Guideline

Subject: Capital Adequacy Requirements (CAR)

Chapter 7 – Structured Credit Products

Effective Date: November 2017 / January 2018[1]

The Capital Adequacy Requirements (CAR) for banks (including federal credit unions), bank holding companies, federally regulated trust companies, federally regulated loan companies and cooperative retail associations are set out in nine chapters, each of which has been issued as a separate document. This document, Chapter 7 – Structured Credit Products, should be read in conjunction with the other CAR chapters which include:

Chapter 1	Overview
Chapter 2	Definition of Capital
Chapter 3	Credit Risk – Standardized Approach
Chapter 4	Settlement and Counterparty Risk
Chapter 5	Credit Risk Mitigation
Chapter 6	Credit Risk- Internal Ratings Based Approach
Chapter 7	Structured Credit Products
Chapter 8	Operational Risk
Chapter 9	Market Risk

Please refer to OSFI's *Corporate Governance Guideline* for OSFI's expectations of institution Boards of Directors in regards to the management of capital and liquidity.

[1] For institutions with a fiscal year ending October 31 or December 31, respectively

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Chapter 7 – Structured Credit Products

1. This chapter is drawn from the Basel Committee on Banking Supervision (BCBS) Basel II and Basel III frameworks, *entitled "Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework – Comprehensive Version* (June 2006)", "*Enhancements to the Basel II framework (July 2009)"* and "*Basel III: A global regulatory framework for more resilient banks and banking systems – December 2010 (rev June 2011)*". For reference, the Basel II and Basel III text paragraph numbers that are associated with the text appearing in this chapter are indicated in square brackets at the end of each paragraph[2].

2. The securitisation framework is to be applied in determining the risk-weighted capital treatment applicable to all securitisation exposures that meet the definitions and operational requirements below regardless of accounting treatment.

3. For greater clarity, and to ensure consistency with paragraph 5 below, all exposures to mortgage-backed securities that do not involve the tranching of credit risk (e.g. NHA MBS) will not be considered securitization exposures for risk-based capital purposes under the securitisation Framework.

7.1. Scope and definitions of transactions

4. Banks must apply the securitisation framework for determining regulatory capital requirements on exposures arising from traditional and synthetic securitisations or similar structures that contain features common to both. Since securitisations may be structured in many different ways, the capital treatment of a securitisation exposure must be determined on the basis of its economic substance rather than its legal form. Similarly, supervisors will look to the economic substance of a transaction to determine whether it should be subject to the securitisation framework for purposes of determining regulatory capital. Banks are encouraged to consult with their national supervisors when there is uncertainty about whether a given transaction should be considered a securitisation. For example, transactions involving cash flows from real estate (e.g. rents) may be considered specialised lending exposures, if warranted. [BCBS June 2006 par 538]

5. A *traditional securitisation* is a structure where the cash flow from an underlying pool of exposures is used to service at least two different stratified risk positions or tranches reflecting different degrees of credit risk. Payments to the investors depend upon the performance of the specified underlying exposures, as opposed to being derived from an obligation of the entity originating those exposures. The stratified/tranched structures that characterise securitisations differ from ordinary senior/subordinated debt instruments in that junior securitisation tranches can absorb losses without interrupting contractual payments to more senior tranches, whereas subordination in a senior/subordinated debt structure is a matter of priority of rights to the proceeds of liquidation. [BCBS June 2006 par 539]

[2] Following the format: [BCBS June 2011 par x]

O SFI Notes

6. In its simplest form, asset securitization is the transformation of generally illiquid assets into securities that can be traded in the capital markets. The asset securitization process generally begins with the segregation of financial assets into pools that are relatively homogeneous with respect to their cash flow characteristics and risk profiles, including both credit and market risks. These pools of assets are then sold to a bankruptcy-remote entity, generally referred to as a special-purpose entity (SPE), which issues asset-backed securities (ABS) to investors to finance the purchase. ABS are financial instruments that may take a variety of forms, including commercial paper, term debt and certificates of beneficial ownership. The cash flow from the underlying assets supports repayment of the ABS. Various forms of enhancement are used to provide credit protection for investors in the ABS.

7. Securitizations typically split the risk of credit losses from the underlying assets into tranches that are distributed to different parties. Each loss position functions as an enhancement if it protects the more senior positions in the structure from loss.

8. An institution may perform one or more functions in an asset securitization transaction. It may:

- invest in a debt instrument issued by an SPE,
- provide enhancements,
- provide liquidity support,
- set up, or cause to be set up, an SPE,
- collect principal and interest payments on the assets and transmit those funds to an SPE, investors in the SPE securities or a trustee representing them, and provide clean-up calls.

9. A *synthetic securitisation* is a structure with