, its creditors or liquidators and are not subject to material recharacterisation or clawback risks;

[82] Eg the size of the obligation, the age of the borrower or the loan-to- value of the property, debt-to-income and/or debt service coverage ratios.

[83] Provided they are not actively selected or otherwise cherry-picked on a discretionary basis, the addition of credit claims or receivables during the revolving periods or their substitution or repurchasing due to the breach of representations and warranties do not represent active portfolio management.

(3) Are not effected through credit default swaps, derivatives or guarantees, but by a transfer of the credit claims or the receivables to the securitization;

(4) Demonstrate effective recourse to the ultimate obligation for the underlying credit claims or receivables and are not a securitization of other securitizations; and

(5) For regulatory capital purposes, an independent third-party legal opinion must support the claim that the true sale and the transfer of assets under the applicable laws comply with the points under 18.78 (1) to 18.78 (4).

18.79 Securitizations employing transfers of credit claims or receivables by other means should demonstrate the existence of material obstacles preventing true sale at issuance[84] and should clearly demonstrate the method of recourse to ultimate obligors.[85] In such jurisdictions, any conditions where the transfer of the credit claims or receivable is delayed or contingent upon specific events and any factors affecting timely perfection of claims by the securitization should be clearly disclosed. The originator should provide representations and warranties that the credit claims or receivables being transferred to the securitization are not subject to any condition or encumbrance that can be foreseen to adversely affect enforceability in respect of collections due.

[84] Eg the immediate realization of transfer tax or the requirement to notify all obligors of the transfer.

[85] Eg equitable assignment, perfected contingent transfer.

Criterion A6: Initial and ongoing data

18.80 To assist investors in conducting appropriate due diligence prior to investing in a new offering, sufficient loan-level data in accordance with applicable laws or, in the case of granular pools, summary stratification data on the relevant risk characteristics of the underlying pool should be available to potential investors before pricing of a securitization. To assist investors in conducting appropriate and ongoing monitoring of their investments' performance and so that investors that wish to purchase a securitization in the secondary market have sufficient information to conduct appropriate due diligence, timely loan-level data in accordance with applicable laws or granular pool stratification data on the risk characteristics of the underlying pool and standardized investor reports should be readily available to current and potential investors at least quarterly throughout the life of the securitization. Cut-off dates of the loan-level or granular pool stratification data should be aligned with those used for investor reporting. To provide a level of assurance that the reporting of the underlying credit claims or receivables is accurate and that the underlying credit claims or receivables meet the eligibility requirements, the initial portfolio should be reviewed[86] for conformity with the eligibility requirements by an appropriate legally accountable and independent third party, such as an independent accounting practice or the calculation agent or management company for the securitization.

[86] The review should confirm that the credit claims or receivables transferred to the securitization meet the portfolio eligibility requirements. The review could, for example, be undertaken on a representative sample of the initial portfolio, with the application of a minimum confidence level. The verification report need not be provided but its results, including any material exceptions, should be disclosed in the initial offering documentation.

Criterion B7: Redemption cash flows

18.81 Liabilities subject to the refinancing risk of the underlying credit claims or receivables are likely to require more complex and heightened analysis. To help ensure that the underlying credit claims or receivables do not need to be refinanced over a short period of time, there should not be a reliance on the sale or refinancing of the underlying credit claims or receivables in order to repay the liabilities, unless the underlying pool of credit claims or receivables is sufficiently granular and has sufficiently distributed repayment profiles. Rights to receive income from the assets specified to support redemption payments should be considered as eligible credit claims or receivables in this regard.[87]

Criterion B8: Currency and interest rate asset and liability mismatches

18.82 To reduce the payment risk arising from the different interest rate and currency profiles of assets and liabilities and to improve investors' ability to model cash flows, interest rate and foreign currency risks should be appropriately mitigated[88] at all times, and if any hedging transaction is executed the transaction should be documented according to industry-standard master agreements. Only derivatives used for genuine hedging of asset and liability mismatches of interest rate and / or currency should be allowed.

(1) For capital purposes, the term "appropriately mitigated" should be understood as not necessarily requiring a completely perfect hedge. The appropriateness of the mitigation of interest rate and foreign currency through the life of the transaction must be demonstrated by making available to potential investors, in a timely and regular manner,

[87] For example, associated savings plans designed to repay principal at maturity.

[88] The term "appropriately mitigated" should be understood as not necessarily requiring a matching hedge. The appropriateness of hedging through the life of the transaction should be demonstrated and disclosed on a continuous basis to investors.

quantitative information including the fraction of notional amounts that are hedged, as well as sensitivity analysis that illustrates the effectiveness of the hedge under extreme but plausible scenarios.

(2) If hedges are not performed through derivatives, then those risk-mitigating measures are only permitted if they are specifically created and used for the purpose of hedging an individual and specific risk, and not multiple risks at the same time (such as credit and interest rate risks). Non-derivative risk mitigation measures must be fully funded and available at all times.

Criterion B9: Payment priorities and observability

18.83 To prevent investors being subjected to unexpected repayment profiles during the life of a securitization, the priorities of payments for all liabilities in all circumstances should be clearly defined at the time of securitization and appropriate legal comfort regarding their enforceability should be provided. To ensure that junior noteholders do not have inappropriate payment preference over senior noteholders that are due and payable, throughout the life of a securitization, or, where there are multiple securitizations backed by the same pool of credit claims or receivables, throughout the life of the securitization programme, junior liabilities should not have payment preference over senior liabilities which are due and payable. The securitization should not be structured as a "reverse" cash flow waterfall such that junior liabilities are paid where due and payable senior liabilities have not been paid. To help provide investors with full transparency over any changes to the cash flow waterfall, payment profile or priority of payments that might affect a securitization, all triggers affecting the cash flow waterfall, payment profile or priority of payments of the securitization should be clearly and fully disclosed both in offering documents and in investor reports, with information in the investor report that clearly identifies the breach status, the ability for the breach to be reversed and the consequences of the breach. Investor reports should contain information that allows investors to monitor the evolution over time of the indicators that are subject to triggers. Any triggers breached between

payment dates should be disclosed to investors on a timely basis in accordance with the terms and conditions of all underlying transaction documents.

18.84 Securitizations featuring a replenishment period should include provisions for appropriate early amortization events and/or triggers of termination of the replenishment period, including, notably:

(1) Deterioration in the credit quality of the underlying exposures;

(2) A failure to acquire sufficient new underlying exposures of similar credit quality; and

(3) The occurrence of an insolvency-related event with regard to the originator or the servicer.

18.85 Following the occurrence of a performance-related trigger, an event of default or an acceleration event, the securitization positions should be repaid in accordance with a sequential amortization priority of payments, in order of tranche seniority, and there should not be provisions requiring immediate liquidation of the underlying assets at market value.

18.86 To assist investors in their ability to appropriately model the cash flow waterfall of the securitization, the originator or sponsor should make available to investors, both before pricing of the securitization and on an ongoing basis, a liability cash flow model or information on the cash flow provisions allowing appropriate modelling of the securitization cash flow waterfall.

18.87 To ensure that debt forgiveness, forbearance, payment holidays and other asset performance remedies can be clearly identified, policies and procedures, definitions, remedies and actions relating to delinquency, default or restructuring of underlying debtors should be provided in clear and consistent terms, such that investors can clearly identify debt forgiveness, forbearance, payment holidays, restructuring and other asset performance remedies on an ongoing basis.

Criterion B10: Voting and enforcement rights

18.88 To help ensure clarity for securitization note holders of their rights and ability to control and enforce on the underlying credit claims or receivables, upon insolvency of the originator or sponsor, all voting and enforcement rights related to the credit claims or receivables should be transferred to the securitization. Investors' rights in the securitization should be clearly defined in all circumstances, including the rights of senior versus junior note holders.

Criterion B11: Documentation disclosure and legal review

18.89 To help investors to fully understand the terms, conditions, legal and commercial information prior to investing in a new offering[89] and to ensure that this information is set out in a clear and effective manner for all programmes and offerings, sufficient initial offering[90] and draft underlying[91] documentation should be made available to investors (and readily available to potential investors on a continuous basis) within a reasonably sufficient period of time prior to pricing, or when legally permissible, such that the investor is provided with full disclosure of the legal and commercial information and comprehensive risk factors needed to make informed investment decisions. Final offering documents should be available from the closing date and all final underlying transaction documents shortly thereafter. These should be composed such that readers can readily find, understand and use relevant information. To ensure that all the securitization's underlying documentation has been subject to appropriate review prior to publication, the terms and documentation of the securitization should be reviewed by an appropriately experienced third party legal practice, such as a legal counsel

[89] For the avoidance of doubt, any type of securitization should be allowed to fulfil the requirements of 18.894018.89 once it meets its prescribed standards of disclosure and legal review.

[22] Eg offering memorandum, draft offering document or draft prospectus, such as a "red herring"

[91] Eg asset sale agreement, assignment, novation or transfer agreement; servicing, backup servicing, administration and cash management agreements; trust/management deed, security deed, agency agreement, account bank agreement, guaranteed investment contract, incorporated terms or master trust framework or master definitions agreement as applicable; any relevant inter-creditor agreements, swap or derivative documentation, subordinated loan agreements, start-up loan agreements and liquidity facility agreements; and any other relevant underlying documentation, including legal opinions.

already instructed by one of the transaction parties, e.g. by the arranger or the trustee. Investors should be notified in a timely fashion of any changes in such documents that have an impact on the structural risks in the securitization.

Criterion B12: Alignment of interest

18.90 In order to align the interests of those responsible for the underwriting of the credit claims or receivables with those of investors, the originator or sponsor of the credit claims or receivables should retain a material net economic exposure and demonstrate a financial incentive in the performance of these assets following their securitization.

Criterion C13: Fiduciary and contractual responsibilities

18.91 To help ensure servicers have extensive workout expertise, thorough legal and collateral knowledge and a proven track record in loss mitigation, such parties should be able to demonstrate expertise in the servicing of the underlying credit claims or receivables, supported by a management team with extensive industry experience. The servicer should at all times act in accordance with reasonable and prudent standards. Policies, procedures and risk management controls should be well documented and adhere to good market practices and relevant regulatory regimes. There should be strong systems and reporting capabilities in place.

(1) In assessing whether "strong systems and reporting capabilities are in place" for capital purposes, well documented policies, procedures and risk management controls, as well as strong systems and reporting capabilities, may be substantiated by a third-party review for non-banking entities.

18.92 The party or parties with fiduciary responsibility should act on a timely basis in the best interests of the securitization note holders, and both the initial offering and all underlying documentation should contain provisions facilitating the timely resolution of conflicts between different classes of note holders by the trustees, to the extent permitted by applicable law. The party or parties with fiduciary responsibility to the securitization and to investors should be able to demonstrate sufficient skills and resources to comply with their duties of care in the administration of the securitization vehicle. To increase the likelihood that those identified as having a fiduciary responsibility towards investors as well as the servicer execute their duties in full on a timely basis, remuneration should be such that these parties are incentivized and able to meet their responsibilities in full and on a timely basis.

Criterion C14: Transparency to investors

18.93 To help provide full transparency to investors, assist investors in the conduct of their due diligence and to prevent investors being subject to unexpected disruptions in cash flow collections and servicing, the contractual obligations, duties and responsibilities of all key parties to the securitization, both those with a fiduciary responsibility and of the ancillary service providers, should be defined clearly both in the initial offering and all underlying documentation. Provisions should be documented for the replacement of servicers, bank account providers, derivatives counterparties and liquidity providers in the event of failure or non- performance or insolvency or other deterioration of creditworthiness of any such counterparty to the securitization. To enhance transparency and visibility over all receipts, payments and ledger entries at all times, the performance reports to investors should distinguish and report the securitization's income and disbursements, such as scheduled principal, redemption principal, scheduled interest, prepaid principal, past due interest and fees and charges, delinquent, defaulted and restructured amounts under debt forgiveness and payment holidays, including accurate accounting for amounts attributable to principal and interest deficiency ledgers.

(1) For capital purposes, the terms “initial offering” and “underlying transaction documentation” should be understood in the context defined by 18.89.

(2) The term “income and disbursements” should also be understood as including deferment, forbearance, and repurchases among the items described.

Criterion D15: Credit risk of underlying exposures

18.94 At the portfolio cut-off date the underlying exposures have to meet the conditions under the Standardized Approach for credit risk, and after taking into account any eligible credit risk mitigation, for being assigned a risk weight equal to or smaller than:

(1) 40% on a value-weighted average exposure basis for the portfolio where the exposures are "regulatory residential real estate" exposures as defined in paragraph 7.69;

(2) 50% on an individual exposure basis where the exposure is a "regulatory commercial real estate" exposure as defined in paragraph 7.70, an "other real estate" exposure as defined in paragraph 7.80 or a land ADC exposure as defined in paragraph 7.82;

(3) 75% on an individual exposure basis where the exposure is a "regulatory retail" exposure, as defined in paragraph 7.57; or

(4) 100% on an individual exposure basis for any other exposure.

Criterion D16: Granularity of the pool

18.95 At the portfolio cut-off date, the aggregated value of all exposures to a single obligor shall not exceed 1% of the aggregated outstanding exposure value of all exposures in the portfolio. Where structurally concentrated corporate loan markets available for securitization subject to ex ante supervisory approval and only for corporate exposures, the applicable maximum concentration threshold could be increased to 2% if the

originator or sponsor retains subordinated tranche(s) that form loss absorbing credit enhancement, as defined in 22.16, and which cover at least the first 10% of losses. These tranche(s) retained by the originator or sponsor shall not be eligible for the STC capital treatment.

Simple, transparent and comparable short-term securitizations: criteria for regulatory capital purposes

18.96 The following definitions apply when the terms are used in 18.97 to 18.165:

(1) ABCP conduit/conduit – ABCP conduit, being the special purpose vehicle which can issue commercial paper;

(2) ABCP programme – the programme of commercial paper issued by an ABCP conduit;

(3) Assets/asset pool – the credit claims and/or receivables underlying a transaction in which the ABCP conduit holds a beneficial interest;

(4) Investor – the holder of commercial paper issued under an ABCP programme, or any type of exposure to the conduit representing a financing liability of the conduit, such as loans;

(5) Obligor – borrower underlying a credit claim or a receivable that is part of anasset pool;

(6) Seller – a party that:

(a) Concluded (in its capacity as original lender) the original agreement that created the obligations or potential obligations (under a credit claim or a receivable) of an obligor or purchased the obligations or potential obligations from the original lender(s); and

(b) Transferred those assets through a transaction or passed on the

interest[92] to the ABCP conduit.

(7) Sponsor – sponsor of an ABCP conduit. It may also be noted that other relevant parties with a fiduciary responsibility in the management and administration of the ABCP conduit could also undertake control of some of the responsibilities of the sponsor; and

(8) Transaction – An individual transaction in which the ABCP conduit holds a beneficial interest. A transaction may qualify as a securitization, but may also be a direct asset purchase, the acquisition of undivided interest in a replenishing pool of asset, a secured loan etc.

18.97 For exposures at the conduit level (e.g. exposure arising from investing in the commercial papers issued by the ABCP programme or sponsoring arrangements at the conduit/programme level), compliance with the short-term STC capital criteria is only achieved if the criteria are satisfied at both the conduit and transaction levels.

18.98 In the case of exposures at the transaction level, compliance with the short-term STC capital criteria is considered to be achieved if the transaction level criteria are satisfied for the transactions to which support is provided.

Criterion A1: Nature of assets (conduit level)

18.99 The sponsor should make representations and warranties to investors that the criterion set out in 18.100 below are met, and explain how this is the case on an overall basis. Only if specified should this be done for each transaction. Provided that each individual underlying transaction is homogeneous in terms of asset type, a conduit may be used to finance transactions of different asset types. Programme wide credit enhancement should not prevent a conduit from qualifying for STC, regardless of whether such enhancement

[92] For instance, transactions in which assets are sold to a special purpose entity sponsored by a bank's customer and then either a security interest in the assets is granted to the ABCP conduit to secure a loan made by the ABCP conduit to the sponsored special purpose entity, or an undivided interest is sold to the ABCP conduit.

technically creates resecuritisation.

Criterion A1: Nature of assets (transaction level)

18.100 The assets underlying a transaction in a conduit should be credit claims or receivables that are homogeneous, in terms of asset type.[93] The assets underlying each individual transaction in a conduit should not be composed of "securitization exposures" as defined in 18.4. Credit claims or receivables underlying a transaction in a conduit should have contractually identified periodic payment streams relating to rental,[94] principal, interest, or principal and interest payments. Credit claims or receivables generating a single payment stream would equally qualify as eligible. Any referenced interest payments or discount rates should be based on commonly encountered market interest rates,[95] but should not reference complex or complicated formulae or exotic derivatives.[96]

Additional guidance for Criterion A1

18.101 The "homogeneity" criterion should be assessed taking into account the following principles:

(1) The nature of assets should be such that there would be no need to analyze and assess materially different legal and/or credit risk factors and risk profiles when carrying out risk analysis and due diligence checks for the transaction.

(2) Homogeneity should be assessed on the basis of common risk drivers, including similar risk factors and risk profiles.

[93] For the avoidance of doubt, this criterion does not automatically exclude securitizations of equipment leases and securitizations of auto loans and leases from the short-term STC framework.

[94] Payments on operating and financing lease are typically considered to be rental payments rather than payments of principal and interest.

[95] Commonly encountered market interest rates may include rates reflective of a lender's cost of funds, to the extent sufficient data is provided to the sponsors to allow them to assess their relation to other market rates.

[96] The Global Association of Risk Professionals defines an exotic instrument as a financial asset or instrument with features making it more complex than simpler, plain vanilla, products.

(3) Credit claims or receivables included in the securitization should have standard obligations, in terms of rights to payments and/or income from assets and that result in a periodic and well-defined stream of payments to investors. Credit card facilities should be deemed to result in a periodic and well-defined stream of payments to investors for the purposes of this criterion.

(4) Repayment of the securitization exposure should mainly rely on the principal and interest proceeds from the securitized assets. Partial reliance on refinancing or re-sale of the asset securing the exposure may occur provided that re-financing is sufficiently distributed within the pool and the residual values on which the transaction relies are sufficiently low and that the reliance on refinancing is thus not substantial.

18.102 Examples of "commonly encountered market interest rates" would include:

(1) Interbank rates and rates set by monetary policy authorities, such as Libor, Euribor and the fed funds rate; and

(2) Sectoral rates reflective of a lender's cost of funds, such as internal interest rates that directly reflect the market costs of a bank's funding or that of a subset of institutions.

18.103 Interest rate caps and/or floors would not automatically be considered exotic derivatives.

18.104 The transaction level requirement is still met if the conduit does not purchase the underlying asset with a refundable purchase price discount but instead acquires a beneficial interest in the form of a note which itself might qualify as a securitization exposure, as long as the securitization exposure is not subject to any further tranching (i.e. has the same economic characteristic as the purchase of the underlying asset with a refundable purchase price discount).

Criterion A2: Asset performance history (conduit level)

18.105 In order to provide investors with sufficient information on the performance history of the asset types backing the transactions, the sponsor should make available to investors, sufficient loss performance data of claims and receivables with substantially similar risk characteristics, such as delinquency and default data of similar claims, and for a time period long enough to permit meaningful evaluation. The sponsor should disclose to investors the sources of such data and the basis for claiming similarity to credit claims or receivables financed by the conduit. Such loss performance data may be provided on a stratified basis.[97]

Criterion A2: Asset performance history (transaction level)

18.106 In order to provide the sponsor with sufficient information on the performance history of each asset type backing the transactions and to conduct appropriate due diligence and to have access to a sufficiently rich data set to enable a more accurate calculation of expected loss in different stress scenarios, verifiable loss performance data, such as delinquency and default data, should be available for credit claims and receivables with substantially similar risk characteristics to those being financed by the conduit, for a time period long enough to permit meaningful evaluation by the sponsor.

[97] Stratified means by way of example, all materially relevant data on the conduit's composition (outstanding balances, industry sector, obligor concentrations, maturities, etc.) and conduit's overview and all materially relevant data on the credit quality and performance of underlying transactions, allowing investors to identify collections, and as applicable, debt restructuring, forgiveness, forbearance, payment holidays, repurchases, delinquencies and defaults.

Additional requirement for Criterion A2

18.107 The sponsor of the securitization, as well as the original lender who underwrites the assets, must have sufficient experience in the risk analysis/underwriting of exposures or transactions with underlying exposures similar to those securitized. The sponsor should have well documented procedures and policies regarding the underwriting of transactions and the ongoing monitoring of the performance of the securitized exposures. The sponsor should ensure that the seller(s) and all other parties involved in the origination of the receivables have experience in originating same or similar assets, and are supported by a management with industry experience. For the purpose of meeting the short-term STC capital criteria, investors must request confirmation from the sponsor that the performance history of the originator and the original lender for substantially similar claims or receivables to those being securitized has been established for an "appropriately long period of time". This performance history must be no shorter than a period of five years for non-retail exposures. For retail exposures, the minimum performance history is three years.

Criterion A3: Asset performance history (conduit level)

18.108 The sponsor should, to the best of its knowledge and based on representations from sellers, make representations and warranties to investors that the criterion set out in 18.109 below is met with respect to each transaction.

Criterion A3: Asset performance history (transaction level)

18.109 The sponsor should obtain representations from sellers that the credit claims or receivables underlying each individual transaction are not, at the time of acquisition of the interests to be financed by the conduit, in default or delinquent or subject to a material increase in expected losses or of enforcement actions.

Additional requirement for Criterion A3

18.110 To prevent credit claims or receivables arising from credit-impaired borrowers from being transferred to the securitization, the original seller or sponsor should verify that the credit claims or receivables meet the following conditions for each transaction:

(1) The obligor has not been the subject of an insolvency or debt restructuring process due to financial difficulties in the three years prior to the date of origination;[98]

(2) The obligor is not recorded on a public credit registry of persons with an adverse credit history;

(3) The obligor does not have a credit assessment by an external credit assessment institution or a credit score indicating a significant risk of default; and

(4) The credit claim or receivable is not subject to a dispute between the obligor and the original lender.

[98] This condition would not apply to borrowers that previously had credit incidents but were subsequently removed from credit registries as a result of the borrowers cleaning their records. This is the case in jurisdictions in which borrowers have the "right to be forgotten".

18.111 The assessment of these conditions should be carried out by the original seller or sponsor no earlier than 45 days prior to acquisition of the transaction by the conduit or, in the case of replenishing transactions, no earlier than 45 days prior to new exposures being added to the transaction. In addition, at the time of the assessment, there should to the best knowledge of the original seller or sponsor be no evidence indicating likely deterioration in the performance status of the credit claim or receivable. Further, at the time of their inclusion in the pool, at least one payment should have been made on the underlying exposures, except in the case of replenishing asset trust structures such as those for credit card receivables, trade receivables, and other exposures payable in a single instalment, at maturity.

Criterion A4: Consistency of underwriting (conduit level)

18.112 The sponsor should make representations and warranties to investors that:

(1) It has taken steps to verify that for the transactions in the conduit, any underlying credit claims and receivables have been subject to consistent underwriting standards, and explain how.

(2) When there are material changes to underwriting standards, it will receive from sellers disclosure about the timing and purpose of such changes.

18.113 The sponsor should also inform investors of the material selection criteria applied when selecting sellers (including where they are not financial institutions).

Criterion A4: Consistency of underwriting (transaction level)

18.114 The sponsor should ensure that sellers (in their capacity of original lenders) intransactions with the conduit demonstrate to it that:

(1) Any credit claims or receivables being transferred to or through a transaction held by the conduit have been originated in the ordinary

course of the seller's business subject to materially non-deteriorating underwriting standards. Those underwriting standards should also not be less stringent than those applied to credit claims and receivables retained on the balance sheet of theseller and not financed by the conduit; and

(2) The obligors have been assessed as having the ability and volition to make timely payments on obligations.

18.115 The sponsor should also ensure that sellers disclose to it the timing and purpose of material changes to underwriting standards.

Additional requirement for Criterion A4

18.116 In all circumstances, all credit claims or receivables must be originated in accordance with sound and prudent underwriting criteria based on an assessment that the obligor has the "ability and volition to make timely payments" on its obligations. The sponsor of the securitization is expected, where underlying credit claims or receivables have been acquired from third parties, to review the underwriting standards (i.e. to check their existence and assess their quality) of these third parties and to ascertain that they have assessed the obligors' "ability and volition to make timely payments" on their obligations.

Criterion A5: Asset selection and transfer (conduit level)

18.117 The sponsor should:

(1) Provide representations and warranties to investors about the checks, in nature and frequency, it has conducted regarding enforceability of underlying assets.

(2) Disclose to investors the receipt of appropriate representations and warranties from sellers that the credit claims or receivables being transferred to the transactions in the conduit are not subject to any condition or encumbrance that can be foreseen to adversely affect

enforceability in respect of collections due.

Criterion A5: Asset selection and transfer (transaction level)

18.118 The sponsor should be able to assess thoroughly the credit risk of the asset pool prior to its decision to provide full support to any given transaction or to the conduit. The sponsor should ensure that credit claims or receivables transferred to or through a transaction financed by the conduit:

(1) Satisfy clearly defined eligibility criteria; and

(2) Are not actively selected after the closing date, actively managed[99] or otherwise cherry-picked on a discretionary basis.

[99] Provided they are not actively selected or otherwise cherry picked on a discretionary basis, the addition of credit claims or receivables during the replenishment periods or their substitution or repurchasing due to the breach of representations and warranties do not represent active portfolio management.

18.119 The sponsor should ensure that the transactions in the conduit effect true sale such that the underlying credit claims or receivables:

(1) Are enforceable against the obligor;

(2) Are beyond the reach of the seller, its creditors or liquidators and are not subject to material re-characterization or clawback risks;

(3) Are not effected through credit default swaps, derivatives or guarantees, but by a transfer[100] of the credit claims or the receivables to the transaction; and

(4) Demonstrate effective recourse to the ultimate obligation for the underlying credit claims or receivables and are not a re-securitization position.

18.120 The sponsor should ensure that in applicable jurisdictions, for conduits employing transfers of credit claims or receivables by other means, sellers can demonstrate to it the existence of material obstacles preventing true sale at issuance (e.g. the immediate realization of transfer tax or the requirement to notify all obligors of the transfer) and should clearly demonstrate the method of recourse to ultimate obligors (e.g. equitable assignment, perfected contingent transfer). In such jurisdictions, any conditions where the transfer of the credit claims or receivables is delayed or contingent upon specific events and any factors affecting timely perfection of claims by the conduit should be clearly disclosed.

18.121 The sponsor should ensure that it receives from the individual sellers (either in their capacity as original lender or servicer) representations and warranties that the credit claims or receivables being transferred to or through the transaction are not subject to any condition or encumbrance that can be foreseen to adversely affect enforceability in respect of

[100] This requirement should not affect jurisdictions whose legal frameworks provide for a true sale with the same effects as described above, but by means other than a transfer of the credit claims or receivables.

collections due.

Additional requirement for Criterion A5

18.122 An in-house legal opinion or an independent third-party legal opinion must support the claim that the true sale and the transfer of assets under the applicable laws comply with 18.118 (1) and 18.118 (2) at the transaction level.

Criterion A6: Initial and ongoing data (conduit level)

18.123 To assist investors in conducting appropriate due diligence prior to investing in a new programme offering, the sponsor should provide to potential investors sufficient aggregated data that illustrate the relevant risk characteristics of the underlying asset pools in accordance with applicable laws. To assist investors in conducting appropriate and ongoing monitoring of their investments' performance and so that investors who wish to purchase commercial paper have sufficient information to conduct appropriate due diligence, the sponsor should provide timely and sufficient aggregated data that provide the relevant risk characteristics of the underlying pools in accordance with applicable laws. The sponsor should ensure that standardized investor reports are readily available to current and potential investors at least monthly. Cut off dates of the aggregated data should be aligned with those used for investor reporting.

Criterion A6: Initial and ongoing data (transaction level)

18.124 The sponsor should ensure that the individual sellers (in their capacity of servicers) provide it with:

(1) Sufficient asset level data in accordance with applicable laws or, in the case of granular pools, summary stratification data on the relevant risk characteristics of the underlying pool before transferring any credit claims or receivables to such underlying pool.

(2) Timely asset level data in accordance with applicable laws or granular pool stratification data on the risk characteristics of the underlying pool on an ongoing basis. Those data should allow the sponsor to fulfil its fiduciary duty at the conduit level in terms of disclosing information to investors including the alignment of cut off dates of the asset level or granular pool stratification data with those used for investor reporting.

18.125 The seller may delegate some of these tasks and, in this case, the sponsor should ensure that there is appropriate oversight of the outsourced arrangements.

Additional requirement for Criterion A6

18.126 The standardized investor reports which are made readily available to current and potential investors at least monthly should include the following information:

(1) Materially relevant data on the credit quality and performance of underlying assets, including data allowing investors to identify dilution, delinquencies and defaults, restructured receivables, forbearance, repurchases, losses, recoveries and other asset performance remedies in the pool;

(2) The form and amount of credit enhancement provided by the seller and sponsor at transaction and conduit levels, respectively;

(3) Relevant information on the support provided by the sponsor; and

(4) The status and definitions of relevant triggers (such as performance, termination or counterparty replacement triggers).

Criterion B7: Full support (conduit level only)

18.127 The sponsor should provide the liquidity facility(ies) and the credit protection support[101] for any ABCP programme issued by a conduit. Such facility(ies) and support should ensure that investors are fully protected against credit risks, liquidity risks and any material dilution risks of the underlying asset pools financed by the conduit. As such, investors should be able to rely on the sponsor to ensure timely and full repayment of the commercial paper.

Additional requirement for Criterion B7

18.128 While liquidity and credit protection support at both the conduit level and transaction level can be provided by more than one sponsor, the majority of the support (assessed in terms of coverage) has to be made by a single sponsor (referred to as the "main sponsor").[102] An exception can however be made for a limited period of time, where the main sponsor has to be replaced due to a material deterioration in its credit standing.

[101] A sponsor can provide full support either at ABCP programme level or at transaction level, i.e. by fully supporting each transaction within an ABCP programme.

[102] "Liquidity and credit protection support" refers to support provided by the sponsors. Any support provided by the seller is excluded.

18.129 The full support provided should be able to irrevocably and unconditionally pay the ABCP liabilities in full and on time. The list of risks provided in 18.127 that have to be covered is not comprehensive but rather provides typical examples.

18.130 Under the terms of the liquidity facility agreement:

(1) Upon specified events affecting its creditworthiness, the sponsor shall be obliged to collateralize its commitment in cash to the benefit of the investorsor otherwise replace itself with another liquidity provider.

(2) If the sponsor does not renew its funding commitment for a specific transaction or the conduit in its entirety, the sponsor shall collateralize its commitments regarding a specific transaction or, if relevant, to the conduit in cash at the latest 30 days prior to the expiration of the liquidity facility,and no new receivables should be purchased under the affected commitment.

18.131 The sponsor should provide investors with full information about the terms of the liquidity facility (facilities) and the credit support provided to the ABCP conduit and the underlying transactions (in relation to the transactions, redacted where necessary to protect confidentiality).

Criterion B8: Redemption cash flow (transaction level only)

18.132 Unless the underlying pool of credit claims or receivables is sufficiently granular and has sufficiently distributed repayment profiles, the sponsor should ensure that the repayment of the credit claims or receivables underlying any of the individual transactions relies primarily on the general ability and willingness of the obligor to pay rather than the possibility that the obligor refinances or sells the collateral and that such repayment does not primarily rely on the drawing of an external liquidity facility provided to this transaction.

Additional requirement for Criterion B8

18.133 Sponsors cannot use support provided by their own liquidity and credit facilities towards meeting this criterion. For the avoidance of doubt, the requirement that the repayment shall not primarily rely on the drawing of an external liquidity facility does not apply to exposures in the form of the notes issued by the ABCP conduit.

Criterion B9: Currency and interest rate asset and liability mismatches (conduit level)

18.134 The sponsor should ensure that any payment risk arising from different interest rate and currency profiles not mitigated at transaction-level or arising at conduit level is appropriately mitigated. The sponsor should also ensure that derivative are used for genuine hedging purposes only and that hedging transactions are documented according to industry-standard master agreements. The sponsor should provide sufficient information to investors to allow them to assess how the payment risk arising from the different interest rate and currency profiles of assets and liabilities are appropriately mitigated, whether at the conduit or at transaction level.

Criterion B9: Currency and interest rate asset and liability mismatches (transaction level)

18.135 To reduce the payment risk arising from the different interest rate and currency profiles of assets and liabilities, if any, and to improve the sponsor's ability to analyze cash flows of transactions, the sponsor should ensure that interest rate and foreign currency risks are appropriately mitigated. The sponsor should also ensure that derivatives are used for genuine hedging purposes only and that hedging transactions are documented according to industry-standard master agreements.

Additional requirement for Criterion B9

18.136 The term "appropriately mitigated" should be understood as not necessarily requiring a completely perfect hedge. The appropriateness of the mitigation of interest rate and foreign currency risks through the life of the transaction must be demonstrated by making available, in a timely and regular manner, quantitative information including the fraction of notional amounts that are hedged, as well as sensitivity analysis that illustrates the effectiveness of the hedge under extreme but plausible scenarios. The use of risk-mitigating measures other than derivatives is permitted only if the measures are specifically created and used for the purpose of hedging an individual and specific risk. Non-derivative risk mitigation measures must be fully funded and available at all times.

Criterion B10: Payment priorities and observability (conduit level)

18.137 The commercial paper issued by the ABCP programme should not include extension options or other features which may extend the final maturity of the asset-backed commercial paper, where the right of trigger does not belong exclusively to investors. The sponsor should:

(1) Make representations and warranties to investors that the criterion set out in 18.138 to 18.143 is met and in particular, that it has the ability to appropriately analyze the cash flow waterfall for each transaction which qualifies as a securitization; and

(2) Make available to investors a summary (illustrating the functioning) of these waterfalls and of the credit enhancement available at programme level and transaction level.

Criterion B10: Payment priorities and observability (transaction level)

18.138 To prevent the conduit from being subjected to unexpected repayment profiles from the transactions, the sponsor should ensure that priorities of payments are clearly defined at the time of acquisition of the interests in

these transactions by the conduit; and appropriate legal comfort regarding the enforceability is provided.

18.139 For all transactions which qualify as a securitization, the sponsor should ensure that all triggers affecting the cash flow waterfall, payment profile or priority of payments are clearly and fully disclosed to the sponsor both in the transactions' documentation and reports, with information in the reports that clearly identifies any breach status, the ability for the breach to be reversed and the consequences of the breach. Reports should contain information that allows sponsors to easily ascertain the likelihood of a trigger being breached or reversed. Any triggers breached between payment dates should be disclosed to sponsors on a timely basis in accordance with the terms and conditions of the transaction documents.

18.140 For any of the transactions where the beneficial interest held by the conduit qualifies as a securitization position, the sponsor should ensure that any subordinated positions do not have inappropriate payment preference over payments to the conduit (which should always rank senior to any other position) and which are due and payable.

18.141 Transactions featuring a replenishment period should include provisions for appropriate early amortization events and/or triggers of termination of the replenishment period, including, notably, deterioration in the credit quality of the underlying exposures; a failure to replenish sufficient new underlying exposures of similar credit quality; and the occurrence of an insolvency related event with regard to the individual sellers.

18.142 To ensure that debt forgiveness, forbearance, payment holidays, restructuring, dilution and other asset performance remedies can be clearly identified, policies and procedures, definitions, remedies and actions relating to delinquency, default, dilution or restructuring of underlying debtors should be provided in clear and consistent terms, such that the sponsor can clearly identify debt forgiveness, forbearance, payment holidays, restructuring, dilution and other asset performance remedies on an ongoing basis.

18.143 For each transaction which qualifies as a securitization, the sponsor should ensure it receives both before the conduit acquires a beneficial interest in the

transaction and on an ongoing basis, the liability cash flow analysis or information on the cash flow provisions allowing appropriate analysis of the cash flow waterfall of these transactions.

Criterion B11: Voting and enforcement rights (conduit level)

18.144 To provide clarity to investors, the sponsor should make sufficient information available in order for investors to understand their enforcement rights on the underlying credit claims or receivables in the event of insolvency of the sponsor.

Criterion B11: Voting and enforcement rights (transaction level)

18.145 For each transaction, the sponsor should ensure that, in particular upon insolvency of the seller or where the obligor is in default on its obligation, all voting and enforcement rights related to the credit claims or receivables are, if applicable:

(1) Transferred to the conduit; and

(2) Clearly defined under all circumstances, including with respect to the rights of the conduit versus other parties with an interest (e.g. sellers), where relevant.

Criterion B12: Documentation, disclosure and legal review (conduitlevel only)

18.146 To help investors understand fully the terms, conditions, and legal information prior to investing in a new programme offering and to ensure that this information is set out in a clear and effective manner for all programme offerings, the sponsor should ensure that sufficient initial offering documentation for the ABCP programme is provided to investors (and readily available to potential investors on a continuous basis) within a reasonably sufficient period of time prior to issuance, such that the investor is provided with full disclosure of the legal information and comprehensive risk factors

needed to make informed investment decisions. These should be composed such that readers can readily find, understand and use relevant information.

18.147 The sponsor should ensure that the terms and documentation of a conduit and the ABCP programme it issues are reviewed and verified by an appropriately experienced and independent legal practice prior to publication and in the case of material changes. The sponsor should notify investors in a timely fashion of any changes in such documents that have an impact on the structural risks in the ABCP programme.

Additional requirement for Criterion B12

18.148 To understand fully the terms, conditions and legal information prior to including a new transaction in the ABCP conduit and ensure that this information is set out in a clear and effective manner, the sponsor should ensure that it receives sufficient initial offering documentation for each transaction and that it is provided within a reasonably sufficient period of time prior to the inclusion in the conduit, with full disclosure of the legal information and comprehensive risk factors needed to supply liquidity and/or credit support facilities. The initial offering document for each transaction should be composed such that readers can readily find, understand and use relevant information. The sponsor should also ensure that the terms and documentation of a transaction are reviewed and verified by an appropriately experienced and independent legal practice prior to the acquisition of the transaction and in the case of material changes.

Criterion B13: Alignment of interest (conduit level only)

18.149 In order to align the interests of those responsible for the underwriting of the credit claims and receivables with those of investors, a material net economic exposure should be retained by the sellers or the sponsor at transaction level, or by the sponsor at the conduit level. Ultimately, the sponsor should disclose to investors how and where a material net economic exposure is retained by the seller at transaction level or by the sponsor at transaction or conduit level, and demonstrate the existence of a financial incentive in the performance of the assets.

Criterion B14: Cap on maturity transformation (conduit level only)

18.150 Maturity transformation undertaken through ABCP conduits should be limited. The sponsor should verify and disclose to investors that the weighted average maturity of all the transactions financed under the ABCP conduit is three years or less. This number should be calculated as the higher of:

(1) The exposure-weighted average residual maturity of the conduit's beneficial interests held or the assets purchased by the conduit in order to finance the transactions of the conduit[103]; and

(2) The exposure-weighted average maturity of the underlying assets financed by the conduit calculated by:

(a) Taking an exposure-weighted average of residual maturities of the underlying assets in each pool; and

(b) Taking an exposure-weighted average across the conduit of the pool-level averages as calculated in Step 2a.[104]

Criterion C15: Financial institution (conduit level only)

18.151 The sponsor should be a financial institution that is licensed to take deposits from the public, and is subject to appropriate prudential standards and levels of supervision.

Criterion C16: Fiduciary and contractual responsibilities (conduit level)

18.152 The sponsor should, based on the representations received from seller(s) and all other parties responsible for originating and servicing the asset pools,

[103] Including purchased securitization notes, loans, asset-backed deposits and purchased credit claims and/or receivables held directly on the conduit's balance sheet.

[104] Where it is impractical for the sponsor to calculate the pool-level weighted average maturity in Step 2a (because the pool is very granular or dynamic), sponsors may instead use the maximum maturity of the assets in the pool as defined in the legal agreements governing the pool (e.g. investment guidelines).

make representations and warranties to investors that:

(1) The various criteria defined at the level of each underlying transaction are met, and explain how;

(2) Seller(s)'s policies, procedures and risk management controls are well-documented, adhere to good market practices and comply with the relevant regulatory regimes; and that strong systems and reporting capabilities are in place to ensure appropriate origination and servicing of the underlying assets.

18.153 The sponsor should be able to demonstrate expertise in providing liquidity and credit support in the context of ABCP conduits, and is supported by a management team with extensive industry experience. The sponsor should at all times act in accordance with reasonable and prudent standards. Policies, procedures and risk management controls of the sponsor should be well documented and the sponsor should adhere to good market practices and relevant regulatory regime. There should be strong systems and reporting capabilities in place at the sponsor. The party or parties with fiduciary responsibility should act on a timely basis in the best interests of the investors.

Criterion C16: Fiduciary and contractual responsibilities (transaction level)

18.154 The sponsor should ensure that it receives representations from the sellers(s) and all other parties responsible for originating and servicing the asset pools that they:

(1) Have well-documented procedures and policies in place to ensure appropriate servicing of the underlying assets;

(2) Have expertise in the origination of same or similar assets to those in the asset pools;

(3) Have extensive servicing and workout expertise, thorough legal and collateral knowledge and a proven track record in loss mitigation for the

same or similar assets;

(4) Have expertise in the servicing of the underlying credit claims or receivables;and

(5) Are supported by a management team with extensive industry experience.

Additional requirement for Criterion C16

18.155 In assessing whether "strong systems and reporting capabilities are in place", well documented policies, procedures and risk management controls, as well as strong systems and reporting capabilities, may be substantiated by a third-party review for sellers that are non-banking entities.

Criterion C17: Transparency to investors (conduit level)

18.156 The sponsor should ensure that the contractual obligations, duties and responsibilities of all key parties to the conduit, both those with a fiduciary responsibility and the ancillary service providers, are defined clearly both in the initial offering and any relevant underlying documentation of the conduit and the ABCP programme it issues. The "underlying documentation" does not refer to the documentation of the underlying transactions.

18.157 The sponsor should also make representations and warranties to investors that the duties and responsibilities of all key parties are clearly defined at transaction level.

18.158 The sponsor should ensure that the initial offering documentation disclosed to investors contains adequate provisions regarding the replacement of key counterparties of the conduit (e.g. bank account providers and derivatives counterparties) in the event of failure or non-performance or insolvency or deterioration of creditworthiness of any such counterparty.

18.159 The sponsor should also make representations and warranties to investors that provisions regarding the replacement of key counterparties at transaction level are well-documented.

18.160 The sponsor should provide sufficient information to investors about the liquidity facility(ies) and credit support provided to the ABCP programme for them to understand its functioning and key risks.

Criterion C17: Transparency to investors (transaction level)

18.161 The sponsor should conduct due diligence with respect to the transactions on behalf of the investors. To assist the sponsor in meeting its fiduciary and contractual obligations, the duties and responsibilities of all key parties to all transactions (both those with a fiduciary responsibility and of the ancillary service providers) should be defined clearly in all underlying documentation of these transactions and made available to the sponsor.

18.162 The sponsor should ensure that provisions regarding the replacement of key counterparties (in particular the servicer or liquidity provider) in the event of failure or non-performance or insolvency or other deterioration of any such counterparty for the transactions are well-documented (in the documentation of these individual transactions).

18.163 The sponsor should ensure that for all transactions the performance reports include all of the following: the transactions' income and disbursements, such as scheduled principal, redemption principal, scheduled interest, prepaid principal, past due interest and fees and charges, delinquent, defaulted, restructured and diluted amounts, as well as accurate accounting for amounts attributable to principal and interest deficiency ledgers.

Criterion D18: Credit risk of underlying exposures (transaction level only)

18.164 At the date of acquisition of the assets, the underlying exposures have to meet the conditions under the Standardized Approach for credit risk and, after account is taken of any eligible credit risk mitigation, be assigned a risk weight equal to or smaller than:

(1) 40% on a value-weighted average exposure basis for the portfolio where the exposures are "regulatory residential real estate" exposures as defined in paragraph 7.69;

(2) 50% on an individual exposure basis where the exposure is a "regulatory commercial real estate" exposure as defined in paragraph 7.70, an "other real estate" exposure as defined in paragraph 7.80 or a land ADC exposure as defined in paragraph 7.82;

(3) 75% on an individual exposure basis where the exposure is a "regulatory retail" exposure as defined in paragraph 7.57; or

(4) 100% on an individual exposure basis for any other exposure.

Criterion D19: Granularity of the pool (conduit level only)

18.165 At the date of acquisition of any assets securitized by one of the conduits' transactions, the aggregated value of all exposures to a single obligor at that date shall not exceed 2% of the aggregated outstanding exposure value of all exposures in the programme. Where structurally concentrated corporate loan markets, subject to ex ante supervisory approval and only for corporate exposures, the applicable maximum concentration threshold could be increased to 3% if the sellers or sponsor retain subordinated tranche(s) that form loss-absorbing credit enhancement, as defined in 22.16,

19. Securitization: standardized approach

Standardized approach (SEC-SA)

19.1 To calculate capital requirements for a securitization exposure to a standardized approach (SA) pool using the securitization standardized approach (SEC-SA), a bank would use a supervisory formula and the following bank-supplied inputs: the SA capital charge had the underlying exposures not been securitized (K_{SA}); the ratio of delinquent underlying exposures to total underlying exposures in the securitization pool (W); the tranche attachment point (A); and the tranche detachment point (D). The inputs A and D are defined in paragraphs 22.14 and 22.15 respectively. Where the only difference between exposures to a transaction is related to maturity, A and D will be the same. K_{SA} and W are defined in 19.2 to 19.4 and 19.6.

19.2 K_{SA} is defined as the weighted-average capital charge of the entire portfolio of underlying exposures, calculated using the risk-weighted asset amounts in chapter 7 in relation to the sum of the exposure amounts of underlying exposures, multiplied by 8%. This calculation should reflect the effects of any credit risk mitigant that is applied to the underlying exposures (either individually or to the entire pool), and hence benefits all of the securitization exposures. K_{SA} is expressed as a decimal between zero and one (that is, a weighted-average risk weight of 100% means that K_{SA} would equal 0.08).

19.3 For structures involving a special purpose entity (SPE), all of the SPE's exposures related to the securitization are to be treated as exposures in the pool. Exposures related to the securitization that should be treated as exposures in the pool include assets in which the SPE may have invested, comprising reserve accounts, cash collateral accounts and claims against counterparties resulting from interest swaps or currency swaps.[105] Notwithstanding, the bank can exclude the SPE's exposures from the pool for capital calculation purposes if the bank can demonstrate to SAMA that

[105] In particular, in the case of swaps other than credit derivatives, the numerator of K_{SA} must include the positive current market value times the risk weight of the swap provider times 8%. In contrast, the denominator should not take into account such a swap, as such a swap would not provide a credit enhancement to any tranche.

the risk does not affect its particular securitization exposure or that the risk is immaterial – for example, because it has been mitigated.[106]

19.4 In the case of funded synthetic securitizations, any proceeds of the issuances of credit-linked notes or other funded obligations of the SPE that serve as collateral for the repayment of the securitization exposure in question, and for which the bank cannot demonstrate to SAMA that they are immaterial, have to be included in the calculation of K_{SA} if the default risk of the collateral is subject to the tranched loss allocation.[107]

19.5 In cases where a bank has set aside a specific provision or has a non-refundable purchase price discount on an exposure in the pool, K_{SA} must be calculated using the gross amount of the exposure without the specific provision and/or non- refundable purchase price discount.

19.6 The variable W equals the ratio of the sum of the nominal amount of delinquent underlying exposures (as defined in paragraph 20.7 below) to the nominal amount of underlying exposures.

19.7 Delinquent underlying exposures are underlying exposures that are 90 days or more past due, subject to bankruptcy or insolvency proceedings, in the process of foreclosure, held as real estate owned, or in default, where default is defined within the securitization deal documents.

19.8 The inputs K_{SA} and W are used as inputs to calculate K_A, as follows:

$$K_A = (1 - W) \times K_{SA} + 0.5W$$

19.9 In case a bank does not know the delinquency status, as defined above, for no more than 5% of underlying exposures in the pool, the bank may still use

[106] Certain best market practices can eliminate or at least significantly reduce the potential risk from a default of a swap provider. Examples of such features could be cash collateralization of the market value in combination with an agreement of prompt additional payments in case of an increase of the market value of the swap and minimum credit quality of the swap provider with the obligation to post collateral or present an alternative swap provider without any costs for the SPE in the event of a credit deterioration on the part of the original swap provider. If SAMA are satisfied with these risk mitigants and accept that the contribution of these exposures to the risk of the holder of a securitization exposure is insignificant, SAMA may allow the bank to exclude these exposures from the K_{SA} calculation.

[107] As in the case of swaps other than credit derivatives, the numerator of K_{SA} (i.e. weighted-average capital charge of the entire portfolio of underlying exposures) must include the exposure amount of the collateral times its risk weight times 8%, but the denominator should be calculated without recognition of the collateral.

the SEC-SA by adjusting its calculation of K_A as follows:

$$K_A = \left[\frac{EAD_{subpool\ 1\ where\ W\ known}}{EAD\ Total} \times K_A^{subpool\ 1\ where\ W\ known}\right] + \frac{EAD_{subpool\ 2\ where\ W\ unknown}}{EAD\ Total}$$

19.10 If the bank does not know the delinquency status for more than 5%, the securitization exposure must be risk weighted at 1250%.

19.11 Capital requirements are calculated under the SEC-SA as follows, where $K_{SSFA(KA)}$ is the capital requirement per unit of the securitization exposure and the variables a, u, and l are defined as:

(1) $a = -(1 / (p * K_A))$

(2) $u = D - K_A$

(3) $l = max(A - K_A; 0)$

$$K_{SSFA(K_A)} = \frac{e^{au} - e^{al}}{a(u-l)}$$

19.12 The supervisory parameter p in the context of the SEC-SA is set equal to 1 for a securitization exposure that is not a resecuritization exposure.

19.13 The risk weight assigned to a securitization exposure when applying the SEC-SA would be calculated as follows:

(1) When D for a securitization exposure is less than or equal to K_A, the exposure must be assigned a risk weight of 1250%.

(2) When A for a securitization exposure is greater than or equal to K_A, the risk weight of the exposure, expressed as a percentage, would equal $K_{SSFA(K_A)}$ times 12.5.

(3) When A is less than K_A and D is greater than K_A, the applicable risk weight is a weighted average of 1250% and 12.5 times $K_{SSFA(K_A)}$ according

to the following formula:

$$RW = \left(12.5 \times \frac{K_A - A}{D - A}\right) + \left(12.5 \times K_{SSFA(K_A)} \times \frac{D - K_A}{D - A}\right)$$

19.14 The risk weight for market risk hedges such as currency or interest rate swaps will be inferred from a securitization exposure that is pari passu to the swaps or, if such an exposure does not exist, from the next subordinated tranche.

19.15 The resulting risk weight is subject to a floor risk weight of 15%. Moreover, when a bank applies the SEC-SA to an unrated junior exposure in a transaction where the more senior tranches (exposures) are rated and therefore no rating can be inferred for the junior exposure, the resulting risk weight under SEC-SA for the junior unrated exposure shall not be lower than the risk weight for the next more senior rated exposure.

Resecuritisation exposures

19.16 For resecuritization exposures, banks must apply the SEC-SA specified in 19.1 to 19.15, with the following adjustments:

(1) The capital requirement of the underlying securitization exposures is calculated using the securitization framework;

(2) Delinquencies (W) are set to zero for any exposure to a securitization tranchein the underlying pool; and

(3) The supervisory parameter p is set equal to 1.5, rather than 1 as for securitization exposures.

19.17 If the underlying portfolio of a resecuritization consists in a pool of exposures to securitization tranches and to other assets, one should separate the exposures to securitization tranches from exposures to assets that are not securitizations. The K_A parameter should be calculated for each subset individually, applying separate W parameters; these calculated in accordance with 19.6 and 19.7 in the subsets where the exposures are to assets that are not securitization tranches, and set to zero where the exposures are to securitization tranches. The K_A for the resecuritization exposure is then obtained as the nominal exposure weighted- average of the K_A's for each

subset considered.

19.18 The resulting risk weight is subject to a floor risk weight of 100%.

19.19 The caps described in 18.50 to 18.55 cannot be applied to resecuritization exposures.

Alternative capital treatment for term STC securitizations and short- term STC securitizations meeting the STC criteria for capital purposes

19.20 Securitization transactions that are assessed as simple, transparent and comparable (STC)-compliant for capital purposes as defined in 18.67 can be subject to capital requirements under the securitization framework, taking into account that, when the SEC-SA is used, 19.21 and 19.22 are applicable instead of 19.12 and 19.15 respectively.

19.21 The supervisory parameter p in the context of the SEC-SA is set equal to 0.5 for an exposure to an STC securitization.

19.22 The resulting risk weight is subject to a floor risk weight of 10% for senior tranches, and 15% for non-senior tranches.

20. Securitization: External- ratings-based approach (SEC- ERBA)

External-ratings-based approach (SEC-ERBA)

20.1 For securitization exposures that are externally rated, or for which an inferred rating is available, risk-weighted assets under the securitization external ratings- based approach (SEC-ERBA) will be determined by multiplying securitization exposure amounts (as defined in 18.19) by the appropriate risk weights as determined by 19.2 to 19.7, provided that the operational criteria in 20.8 to 20.10 are met.[108]

20.2 For exposures with short-term ratings, or when an inferred rating based on a short-term rating is available, the following risk weights in table 28 below will apply:

ERBA risk weights for short-term ratings Table 28

External credit assessment	A-1/P-1	A-2/P-2	A-3/P-3	All other ratings
Risk weight	15%	50%	100%	1250%

20.3 For exposures with long-term ratings, or when an inferred rating based on a long-term rating is available, the risk weights depend on

(1) The external rating grade or an available inferred rating;

(2) The seniority of the position;

(3) The tranche maturity; and

(4) In the case of non-senior tranches, the tranche thickness.

20.4 Specifically, for exposures with long-term ratings, risk weights will be determined according to Table 29 and will be adjusted for tranche maturity (calculated according to 18.22 and 18.23), and tranche thickness for non-senior tranches according to 20.5.

[108] The rating designations used in Tables 28 and 29 are for illustrative purposes only and do not indicate any preference for, or endorsement of, any particular external assessment system.

ERBA risk weights for long-term ratings Table 29

Rating	Senior tranche		Non-senior (thin) tranche	
	Tranche maturity (M_T)		Tranche maturity (M_T)	
	1 year	5 years	1 year	5 years
AAA	15%	20%	15%	70%
AA+	15%	30%	15%	90%
AA	25%	40%	30%	120%
AA-	30%	45%	40%	140%
A+	40%	50%	60%	160%
A	50%	65%	80%	180%
A-	60%	70%	120%	210%
BBB+	75%	90%	170%	260%
BBB	90%	105%	220%	310%
BBB-	120%	140%	330%	420%
BB+	140%	160%	470%	580%
BB	160%	180%	620%	760%
BB-	200%	225%	750%	860%
B+	250%	280%	900%	950%
B	310%	340%	1050%	1050%
B-	380%	420%	1130%	1130%
CCC+/CCC/CCC-	460%	505%	1250%	1250%
Below CCC-	1250%	1250%	1250%	1250%

20.5 The risk weight assigned to a securitization exposure when applying the SEC-ERBA is calculated as follows:

(1) To account for tranche maturity, banks shall use linear interpolation between the risk weights for one and five years.

(2) To account for tranche thickness, banks shall calculate the risk weight for non- senior tranches as follows, where T equals tranche thickness, and is measured a minus A, as defined, respectively, in 22.15 and 22.14 :

$$Risk\ weight = (risk\ weight\ from\ table\ after\ adjusting\ for\ maturity) \times (1 - \min(T, 50\%))$$

20.6 In the case of market risk hedges such as currency or interest rate swaps, the risk weight will be inferred from a securitization exposure that is pari passu to the swaps or, if such an exposure does not exist, from the next subordinated tranche.

20.7 The resulting risk weight is subject to a floor risk weight of 15%. In addition, the resulting risk weight should never be lower than the risk weight corresponding to a senior tranche of the same securitization with the same rating and maturity.

Operational requirements for use of external credit assessments

20.8 The following operational criteria concerning the use of external credit assessments apply in the securitization framework:

(1) To be eligible for risk-weighting purposes, the external credit assessment must take into account and reflect the entire amount of credit risk exposure the bank has with regard to all payments owed to it. For example, if a bank is owed both principal and interest, the assessment must fully take into account and reflect the credit risk associated with timely repayment of both principal and interest.

(2) The external credit assessments must be from an eligible external credit assessment institution (ECAI) as recognized by SAMA in accordance with SAMA Circular No. BCS 242, Date: 11 April 2007 (Mapping of

Credit Assessment Ratings Provided by Eligible External Credit Assessment Institution to Determine Risk Weighted Exposures) as outlined in chapter 8 with the following exception. In contrast with 8.3 (3), an eligible credit assessment, procedures, methodologies, assumptions and the key elements underlying the assessments must be publicly available, on a non-selective basis and free of charge.[109] In other words, a rating must be published in an accessible form and included in the ECAI's transition matrix. Also, loss and cash flow analysis as well as sensitivity of ratings to changes in the underlying rating assumptions should be publicly available. Consequently, ratings that are made available only to the parties to a transaction do not satisfy this requirement.

(3) Eligible ECAIs must have a demonstrated expertise in assessing securitizations, which may be evidenced by strong market acceptance.

(4) Where two or more eligible ECAIs can be used and these assess the credit risk of the same securitization exposure differently, paragraph 8.8 will apply.

(5) Where credit risk mitigation (CRM) is provided to specific underlying exposures or the entire pool by an eligible guarantor as defined in chapter 9 and is reflected in the external credit assessment assigned to a securitization exposure(s), the risk weight associated with that external credit assessment should be used. In order to avoid any double-counting, no additional capital recognition is permitted. If the CRM provider is not recognized as an eligible guarantor under chapter 9, the covered securitization exposures should be treated as unrated.

(6) In the situation where a credit risk mitigant solely protects a specific securitization exposure within a given structure (e.g. asset-backed security tranche) and this protection is reflected in the external credit

[109] Where the eligible credit assessment is not publicly available free of charge, the ECAI should provide an adequate justification, within its own publicly available code of conduct, in accordance with the "comply or explain" nature of the International Organization of Securities Commissions' Code of Conduct Fundamentals for Credit Rating Agencies.

assessment, the bank must treat the exposure as if it is unrated and then apply the CRM treatment outlined in chapter 9 or in the foundation internal ratings-based (IRB) approach of chapters 10 to 16, to recognize the hedge.

(7) A bank is not permitted to use any external credit assessment for risk-weighting purposes where the assessment is at least partly based on unfunded support provided by the bank. For example, if a bank buys asset- backed commercial paper (ABCP) where it provides an unfunded securitization exposure extended to the ABCP programme (e.g. liquidity facility or credit enhancement), and that exposure plays a role in determining the credit assessment on the ABCP, the bank must treat the ABCP as if it were not rated. The bank must continue to hold capital against the other securitization exposures it provides (e.g. against the liquidity facility and/or credit enhancement).

Operational requirements for inferred ratings

20.9 In accordance with the hierarchy of approaches determined in 18.41 to 18.47, a bank must infer a rating for an unrated position and use the SEC-ERBA provided that the requirements set out in 20.10 are met. These requirements are intended to ensure that the unrated position is pari passu or senior in all respects to an externally-rated securitization exposure termed the "reference securitization exposure".

20.10 The following operational requirements must be satisfied to recognize inferred ratings:

(1) The reference securitization exposure (e.g. asset-backed security) must rank pari passu or be subordinate in all respects to the unrated securitization exposure. Credit enhancements, if any, must be taken into account when assessing the relative subordination of the unrated exposure and the reference securitization exposure. For example, if the reference securitization exposure benefits from any third-party guarantees or other credit enhancements that are not available to the unrated exposure, then the latter may not be assigned an inferred rating based on the reference securitization exposure.

(2) The maturity of the reference securitization exposure must be equal to or longer than that of the unrated exposure.

(3) On an ongoing basis, any inferred rating must be updated continuously to reflect any subordination of the unrated position or changes in the external rating of the reference securitization exposure.

(4) The external rating of the reference securitization exposure must satisfy the general requirements for recognition of external ratings as delineated in 20.8.

Alternative capital treatment for term STC securitizations and short- term STC securitizations meeting the STC criteria for capital purposes

20.11 Securitization transactions that are assessed as simple, transparent and comparable (STC)-compliant for capital purposes as defined in 18.67 can be subject to capital requirements under the securitization framework, taking into account that, when the SEC-ERBA is used, 20.12, 20.13, and 20.14 are applicable instead of 20.2, 20.4 and 20.7 respectively.

20.12 For exposures with short-term ratings, or when an inferred rating based on a short-term rating is available, the following risk weights in table 30 below will apply:

ERBA STC risk weights for short-term ratings — Table 30

External credit assessment	A-1/P-1	A-2/P-2	A-3/P-3	All other ratings
Risk weight	10%	30%	60%	1250%

20.13 For exposures with long-term ratings, risk weights will be determined according to Table 31 and will be adjusted for tranche maturity (calculated according to 18.22 and 18.23), and tranche thickness for non-senior tranches according to 20.5 and 20.6.

ERBA STC risk weights for long-term ratings Table 31

Rating	Senior tranche		Non-senior (thin) tranche	
	Tranche maturity (M_T)		Tranche maturity (M_T)	
	1 year	5 years	1 year	5 years
AAA	10%	10%	15%	40%
AA+	10%	15%	15%	55%
AA	15%	20%	15%	70%
AA-	15%	25%	25%	80%
A+	20%	30%	35%	95%
A	30%	40%	60%	135%
A-	35%	40%	95%	170%
BBB+	45%	55%	150%	225%
BBB	55%	65%	180%	255%
BBB-	70%	85%	270%	345%
BB+	120%	135%	405%	500%
BB	135%	155%	535%	655%
BB-	170%	195%	645%	740%
B+	225%	250%	810%	855%
B	280%	305%	945%	945%
B-	340%	380%	1015%	1015%
CCC+/CCC/CCC-	415%	455%	1250%	1250%
Below CCC-	1250%	1250%	1250%	1250%

20.14 The resulting risk weight is subject to a floor risk weight of 10% for senior tranches, and 15% for non-senior tranches.

21. Securitization: Internal assessment approach (SEC- IAA)

Internal assessment approach (SEC-IAA)

21.1 In the event that banks have securitization exposures where the IAA treatment applies, banks shall notify SAMA of the transactions and seek approval to apply the IAA treatment. Subject to SAMA approval, a bank may use its internal assessments of the credit quality of its securitization exposures extended to ABCP programmes (e.g. liquidity facilities and credit enhancements) provided that the bank has at least one approved IRB model (which does not need to be applicable to the securitized exposures) and if the bank's internal assessment process meets the operational requirements set out below. Internal assessments of exposures provided to ABCP programmes must be mapped to equivalent external ratings of an ECAI. Those rating equivalents are used to determine the appropriate risk weights under the SEC-ERBA for the exposures.

21.2 A bank's internal assessment process must meet the following operational requirements in order to use internal assessments in determining the IRB capital requirement arising from liquidity facilities, credit enhancements, or other exposures extended to an ABCP programme:

(1) For the unrated exposure to qualify for the internal assessment approach (SEC-IAA), the ABCP must be externally rated. The ABCP itself is subject to the SEC-ERBA.

(2) The internal assessment of the credit quality of a securitization exposure to the ABCP programme must be based on ECAI criteria for the asset type purchased, and must be the equivalent of at least investment grade when initially assigned to an exposure. In addition, the internal assessment must be used in the bank's internal risk management processes, including management information and economic capital systems, and generally must meet all the relevant requirements of the IRB framework.

(3) In order for banks to use the SEC-IAA, SAMA must be satisfied

(a) That the ECAI meets the ECAI eligibility criteria outlined in chapter 8 and

(b) With the ECAI rating methodologies used in the process.

(4) Banks demonstrate to the satisfaction of SAMA how these internal assessments correspond to the relevant ECAI's standards. For instance, when calculating the credit enhancement level in the context of the SEC-IAA, SAMA may, if warranted, disallow on a full or partial basis any seller- provided recourse guarantees or excess spread, or any other first-loss credit enhancements that provide limited protection to the bank.

(5) The bank's internal assessment process must identify gradations of risk. Internal assessments must correspond to the external ratings of ECAIs.

(6) The bank's internal assessment process, particularly the stress factors for determining credit enhancement requirements, must be at least as conservative as the publicly available rating criteria of the major ECAIs that are externally rating the ABCP programme's commercial paper for the asset type being purchased by the programme. However, banks should consider, to some extent, all publicly available ECAI rating methodologies in developing their internal assessments.

(a) In the case where the commercial paper issued by an ABCP programme is externally rated by two or more ECAIs and the different ECAIs' benchmark stress factors require different levels of credit enhancementto achieve the same external rating equivalent, the bank must apply the ECAI stress factor that requires the most conservative or highest level of credit protection. For example, if one ECAI required enhancement of 2.5 to 3.5 times historical losses for an asset type to obtain a single A rating equivalent and another required two to three times historical losses, the bank must use the higher range of stress factors in determining the appropriate level of seller-provided credit enhancement.

(b) When selecting ECAIs to externally rate an ABCP, a bank must not

choose only those ECAIs that generally have relatively less restrictive rating methodologies. In addition, if there are changes in the methodology of one of the selected ECAIs, including the stress factors, that adversely affect the external rating of the programme's commercial paper, then the revised rating methodology must be considered in evaluating whether the internal assessments assigned to ABCP programme exposures are in need of revision.

(c) A bank cannot utilize an ECAI's rating methodology to derive an internal assessment if the ECAI's process or rating criteria are not publicly available. However, banks should consider the non-publicly available methodology - to the extent that they have access to such information -in developing their internal assessments, particularly if it is more conservative than the publicly available criteria.

(d) In general, if the ECAI rating methodologies for an asset or exposure are not publicly available, then the IAA may not be used. However, in certain instances - for example, for new or uniquely structured transactions, which are not currently addressed by the rating criteria of an ECAI rating the programme's commercial paper - a bank may discuss the specific transaction with SAMA to determine whether the IAA may be applied to the related exposures.

(7) Internal or external auditors, an ECAI, or the bank's internal credit review or risk management function must perform regular reviews of the internal assessment process and assess the validity of those internal assessments. If the bank's internal audit, credit review or risk management functions perform the reviews of the internal assessment process, then these functions must be independent of the ABCP programme business line, as well as the underlying customer relationships.

(8) The bank must track the performance of its internal assessments over time to evaluate the performance of the assigned internal assessments and make adjustments, as necessary, to its assessment process when the performance of the exposures routinely diverges from the assigned

internal assessments on those exposures.

(9) The ABCP programme must have credit and investment guidelines, i.e. underwriting standards, for the ABCP programme. In the consideration of an asset purchase, the ABCP programme (i.e. the programme administrator) should develop an outline of the structure of the purchase transaction. Factors that should be discussed include the type of asset being purchased; type and monetary value of the exposures arising from the provision of liquidity facilities and credit enhancements; loss waterfall; and legal and economic isolation of the transferred assets from the entity selling the assets.

(10) A credit analysis of the asset seller's risk profile must be performed and should consider, for example, past and expected future financial performance; current market position; expected future competitiveness; leverage, cash flow and interest coverage; and debt rating. In addition, a review of the seller's underwriting standards, servicing capabilities and collection processes should be performed.

(11) The ABCP programme's underwriting policy must establish minimum asset eligibility criteria that, among other things:

(a) Exclude the purchase of assets that are significantly past due or defaulted;

(b) Limit excess concentration to individual obligor or geographical area; and

(c) Limit the tenor of the assets to be purchased.

(12) The ABCP programme should have collection processes established that consider the operational capability and credit quality of the servicer. The programme should mitigate to the extent possible seller/servicer risk through various methods, such as triggers based on current credit quality that would preclude commingling of funds and impose lockbox arrangements that would help ensure the continuity of payments to the ABCP programme.

(13) The aggregate estimate of loss on an asset pool that the ABCP programme is considering purchasing must consider all sources of potential risk, such as credit and dilution risk. If the seller-provided credit enhancement is sized based on only credit-related losses, then a separate reserve should be established for dilution risk, if dilution risk is material for the particular exposure pool. In addition, in sizing the required enhancement level, the bank should review several years of historical information, including losses, delinquencies, dilutions and the turnover rate of the receivables. Furthermore, the bank should evaluate the characteristics of the underlying asset pool (e.g. weighted-average credit score) and should identify any concentrations to an individual obligor or geographical region and the granularity of the asset pool.

(14) The ABCP programme must incorporate structural features into the purchase of assets in order to mitigate potential credit deterioration of the underlying portfolio. Such features may include wind-down triggers specific to a pool of exposures.

21.3 The exposure amount of the securitization exposure to the ABCP programme must be assigned to the risk weight in the SEC-ERBA appropriate to the credit rating equivalent assigned to the bank's exposure.

21.4 If a bank's internal assessment process is no longer considered adequate, SAMA may preclude the bank from applying the SEC-IAA to its ABCP exposures, both existing and newly originated, for determining the appropriate capital treatment until the bank has remedied the deficiencies. In this instance, the bank must revert to the SEC-SA described in 19.1 to 19.15.

22. Securitization: Internal- ratings-based approach

Internal ratings-based approach (SEC-IRBA)

22.1 To calculate capital requirements for a securitization exposure to an internal ratings-based (IRB) pool, a bank must use the securitization internal ratings-based approach (SEC-IRBA) and the following bank-supplied inputs: the IRB capital charge had the underlying exposures not been securitized (K_{IRB}), the tranche attachment point (A), the tranche detachment point (D) and the supervisory parameter p, as defined below. Where the only difference between exposures to a transaction is related to maturity, A and D will be the same.

Definition of K_{IRB}

22.2 K_{IRB} is the ratio of the following measures, expressed in decimal form (e.g. a capital charge equal to 15% of the pool would be expressed as 0.15):

(1) The IRB capital requirement (including the expected loss portion and, where applicable, dilution risk as discussed in paragraphs 22.11 to 22.13 below) for the underlying exposures in the pool; to

(2) The exposure amount of the pool (e.g. the sum of drawn amounts related to securitized exposures plus the exposure-at-default associated with undrawn commitments related to securitized exposures).[110] [111]

[110] K_{IRB} must also include the unexpected loss and the expected loss associated with defaulted exposures in the underlying pool.

[111] Undrawn balances should not be included in the calculation of K_{IRB} in cases where only the drawn balances of revolving facilities have been securitized.

22.3 Notwithstanding the clarification in paragraphs 18.46 and 18.47 for mixed pools, 22.2 (1) must be calculated in accordance with applicable minimum IRB standards in chapters 10 to 16 as if the exposures in the pool were held directly by the bank. This calculation should reflect the effects of any credit risk mitigant that is applied on the underlying exposures (either individually or to the entire pool), and hence benefits all of the securitization exposures.

22.4 For structures involving a special purpose entity (SPE), all of the SPE's exposures related to the securitization are to be treated as exposures in the pool. Exposures related to the securitization that should be treated as exposures in the pool could include assets in which the SPE may have invested a reserve account, such as a cash collateral account or claims against counterparties resulting from interest swaps or currency swaps.[112] Notwithstanding, the bank can exclude the SPE's exposures from the pool for capital calculation purposes if the bank can demonstrate to SAMA that the risk of the SPE's exposures is immaterial (for example, because it has been mitigated[113]) or that it does not affect the bank's securitization exposure.

[112] In particular, in the case of swaps other than credit derivatives, the numerator of K_{IRB} must include the positive current market value times the risk weight of the swap provider times 8%. In contrast, the denominator should not take into account such a swap, as such a swap would not provide a credit enhancement to any tranche.

[113] Certain best market practices can eliminate or at least significantly reduce the potential risk from a default of a swap provider. Examples of such features could be: cash collateralization of the market value in combination with an agreement of prompt additional payments in case of an increase of the market value of the swap; and minimum credit quality of the swap provider with the obligation to post collateral or present an alternative swap provider without any costs for the SPE in the event of a credit deterioration on the part of the original swap provider. If SAMA are satisfied with these risk mitigants and accept that the contribution of these exposures to the risk of the holder of a securitization exposure is insignificant, SAMA may allow the bank to exclude these exposures from the K_{IRB} calculation.

22.5 In the case of funded synthetic securitizations, any proceeds of the issuances of credit-linked notes or other funded obligations of the SPE that serve as collateral for the repayment of the securitization exposure in question and for which the bank cannot demonstrate to SAMA that it is immaterial must be included in the calculation of K_{IRB} if the default risk of the collateral is subject to the tranched loss allocation.[114]

22.6 To calculate K_{IRB}, the treatment for eligible purchased receivables described in paragraphs 10.25 to 10.29, 14.2 to 14.7, 16.106, 16.108, 16.112 to 16.120 may be used, with the particularities specified in 22.7 to 22.9, if, according to IRB minimum requirements:

(1) For non-retail assets, it would be an undue burden on a bank to assess the default risk of individual obligors; and

(2) For retail assets, a bank is unable to primarily rely on internal data.

22.7 22.6 above applies to any securitized exposure, not just purchased receivables. For this purpose, "eligible purchased receivables" should be understood as referring to any securitized exposure for which the conditions of paragraph 22.6 are met, and "eligible purchased corporate receivables" should be understood as referring to any securitized non-retail exposure. All other IRB minimum requirements must be met by the bank.

22.8 SAMA may deny the use of a top-down approach, as defined in 14.8 (1), for eligible purchased receivables for securitized exposures depending on the bank's compliance with minimum requirements.

22.9 The requirements to use a top-down approach for the eligible purchased receivables are generally unchanged when applied to securitizations except in the following cases:

(1) The requirement in paragraph 10.30 for the bank to have a claim on all proceeds from the pool of receivables or a pro-rata interest in the

[114] As in the case of swaps other than credit derivatives, the numerator of K_{IRB} (i.e. quantity 22.2(1)) must include the exposure amount of the collateral times its risk weight times 8%, but the denominator should be calculated without recognition of the collateral.

proceeds does not apply. Instead, the bank must have a claim on all proceeds from the pool of securitized exposures that have been allocated to the bank's exposure in the securitization in accordance with the terms of the related securitization documentation;

(2) In paragraph 16.113, the purchasing bank should be interpreted as the bank calculating K_{IRB};

(3) In paragraphs 16.115 to 16.120 "a bank" should be read as "the bank estimating probability of default, loss-given-default (LGD) or expected loss for the securitized exposures"; and

(4) If the bank calculating K_{IRB} cannot itself meet the requirements in paragraphs 16.115 to 16.119, it must instead ensure that it meets these requirements through a party to the securitization acting for and in the interest of the investors in the securitization, in accordance with the terms of the related securitization documents. Specifically, requirements for effective control and ownership must be met for all proceeds from the pool of securitized exposures that have been allocated to the bank's exposure to the securitization. Further, in paragraph 16.117 (1), the relevant eligibility criteria and advancing policies are those of the securitization, not those of the bank calculating K_{IRB}.

22.10 In cases where a bank has set aside a specific provision or has a non-refundable purchase price discount on an exposure in the pool, the quantities defined in paragraphs 22.2 (1) and 22.2 (2) must be calculated using the gross amount of the exposure without the specific provision and/or non-refundable purchase price discount.

22.11 Dilution risk in a securitization must be recognized if it is not immaterial, as demonstrated by the bank to SAMA (see paragraph 14.8), whereby the provisions of paragraphs 22.2 to 22.5 shall apply.

22.12 Where default and dilution risk are treated in an aggregate manner (e.g. an identical reserve or overcollateralization is available to cover losses for both risks), in order to calculate capital requirements for the securitization exposure, a bank must determine KIRB for dilution risk and default risk, respectively, and combine them into a single KIRB prior to applying the SEC-IRBA.

22.13 In certain circumstances, pool level credit enhancement will not be available to cover losses from either credit risk or dilution risk. In the case of separate waterfalls for credit risk and dilution risk, a bank should consult with SAMA as to how the capital calculation should be performed.

Definition of attachment point (A), detachment point (D) and supervisory parameter (p)

22.14 The input A represents the threshold at which losses within the underlying pool would first be allocated to the securitization exposure. This input, which is a decimal value between zero and one, equals the greater of

(1) zero and

(2) The ratio of

(a) The outstanding balance of all underlying assets in the securitization minus the outstanding balance of all tranches that rank senior or pari passu to the tranche that contains the securitization exposure of the bank (including the exposure itself) to

(b) The outstanding balance of all underlying assets in the securitization.

22.15 The input D represents the threshold at which losses within the underlying pool result in a total loss of principal for the tranche in which a securitization exposure resides. This input, which is a decimal value between zero and one, equals the greater of

(1) zero and

(2) The ratio of

(a) The outstanding balance of all underlying assets in the securitization minus the outstanding balance of all tranches that rank senior to the tranche that contains the securitization exposure of the bank to

(b) The outstanding balance of all underlying assets in the securitization.

22.16 For the calculation of A and D, overcollateralization and funded reserve accounts must be recognized as tranches; and the assets forming these reserve accounts must be recognized as underlying assets. Only the loss-absorbing part of the funded reserve accounts that provide credit enhancement can be recognized as tranches and underlying assets. Unfunded reserve accounts, such as those to be funded from future receipts from the underlying exposures (e.g. unrealized excess spread) and assets that do not provide credit enhancement like pure liquidity support, currency or interest-rate swaps, or cash collateral accounts related to these instruments must not be included in the above calculation of A and D. Banks should take into consideration the economic substance of the transaction and apply these definitions conservatively in the light of the structure.

22.17 The supervisory parameter p in the context of the SEC-IRBA is expressed as follows, where:

(1) 0.3 denotes the p-parameter floor;

(2) N is the effective number of loans in the underlying pool, calculated as described in 22.20;

(3) K_{IRB} is the capital charge of the underlying pool (as defined in 22.2 to 22.5);

(4) LGD is the exposure-weighted average loss-given-default of the underlying pool, calculated as described in 22.21);

(5) M_T is the maturity of the tranche calculated according to 18.22 and 18.23; and

(6) The parameters A, B, C, D, and E are determined according to Table 32:

$$p = \max\left[0.3, \left(A + \frac{B}{N} + (C \times K_{IRB}) + (D \times LGD) + (E \times M_T)\right)\right]$$

Look-up table for supervisory parameters A, B, C, D and E Table 32

		A	B	C	D	E
Wholesale	Senior, granular (N≥25)	0	3.56	-1.85	0.55	0.07
	Senior, non-granular (N<25)	0.11	2.61	-2.91	0.68	0.07
	Non-senior, granular (N≥25)	0.16	2.87	-1.03	0.21	0.07
	Non-senior, non-granular (N<25)	0.22	2.35	-2.46	0.48	0.07
Retail	Senior	0	0	-7.48	0.71	0.24
	Non-senior	0	0	-5.78	0.55	0.27

22.18 If the underlying IRB pool consists of both retail and wholesale exposures, the pool should be divided into one retail and one wholesale subpool and, for each subpool, a separate p-parameter (and the corresponding input parameters N, K_{IRB} and LGD) should be estimated. Subsequently, a weighted average p-parameter for the transaction should be calculated on the basis of the p-parameters of each subpool and the nominal size of the exposures in each subpool.

22.19 If a bank applies the SEC-IRBA to a mixed pool as described in 18.46 and 18.47, the calculation of the p-parameter should be based on the IRB underlying assets only. The SA underlying assets should not be considered for this purpose.

22.20 The effective number of exposures, N, is calculated as follows, where EAD_i represents the exposure-at-default associated with the i^{th} instrument in the pool. Multiple exposures to the same obligor must be consolidated (i.e. treated as a single instrument).

$$N = \frac{(\sum_i EAD_i)^2}{\sum_i EAD_i^2}$$

22.21 The exposure-weighted average LGD is calculated as follows, where LGD_i represents the average LGD associated with all exposures to the i^{th} obligor. When default and dilution risks for purchased receivables are treated in an aggregate manner (e.g. a single reserve or overcollateralization is available to cover losses from either source) within a securitization, the LGD input must be constructed as a weighted average of the LGD for default risk and the 100% LGD for dilution risk.The weights are the stand-alone IRB capital charges for default risk and dilution risk, respectively.

$$LGD = \frac{\sum_i LGD_i \times EAD_i}{\sum_i EAD_i}$$

22.22 Under the conditions outlined below, banks may employ a simplified method for calculating the effective number of exposures and the exposure-weighted average LGD. Let C_m in the simplified calculation denote the share of the pool corresponding to the sum of the largest m exposures (e.g. a 15% share corresponds to a value of 0.15). The level of m is set by each bank.

(1) If the portfolio share associated with the largest exposure, C_1, is no more than 0.03 (or 3% of the underlying pool), then for purposes of the SEC-IRBA the bank may set LGD as 0.50 and N equal to the following amount:

$$N = \left((C_1 \times C_m) + \frac{(C_m - C_1) \times \max(1 - m \times C_1, 0)}{m - 1} \right)^{-1}$$

(2) Alternatively, if only C_1 is available and this amount is no more than 0.03, then the bank may set LGD as 0.50 and N as $1/C_1$.

Calculation of risk weight

22.23 The formulation of the SEC-IRBA is expressed as follows, where:

(1) $K_{SSFA(K_{IRB})}$ is the capital requirement per unit of securitization exposure under the SEC-IRBA, which is a function of three variables;

(2) The constant e is the base of the natural logarithm (which equals 2.71828);

(3) The variable a is defined as $-(1 / (p * K_{IRB}))$;

(4) The variable u is defined as $D - K_{IRB}$; and

(5) The variable l is defined as the maximum of $A - K_{IRB}$ and zero.

$$K_{SSFA(K_{IRB})} = \frac{e^{au} - e^{al}}{a(u - l)}$$

22.24 The risk weight assigned to a securitization exposure when applying the SEC-IRBA is calculated as follows:

(1) When D for a securitization exposure is less than or equal to K_{IRB}, the exposure must be assigned a risk weight of 1250%.

(2) When A for a securitization exposure is greater than or equal to K_{IRB}, the risk weight of the exposure, expressed as a percentage, would equal $K_{SSFA(K_{IRB})}$ times 12.5.

(3) When A is less than K_{IRB} and D is greater than K_{IRB}, the applicable risk weight is a weighted average of 1250% and 12.5 times $K_{SSFA(K_{IRB})}$ according to thefollowing formula:

$$RW = \frac{12.5 \times (K_{IRB} - A)}{D - A} + \frac{12.5 \times K_{SSFA(K_{IRB})} \times (D - K_{IRB})}{D - A}$$

22.25 The risk weight for market risk hedges such as currency or interest rate swaps will be inferred from a securitization exposure that is pari passu to the swaps or, if such an exposure does not exist, from the next subordinated tranche.

22.26 The resulting risk weight is subject to a floor risk weight of 15%.

Alternative capital treatment for term securitizations and short-term securitizations meeting the STC criteria for capital purposes

22.27 Securitization transactions that are assessed as simple, transparent and comparable (STC)-compliant for capital purposes in 18.67 can be subject to capital requirements under the securitization framework, taking into account that, when the SEC-IRBA is used, 22.28 and 22.29 are applicable instead of 22.17 and 22.26 respectively.

22.28 The supervisory parameter p in SEC-IRBA for an exposure to an STC securitization is expressed as follows, where:

(1) 0.3 denotes the p-parameter floor;

(2) N is the effective number of loans in the underlying pool, calculated as described in 22.20;

(3) K_{IRB} is the capital charge of the underlying pool (as defined in 22.2 to 22.5);

(4) LGD is the exposure-weighted average loss-given-default of the underlying pool, calculated as described in 22.21;

(5) M_T is the maturity of the tranche calculated according to 18.22 and 18.23; and

(6) The parameters A, B, C, D, and E are determined according to Table 33:

$$p = \max\left[0.3, 0.5\left(A + \frac{B}{N} + (C \times K_{IRB}) + (D \times LGD) + (E \times M_T)\right)\right]$$

Look-up table for supervisory parameters A, B, C, D and E Table 33

		A	B	C	D	E
Wholesale	Senior, granular (N≥25)	0	3.56	-1.85	0.55	0.07
	Senior, non-granular (N<25)	0.11	2.61	-2.91	0.68	0.07
	Non-senior, granular (N≥25)	0.16	2.87	-1.03	0.21	0.07
	Non-senior, non-granular (N<25)	0.22	2.35	-2.46	0.48	0.07
Retail	Senior	0	0	-7.48	0.71	0.24
	Non-senior	0	0	-5.78	0.55	0.27

22.29 The resulting risk weight is subject to a floor risk weight of 10% for senior tranches, and 15% for non-senior tranches.

23. Securitizations of non- performing loans

Securitization of non-performing loans

23.1 A non-performing loan securitization (NPL securitization) means a securitization where the underlying pool's variable W, as defined in 19.6, is equal to or higher than 90% at the origination cut-off date and at any subsequent date on which assets are added to or removed from the underlying pool due to replenishment, restructuring or any other relevant reason. The underlying pool of exposures of an NPL securitization may only comprise loans, loan-equivalent financial instruments or tradable instruments used for the sole purpose of loan subparticipation as referred to in 18.24 (2). Loan-equivalent financial instruments include, for example, bonds not listed on a trading venue. For the avoidance of doubt, an NPL securitization may not be backed by exposures to other securitizations.

23.2 SAMA may provide for a stricter definition of NPL securitizations than that laid out in 23.1 above. For these purposes, SAMA may:

(1) Raise the minimum level of W to a level higher than 90%; or

(2) Require that the non-delinquent exposures in the underlying pool comply with a set of minimum criteria, or preclude certain types of non-delinquent exposures from forming part of the underlying pools of NPL securitizations.

23.3 A bank is precluded from applying the SEC-IRBA to an exposure to an NPL securitization where the bank uses the foundation approach as referred to in 10.35 to calculate the KIRB of the underlying pool of exposures.

23.4 The risk weight applicable to exposures to NPL securitizations according to Internal ratings-based approach (SEC-IRBA) set out in chapter 22, Standardized approach (SEC-SA) outlined in chapter 19, or the look-through approach in 24718.50 is floored at 100%.

23.5 Where, according to the hierarchy of approaches in 18.41 to 18.47, the bank must use the SEC-IRBA or the SEC-SA, a bank may apply a risk weight of 100% to the senior tranche of an NPL securitization provided that the NPL securitization is a traditional securitization and the sum of the non-refundable purchase price discounts (NRPPD), calculated as described in 23.6 below, is equal to or higher than 50% of the outstanding balance of the pool of exposures.

23.6 For the purposes of 23.5, NRPPD is the difference between the outstanding balance of the exposures in the underlying pool and the price at which these exposures are sold by the originator to the securitization entity, when neither originator nor the original lender are reimbursed for this difference. In cases where the originator underwrites tranches of the NPL securitization for subsequent sale, the NRPPD may include the differences between the nominal amount of the tranches and the price at which these tranches are first sold to unrelated third parties. For any given piece of a securitization tranche, only its initial sale from the originator to investors is taken into account in the determination of NRPPD. The purchase prices of subsequent re-sales are not considered.

23.7 An originator or sponsor bank may apply the capital requirement cap specified in 18.54 to the aggregated capital requirement for its exposures to the same NPL securitization. The same applies to an investor bank, provided that it is usingthe SEC-IRBA for an exposure to the NPL securitization.

24. Equity investments in funds

Introduction

24.1 Equity investments in funds that are held in the banking book must be treated in a manner consistent with one or more of the following three approaches, which vary in their risk sensitivity and conservatism: the "look-through approach" (LTA), the "mandate-based approach" (MBA), and the "fall-back approach" (FBA). The requirements set out in this chapter apply to banks' equity investments in all types of funds, including off-balance sheet exposures (e.g. unfunded commitments to subscribe to a fund's future capital calls). Exposures, including underlying exposures held by funds, that are required to be deducted according to the Regulatory Capital Under Basel III Framework (*SAMA Circular No. 341000015689, Date: 19 December 2012*) are excluded from the risk weighting treatment outlined in this chapter.

The look-through approach

24.2 The LTA requires a bank to risk weight the underlying exposures of a fund as if the exposures were held directly by the bank. This is the most granular and risk-sensitive approach. It must be used when:

(1) There is sufficient and frequent information provided to the bank regarding the underlying exposures of the fund; and

(2) Such information is verified by an independent third party.

24.3 To satisfy condition (1) above, the frequency of financial reporting of the fund must be the same as, or more frequent than, that of the bank's and the granularity of the financial information must be sufficient to calculate the corresponding risk weights. To satisfy condition (2) above, there must be verification of the underlying exposures by an independent third party, such as the depository or the custodian bank or, where applicable, the

management company.[115]

24.4 Under the LTA banks must risk weight all underlying exposures of the fund as if those exposures were directly held. This includes, for example, any underlying exposure arising from the fund's derivatives activities for situations in which the underlying receives a risk weighting treatment under the calculation of minimum risk based capital requirements and the associated counterparty credit risk (CCR) exposure. Instead of determining a credit valuation adjustment (CVA) charge associated with the fund's derivatives exposures in accordance with the Minimum Capital Requirements for CVA, banks must multiply the CCR exposure by a factor of 1.5 before applying the risk weight associated with the counterparty.[116]

24.5 Banks may rely on third-party calculations for determining the risk weights associated with their equity investments in funds (i.e. the underlying risk weights of the exposures of the fund) if they do not have adequate data or information to perform the calculations themselves. In such cases, the applicable risk weight shall be 1.2 times higher than the one that would be applicable if the exposure were held directly by the bank.[117]

The mandate-based approach

24.6 The second approach, the MBA, provides a method for calculating regulatory capital that can be used when the conditions for applying the LTA are not met.

24.7 Under the MBA, banks may use the information contained in a fund's mandate or in the national regulations governing such investment funds.[118] To ensure that all underlying risks are taken into account (including CCR) and

[115] An external audit is not required.

[116] A bank is only required to apply the 1.5 factor for transactions that are within the scope of the Minimum Capital Requirements for CVA.

[117] For instance, any exposure that is subject to a 20% risk weight under the standardized approach would be weighted at 24% (1.2 * 20%) when the look through is performed by a third party.

[118] Information used for this purpose is not strictly limited to a fund's mandate or national regulations governing like funds. It may also be drawn from other disclosures of the fund.

that the MBA renders capital requirements no less than the LTA, the risk-weighted assets for the fund's exposures are calculated as the sum of the following three items :

(1) Balance sheet exposures (i.e. the funds' assets) are risk weighted assuming the underlying portfolios are invested to the maximum extent allowed under the fund's mandate in those assets attracting the highest capital requirements, and then progressively in those other assets implying lower capital requirements. If more than one risk weight can be applied to a given exposure, the maximum risk weight applicable must be used.[119]

(2) Whenever the underlying risk of a derivative exposure or an off-balance-sheet item receives a risk weighting treatment under the risk-based capital requirements standards, the notional amount of the derivative position or of the off-balance sheet exposure is risk weighted accordingly.[120] [121]

(3) The CCR associated with the fund's derivative exposures is calculated using the standardized approach to counterparty credit risk (SA-CCR, see standardized approach for counterparty credit risk). SA-CCR calculates the counterparty credit risk exposure of a netting set of derivatives by multiplying (i) the sum of the replacement cost and potential future exposure; by (ii) an alpha factor set at 1.4. Whenever the replacement cost is unknown, the exposure measure for CCR will be calculated in a conservative manner by using the sum of the notional amounts of the derivatives in the netting set as a proxy for the replacement cost, and the multiplier used in the calculation of the potential future exposure will be equal to 1. Whenever the potential future exposure is unknown, it will be calculated as 15% of the sum of

[119] For instance, for investments in corporate bonds with no ratings restrictions, a risk weight of 150% must be applied.

[120] If the underlying is unknown, the full notional amount of derivative positions must be used for the calculation.

[121] If the notional amount of derivatives mentioned in **Error! Reference source not found.** is unknown, it will be estimated conservatively using the maximum notional amount of derivatives allowed under the mandate.

the notional values of the derivatives in the netting set.[122] The risk weight associated with the counterparty is applied to the counterparty credit risk exposure. Instead of determining a CVA charge associated with the fund's derivative exposures in accordance with the Minimum Capital Requirements for CVA, banks must multiply the CCR exposure by a factor of 1.5 before applying the risk weight associated with the counterparty.[123]

The fall-back approach

24.8 Where neither the LTA nor the MBA is feasible, banks are required to apply the FBA. The FBA applies a 1250% risk weight to the bank's equity investment in the fund.

Treatment of funds that invest in other funds

24.9 When a bank has an investment in a fund (e.g. Fund A) that itself has an investment in another fund (e.g. Fund B), which the bank identified by using either the LTA or the MBA, the risk weight applied to the investment of the first fund (i.e. Fund A's investment in Fund B) can be determined by using one of the three approaches set out above. For all subsequent layers (e.g. Fund B's investments in Fund C and so forth), the risk weights applied to an investment in another fund (Fund C) can be determined by using the LTA under the condition that the LTA was also used for determining the risk weight for the investment in the fund at the previous layer (Fund B). Otherwise, the FBA must be applied.

Partial use of an approach

24.10 A bank may use a combination of the three approaches when determining the capital requirements for an equity investment in an individual fund, provided

[122] For instance, if both the replacement cost and add-on components are unknown, the CCR exposure will be calculated as: 1.4 * (sum of notionals in netting set +0.15*sum of notionals in netting set).

[123] A bank is only required to apply the 1.5 factor for transactions that are within the scope of the Minimum Capital Requirements for CVA.

that the conditions set out in paragraphs 24.1 to **Error! Reference source not found.** are met.

Leverage adjustment

24.11 Leverage is defined as the ratio of total assets to total equity. Leverage is taken into account in the MBA by using the maximum financial leverage permitted in the fund's mandate or in the national regulation governing the fund.

24.12 When determining the capital requirement related to its equity investment in a fund, a bank must apply a leverage adjustment to the average risk weight of the fund, as set out in **Error! Reference source not found.**, subject to a cap of 1250%.

24.13 After calculating the total risk-weighted assets of the fund according to the LTA or the MBA, banks will calculate the average risk weight of the fund (Avg RWfund) by dividing the total risk-weighted assets by the total assets of the fund.

Using Avg RWfund and taking into account the leverage of a fund (Lvg), the risk- weighted assets for a bank's equity investment in a fund can be represented as follows:

$$RWA_{investment} = Avg\ RW_{fund} * Lvg * equity\ investment$$

24.14 The effect of the leverage adjustments depends on the underlying riskiness of the portfolio (i.e. the average risk weight) as obtained by applying the standardized approach or the IRB approaches for credit risk. The formula can therefore be re- written as:

$$RWA_{investment} = RWA_{fund} * percentage\ of\ shares$$

Application of the LTA and MBA to banks using the IRB approach

24.15 Equity investments in funds that are held in the banking book must be treated in a consistent manner based on 24.1 to **Error! Reference source not found.**, as adjusted by **Error! Reference source not found.** to **Error! Reference source not found.**

24.16 Under the LTA:

(1) Banks using an IRB approach must calculate the IRB risk components (i.e. PD of the underlying exposures and, where applicable, LGD and EAD) associated with the fund's underlying exposures (except where the underlying exposures are equity exposures, in respect of which the standardized approach must be used as required by 10.34).

(2) Banks using an IRB approach may use the standardized approach for credit risk (chapter 7) when applying risk weights to the underlying components of funds if they are permitted to do so under the provisions relating to the adoption of the IRB approach set out in chapter 10 in the case of directly held investments. In addition, when an IRB calculation is not feasible(e.g. the bank cannot assign the necessary risk components to the underlying exposures in a manner consistent with its own underwriting criteria), the methods set out in **Error! Reference source not found.** below must be used.

(3) Banks may rely on third-party calculations for determining the risk weights associated with their equity investments in funds (i.e. the underlying risk weights of the exposures of the fund) if they do not have adequate data or information to perform the calculations themselves. In this case, the third party must use the methods set out in **Error! Reference source not found.** below, with the applicable risk weight set 1.2 times higher than the one that would be applicable if the exposure were held directly by the bank.

24.17 In cases when the IRB calculation is not feasible (**Error! Reference source not found.** (2) above), a third-party is performing the calculation of risk weights (**Error! Reference source not found.** (3) above) or when the bank is using the MBA the following methods must be used to determine the risk weights associated with the fund's underlying exposures:

(1) For securitization exposures, the Securitization External-ratings-based approach (SEC-ERBA) set out in chapter 20; the Standardized approach (SEC-SA) set out in chapter 19, if the bank is not able to use the SEC-ERBA; or a 1250% risk weight where the specified requirements for using the SEC-ERBA or SEC-SA are not met; and

(2) The standardized approach (chapter 7) for all other exposures.

25. Capital treatment of unsettled transactions and failed trades

Overarching principles

25.1 Banks are exposed to the risk associated with unsettled securities, commodities, and foreign exchange transactions from trade date. Irrespective of the booking or the accounting of the transaction, unsettled transactions must be taken into account for regulatory capital requirements purposes.

25.2 Banks are encouraged to develop, implement and improve systems for tracking and monitoring the credit risk exposure arising from unsettled transactions and failed trades as appropriate so that they can produce management information that facilitates timely action. Banks must closely monitor securities, commodities,and foreign exchange transactions that have failed, starting the first day they fail.

Delivery-versus-payment transactions

25.3 Transactions settled through a delivery-versus-payment system (DvP),[124] providing simultaneous exchanges of securities for cash, expose firms to a risk of loss on the difference between the transaction valued at the agreed settlement price and the transaction valued at current market price (i.e. positive current exposure). Banks must calculate a capital requirement for such exposures if the payments have not yet taken place five business days after the settlement date, see paragraph **Error! Reference source not found.** below.

Non-delivery-versus-payment transactions (free deliveries)

25.4 Transactions where cash is paid without receipt of the corresponding receivable (securities, foreign currencies, gold, or commodities) or, conversely, deliverables were delivered without receipt of the corresponding cash payment (non-DvP, or free deliveries) expose firms to a risk of loss on the full amount of cash paid or deliverables delivered. Banks that have made

[124] For the purpose of this Framework, DvP transactions include payment- versus-payment transactions.

the first contractual payment/delivery leg must calculate a capital requirement for the exposure if the second leg has not been received by the end of the business day. The requirement increases if the second leg has not been received within five business days. See paragraphs **Error! Reference source not found.** to **Error! Reference source not found.**.

Scope of requirements

25.5 The capital treatment set out in this chapter is applicable to all transactions on securities, foreign exchange instruments, and commodities that give rise to a risk of delayed settlement or delivery. This includes transactions through recognized clearing houses and central counterparties that are subject to daily mark-to- market and payment of daily variation margins and that involve a mismatched trade. The treatment does not apply to the instruments that are subject to the counterparty credit risk requirements set out in the Minimum Capital Requirements for Counterparty Credit Risk (CCR) and Credit Valuation Adjustment (CVA) (i.e. over-the-counter derivatives, exchange-traded derivatives, long settlement transactions, securities financing transactions).

25.6 Where they do not appear on the balance sheet (i.e. settlement date accounting), the unsettled exposure amount will receive a 100% credit conversion factor to determine the credit equivalent amount.

25.7 In cases of a system-wide failure of a settlement, clearing system or central counterparty, SAMA may waive capital requirements until the situation is rectified.

25.8 Failure of a counterparty to settle a trade in itself will not be deemed a default for purposes of credit risk under the Basel Framework.

Capital requirements for DvP transactions

25.9 For DvP transactions, if the payments have not yet taken place five business days after the settlement date, firms must calculate a capital requirement by multiplying the positive current exposure of the transaction by the appropriate factor, according to the Table 34 below.

Table 34

Number of business days after the agreed settlement date	Corresponding risk multiplier
From 5 to 15	8%
From 16 to 30	50%
From 31 to 45	75%
46 or more	100%

Capital requirements for non-DvP transactions (free deliveries)

25.10 For non-DvP transactions (i.e. free deliveries), after the first contractual payment/delivery leg, the bank that has made the payment will treat its exposure as a loan if the second leg has not been received by the end of the business day.[125] This means that:

(1) For counterparties to which the bank applies the standardized approach to credit risk, the bank will use the risk weight applicable to the counterparty set out in chapter 7.

(2) For counterparties to which the bank applies the internal ratings-based (IRB) approach to credit risk, the bank will apply the appropriate IRB formula (set out in chapter 11) applicable to the counterparty (set out in chapter 10). When applying this requirement, if the bank has no other banking book exposures to the counterparty (that are subject to the IRB approach), the bank may assign a probability of default to the counterparty on the basis of its external rating. Banks using the Advanced IRB approach may use a 45% loss-given- default

[125] If the dates when two payment legs are made are the same according to the time zones where each payment is made, it is deemed that they are settled on the same day. For example, if a bank in Tokyo transfers Yen on day X (Japan Standard Time) and receives corresponding US Dollar via the Clearing House Interbank Payments System on day X (US Eastern Standard Time), the settlement is deemed to take place on the same value date.

(LGD) in lieu of estimating LGDs so long as they apply it to all failed trade exposures. Alternatively, banks using the IRB approach may opt to apply the standardized approach risk weights applicable to the counterparty set out in chapter 7.

25.11 As an alternative to **Error! Reference source not found.** (1) and **Error! Reference source not found.** (2) above, when exposures are not material, banks may choose to apply a uniform 100% risk-weight to these exposures, in order to avoid the burden of a full credit assessment.

25.12 If five business days after the second contractual payment/delivery date the second leg has not yet effectively taken place, the bank that has made the firstpayment leg will risk weight the full amount of the value transferred plus replacement cost, if any, at 1250%. This treatment will apply until the second payment/delivery leg is effectively made.

26. Illustrative risk weights calculated under the internal ratings-based (IRB) approach to credit risk.

26.1 Table 1 provides illustrative risk weights calculated for four exposure types under the IRB approach to credit risk. Each set of risk weights for unexpected loss (UL) was produced using the appropriate risk-weight function of the risk-weight functions set out in Chapter 11 of Minimum Capital Requirements for Credit Risk. The inputs used to calculate the illustrative risk weights include measures of the probability of default (PD), loss-given-default (LGD), and an assumed effective maturity (M) of 2.5 years, where applicable.

26.2 A firm-size adjustment applies to exposures made to small or medium-sized entity borrowers (defined as corporate exposures where the reported sales for the consolidated group of which the firm is a part is less than €50 million). Accordingly, the firm-size adjustment was made in determining the second set of risk weights provided in column two for corporate exposures given that the turnover of the firm receiving the exposure is assumed to be €5 million.

Illustrative IRB risk weights for UL — Table 1

Asset class	Corporate Exposures		Residential Mortgages		Other Retail Exposures		Qualifying Revolving Retail Exposures	
LGD:	40%	40%	45%	25%	45%	85%	50%	85%
Turnover (millions of €):	50	5						
Maturity:	2.5 years	2.5 years						
PD:								
0.05%	17.47%	13.69%	6.23%	3.46%	6.63%	12.52%	1.68%	2.86%
0.10%	26.36%	20.71%	10.69%	5.94%	11.16%	21.08%	3.01%	5.12%
0.25%	43.97%	34.68%	21.30%	11.83%	21.15%	39.96%	6.40%	10.88%
0.40%	55.75%	43.99%	29.94%	16.64%	28.42%	53.69%	9.34%	15.88%
0.50%	61.88%	48.81%	35.08%	19.49%	32.36%	61.13%	11.16%	18.97%
0.75%	73.58%	57.91%	46.46%	25.81%	40.10%	75.74%	15.33%	26.06%
1.00%	82.06%	64.35%	56.40%	31.33%	45.77%	86.46%	19.14%	32.53%
1.30%	89.73%	70.02%	67.00%	37.22%	50.80%	95.95%	23.35%	39.70%
1.50%	93.86%	72.99%	73.45%	40.80%	53.37%	100.81%	25.99%	44.19%
2.00%	102.09%	78.71%	87.94%	48.85%	57.99%	109.53%	32.14%	54.63%
2.50%	108.58%	83.05%	100.64%	55.91%	60.90%	115.03%	37.75%	64.18%
3.00%	114.17%	86.74%	111.99%	62.22%	62.79%	118.61%	42.96%	73.03%
4.00%	124.07%	93.37%	131.63%	73.13%	65.01%	122.80%	52.40%	89.08%
5.00%	133.20%	99.79%	148.22%	82.35%	66.42%	125.45%	60.83%	103.41%
6.00%	141.88%	106.21%	162.52%	90.29%	67.73%	127.94%	68.45%	116.37%
10.00%	171.63%	130.23%	204.41%	113.56%	75.54%	142.69%	93.21%	158.47%
15.00%	196.92%	152.81%	235.72%	130.96%	88.60%	167.36%	115.43%	196.23%

20.00%	211.76%	167.48%	253.12%	140.62%	100.28%	189.41%	131.09%	222.86%

27. Illustrative examples for recognition of dilution risk when applying the Securitization Internal Ratings-Based Approach (SEC-IRBA) to securitization exposures.

27.1. The following two examples are provided to illustrate the recognition of dilution risk according to Paragraph 22.12 of Minimum Capital Requirements for Credit Risk and Paragraph 22.13 of Minimum Capital Requirements for Credit Risk . The first example in 27.2 to 27.5 assumes a common waterfall for default and dilution losses. The second example in 27.6 to 27.16 assumes a non-common waterfall for default and dilution losses.

27.2. Common waterfall for default and dilution losses: in the first example, it is assumed that losses resulting from either defaults or dilution within the securitised pool will be subject to a common waterfall, ie the loss allocation process does not distinguish between different sources of losses within the pool.

27.3. The pool is characterised as follows. For the sake of simplicity, it is assumed that all exposures have the same size, same PD, same LGD and same maturity.

(1) Pool of €1,000,000 of corporate receivables

(2) N = 100

(3) M = 2.5 years[126]

(4) PDDilution = 0.55%

(5) LGDDilution =100%

(6) PDDefault = 0.95%

(7) LGDDefault = 45%

27.4. The capital structure is characterised as follows:

[126] For the sake of simplicity, the possibility described in paragraph 14.8 of Minimum Capital Requirements for Credit Risk to set $M_{Dilution} = 1$ is not used in this example.

(1) Tranche A is a senior note of €700,000

(2) Tranche B is a second-loss guarantee of €250,000

(3) Tranche C is a purchase discount of €50,000

(4) Final legal maturity of transaction / all tranches = 2.875 years, ie MT = 2.5 years[127]

27.5. RWA calculation:

(1) Step 1: calculate KIRB, Dilution and KIRB, Default for the underlying portfolio:

(a) KIRB, Dilution = €1,000,000 x (161.44% x 8% + 0.55% x 100%) / €1,000,000 = 13.47%

(b) KIRB, Default = (€1,000,000 – €129,200)[128] x (90.62% x 8% + 0.95% x 45%) / €1,000,000 = 6.69%

(2) Step 2: calculate KIRB, Pool = KIRB, Dilution + KIRB, Default = 13.47% + 6.69% = 20.16%

(3) Step 3: apply the SEC-IRBA to the three tranches

(a) Pool parameters:

(i) N = 100

(ii) LGDPool = (LGDDefault x KIRB, Default + LGDDilution x KIRB, Dilution) / KIRB, Pool = (45% x 6.69% + 100% x 13.47%) / 20.16% = 81.75%

(b) Tranche parameters:

(i) MT = 2.5 years

[127] The rounding of the maturity calculation is shown for example purposes

[128] As described in paragraph 14.5 of Minimum Capital Requirements for Credit Risk, when calculating the default risk of exposures with non-immaterial dilution risk "EAD will be calculated as the outstanding amount minus the capital requirement for dilution prior to credit risk mitigation".

(ii) Attachment and detachment points shown in Table 2

Attachment and detachment points for each tranche		Table 2
	Attachment point	Detachment point
Tranche A	30%	100%
Tranche B	5%	30%
Tranche C	0%	5%

(4) Resulting risk-weighted exposure amounts shown in Table 3

Risk-weighted exposure amounts for each tranche		Table 3
	SEC-IRBA risk weight	RWA
Tranche A	21.22%	€148,540
Tranche B	1013.85%	€2,534,625
Tranche C	1250%	€625,000

27.6. Non-common waterfall for default and dilution losses: in the second example, it is assumed that the securitisation transaction does not have one common waterfall for losses due to defaults and dilutions, ie for the determination of the risk of a specific tranche it is not only relevant what losses might be realised within the pool but also if those losses are resulting from default or a dilution event.

27.7. As the SEC-IRBA assumes that there is one common waterfall, it cannot be applied without adjustments. The following example illustrates one possible scenario and a possible adjustment specific to this scenario.

27.8. While this example is meant as a guideline, a bank should nevertheless consult with its national supervisor as to how the capital calculation should be performed (see paragraph 22.13 of Minimum Capital Requirements for Credit Risk).

27.9. The pool is characterized as in 27.3.

27.10. The capital structure is characterized as follows:

(1) Tranche A is a senior note of €950,000

(2) Tranche C is a purchase discount of €50,000

(3) Tranches A and C will cover both default and dilution losses

(4) In addition, the structure also contains a second-loss guarantee of €250,000 (Tranche B)[129] that covers only dilution losses exceeding a threshold of €50,000 up to maximum aggregated amount of €300,000, which leads to the following two waterfalls:

(a) Default waterfall

(i) Tranche A is a senior note of €950,000

(ii)Tranche C is a purchase discount of €50,000[130]

(b) Dilution waterfall

(i) Tranche A is a senior note of €700,000

(ii)Tranche B is a second-loss guarantee of €250,000

(iii)Tranche C is a purchase discount of €50,000[131]

(5) MT of all tranches is 2.5 years.

27.11. Tranche C is treated as described in 27.4 to 27.7.

27.12. Tranche B (second-loss guarantee) is exposed only to dilution risk, but not to default risk. Therefore, KIRB, for the purpose of calculating a capital requirement for Tranche B, can be limited to KIRB,Dilution. However, as the holder of Tranche B cannot be sure that Tranche C will still be available to cover the first dilution losses when they are realised – because the credit enhancement might already be depleted due to earlier default losses – to ensure a prudent treatment, it cannot recognise the purchase discount as credit enhancement for dilution risk. In the capital calculation, the bank providing Tranche B should assume that €50,000 of the securitised assets have already been defaulted and hence Tranche C is no longer available as credit enhancement and the exposure of the underlying assets has been

[129] For the sake of simplicity, it is assumed that the second-loss guarantee is cash-collateralised

[130] Subject to the condition that it is not already being used for realised dilution losses.

[131] Subject to the condition that it is not already being used for realised default losses.

reduced to €950,000. When calculating KIRB for Tranche B, the bank can assume that KIRB is not affected by the reduced portfolio size.

27.13. RWA calculation for tranche B:

(1) Step 1: calculate KIRB,Pool.

KIRB,Pool = KIRB,Dilution = 13.47%

(2) Step 2: apply the SEC-IRBA.

(a) Pool parameters:

(i) N = 100

(ii) LGDPool = LGDDilution = 100%

(b) Tranche parameters:

(i) MT = 2.5 years

(ii) Attachment point = 0%

(iii) Detachment point = €250,000 / €950,000 = 26.32%

(3) Resulting risk-weighted exposure amounts for Tranche B:

(a) SEC-IRBA risk weight = 886.94%

(b) RWA = €2,217,350

27.14. The holder of Tranche A (senior note) will take all default losses not covered by the purchase discount and all dilution losses not covered by the purchase discount or the second-loss guarantee. A possible treatment for Tranche A would be to add KIRB,Default and KIRB,Dilution (as in 27.4 to 27.7), but not to recognize the second-loss guarantee as credit enhancement at all because it is covering only dilution risk.

27.15. Although this is a simple approach, it is also fairly conservative. Therefore the following alternative for the senior tranche could be considered:

(1) Calculate the RWA amount for Tranche A under the assumption that it is only exposed to losses resulting from defaults. This assumption implies that Tranche A is benefiting from a credit enhancement of €50,000.

(2) Calculate the RWA amounts for Tranche C and (hypothetical) Tranche A* under the

assumption that they are only exposed to dilution losses. Tranche A* should be assumed to absorb losses above €300,000 up to €1,000,000. With respect to dilution losses, this approach would recognize that the senior tranche investor cannot be sure if the purchase price discount will still be available to cover those losses when needed as it might have already been used for defaults. Consequently, from the perspective of the senior investor, the purchase price discount could only be recognized for the calculation of the capital requirement for default or dilution risk but not for both.[132]

(3) Sum up the RWA amounts under 27.15(1) and 27.15(2) and apply the relevant risk weight floor in paragraph 22.26 of Minimum Capital Requirements for Credit Risk or paragraph 22.29 of Minimum Capital Requirements for Credit Risk to determine the final RWA amount for the senior note investor.

27.16. RWA calculation for Tranche A:

(1) Step 1: calculate RWA for 27.15 (1).

(a) Pool parameters:

(i) KIRB,Pool = KIRB,Default = 6.69%

(ii) LGDPool = LGDDefault = 45%

(b) Tranche parameters:

(i) MT = 2.5 years

(ii) Attachment point = €50,000 / €1,000,000 = 5%

(iii) Detachment point = €1,000,000 / €1,000,000 = 100%

(c) Resulting risk-weighted exposure amounts:

(i) SEC-IRBA risk weight = 51.67%

(ii) RWA = €490,865

[132] In this example, the purchase price discount was recognised in the default risk calculation, but banks could also choose to use it for the dilution risk calculation. It is also assumed that the second-loss dilution guarantee explicitly covers dilution losses above €50,000 up to €300,000. If the guarantee instead covered €250,000 dilution losses after the purchase discount has been depleted (irrespective of whether the purchase discount has been used for dilution or default losses), then the senior note holder should assume that he is exposed to dilution losses from €250,000 up to €1,000,000 (instead of €0 to €50,000 + €300,000 to €1,000,000).

(2) Step 2: calculate RWA for 27.15(2).

(a) Pool parameters:

(i) KIRB,Pool = KIRB,Dilution = 13.47%

(ii) LGDPool = LGDDilution = 100%

(b) Tranche parameters:

(i) MT = 2.5 years

(ii) Attachment and detachment points shown in Table 4

Attachment and detachment points for each tranche Table 4

	tachment point	Detachment point
Tranche A*	30%	100%
Tranche C	0%	5%

(c) Resulting risk-weighted exposure amounts shown in Table 5

Risk-weighted exposure amounts for each tranche Table 5

	SEC-IRBA risk weight	
Tranche A*	11.16%	€78,120
Tranche C	1250%	€625,000

(3) Step 3: Sum up the RWA of 27.16 (1) and 27.16 (2)[133]

(a) Final RWA amount for investor in Tranche A = €490,865 + €78,120 + €625,000 = €1,193,985

(b) Implicit risk weight for Tranche A = max (15%, €1,193,985 / €950,000) = 125.68%

28. Equity investments in funds: illustrative example of the calculation of risk-weighted assets (RWA) under the look-through approach (LTA)

28.1 Consider a fund that replicates an equity index. Moreover, assume the following:

(1) The bank uses the standardised approach (SA) for credit risk when calculating its capital requirements for credit risk and for determining counterparty credit risk exposures it uses the SA-CCR.

(2) The bank owns 20% of the shares of the fund.

(3) The fund holds forward contracts on listed equities that are cleared through a qualifying central counterparty (with a notional amount of USD 100); and

(4) The fund presents the following balance sheet:

Assets	
Cash	USD 20
Government bonds (AAA-rated)	USD 30
Variation margin receivable (ie collateral posted by the bank to the CCP in respect of the forward contracts)	USD 50
Liabilities	
Notes payable	USD 5
Equity	
Shares, retained earnings and other reserves	USD 95

[133] The correct application of the overall risk weight floor is such that the intermediate results (in this case the risk weight for Tranche A*) are calculated without the floor and the floor is only enforced in the last step (ie Step 3(b)).

28.2 The funds exposures will be risk weighted as follows:

(1) The RWA for the cash (RWA_{cash}) are calculated as the exposure of USD 20 multiplied by the applicable SA risk weight of 0%. Thus, RWA_{cash} = USD 0.

(2) The RWA for the government bonds (RWA_{bonds}) are calculated as the exposure of USD 30 multiplied by the applicable SA risk weight of 0%. Thus, RWA_{bonds} = USD 0.

(3) The RWA for the exposures to the listed equities underlying the forward contracts ($RWA_{underlying}$) are calculated by multiplying the following three amounts: (1) the SA credit conversion factor of 100% that is applicable to forward purchases; (2) the exposure to the notional of USD 100; and (3) the applicable risk weight for listed equities under the SA which is 250%. Thus, $RWA_{underlying}$ = 100% * USD100 * 250% = USD 250.

(4) The forward purchase equities expose the bank to counterparty credit risk in respect of the market value of the forwards and the collateral posted that is not held by the CCP on a bankruptcy remote basis. For the sake of simplicity, this example assumes the application of SA-CCR results in an exposure value of USD 56. The RWA for counterparty credit risk (RWA_{CCR}) are determined by multiplying the exposure amount by the relevant risk weight for trade exposures to CCPs, which 2% in this case (see chapter 8 of Minimum Capital Requirements for Credit Risk for the capital requirements for bank exposures to CCPs). Thus, RWA_{CCR} = USD 56 * 2% = USD 1.12. (Note: There is no credit valuation adjustment, or CVA, charge assessed since the forward contracts are cleared through a CCP.)

28.3 The total RWA of the fund are therefore USD 251.12 = (0 + 0 +250 + 1.12).

28.4 The leverage of a fund under the LTA is calculated as the ratio of the fund's total assets to its total equity, which in this examples is 100/95.

28.5 Therefore, the RWA for the bank's equity investment in the fund is calculated as the product of the average risk weight of the fund, the fund's leverage and the size of the banks equity investment. That is:

$$\text{RWA} = \frac{RWA_{fund}}{Total\ Assets_{fund}} \times \text{Leverage} \times \text{Equity Investment} = \frac{251.12}{100} \times \frac{100}{95} \times (95 * 20\%) = \text{USD } 50.2$$

29. Equity investments in funds: illustrative example of the calculation of RWA under the mandate-based approach (MBA).

29.1 Consider a fund with assets of USD 100, where it is stated in the mandate that the fund replicates an equity index. In addition to being permitted to invest its assets in either cash or listed equities, the mandate allows the fund to take long positions in equity index futures up to a maximum nominal amount equivalent to the size of the fund′s balance sheet (USD 100). This means that the total on balance sheet and off balance sheet exposures of the fund can reach USD 200. Consider also that a maximum financial leverage (fund assets/fund equity) of 1.1 applies according to the mandate. The bank holds 20% of the shares of the fund, which represents an investment of USD 18.18.

29.2 First, the on-balance sheet exposures of USD 100 will be risk weighted according to the risk weights applied to listed equity exposures (RW=250%), ie $RWA_{on\text{-}BS}$ = USD 100 * 250% = USD 250.

29.3 Second, we assume that the fund has exhausted its limit on derivative positions, ie USD 100 notional amount. The RWA for the maximum notional amount of underlying the derivatives positions calculated by multiplying the following three amounts: (1) the SA credit conversion factor of 100% that is applicable to forward purchases; (2) the maximum exposure to the notional of USD 100; and (3) the applicable risk weight for listed equities under the SA which is 250%. Thus, $RWA_{underlying}$ = 100% * USD100 * 250% = USD 250.

29.4 Third, we would calculate the counterparty credit risk associated with the derivative contract. As set out in paragraph 24.7 of Minimum Capital Requirements for Credit Risk (3):

(1) If we do not know the replacement cost related to the futures contract, we would approximate it by the maximum notional amount, ie USD 100.

(2) If we do not know the aggregate add-on for potential future exposure, we would approximate this by 15% of the maximum notional amount (ie 15% of USD 100=USD 15).

(3) The CCR exposure is calculated by multiplying (i) the sum of the replacement cost and aggregate add-on for potential future exposure; by (ii) 1.4, which is the prescribed value of alpha.

29.5 The counterparty credit risk exposure in this example, assuming the replacement cost and aggregate add-on amounts are unknown, is therefore USD 161 (= 1.4 *(100+15)). Assuming the futures contract is cleared through a qualifying CCP, a risk weight of 2% applies, so that RWA_{CCR} = USD 161 * 2% = USD 3.2. There is no CVA charge assessed since the futures contract is cleared through a CCP.

29.6 The RWA of the fund is hence obtained by adding $RWA_{on\text{-}BS}$, $RWA_{underlying}$ and RWA_{CCR}, ie USD 503.2 (=250 + 250 + 3.2).

29.7 The RWA (USD 503.2) will be divided by the total assets of the fund (USD 100) resulting in an average risk-weight of 503.2%. The bank′s total RWA associated with its equity investment is calculated as the product of the average risk weight of the fund, the fund′s maximum leverage and the size of the bank′s equity investment.

That is the bank′s total associated RWA are 503.2% * 1.1 * USD 18.18 = USD 100.6.

30.Equity investments in funds: illustrative examples of the leverage adjustment.

30.1 Consider a fund with assets of USD 100 that invests in corporate debt. Assume that the fund is highly levered with equity of USD 5 and debt of USD 95. Such a fund would have financial leverage of 100/5=20. Consider the two cases below.

30.2 In Case 1 the fund specializes in low-rated corporate debt, it has the following balance sheet:

Assets	
Cash	USD 10
A+ to A- bonds	USD 20
BBB+ to BBB- bonds	USD 30
BB+ to BB- bonds	USD 40
Liabilities	
Debt	USD 95
Equity	

Shares, retained earnings and other reserves	USD 5

30.3 The average risk weight of the fund is (USD10*0% + USD20*50% + USD30*75% + USD40*100%)/USD100 = 72.5%. The financial leverage of 20 would result in an effective risk weight of 1,450% for banks′ investments in this highly levered fund, however, this is capped at a conservative risk weight of 1,250%.

30.4 In Case 2 the fund specializes in high-rated corporate debt, it has the following balance sheet:

Assets	
Cash	USD 5
AAA to AA- bonds	USD 75
A+ to A- bonds	USD 20
Liabilities	
Debt	USD 95
Equity	
Shares, retained earnings and other reserves	USD 5

30.5 The average risk weight of the fund is (USD5*0% + USD75*20% + USD20*50%)/USD100 = 25%. The financial leverage of 20 results in an effective risk weight of 500%.

30.6 The above examples illustrate that the rate at which the 1,250% cap is reached depends on the underlying riskiness of the portfolio (as judged by the average risk weight) as captured by SA risk weights or the IRB approach. For example, for a ″ risky″ portfolio (72.5% average risk weight), the 1,250% limit is reached fairly

quickly with a leverage of 17.2x, while for a ″low risk″ portfolio (25% average risk weight) this limit is reached at a leverage of 50x.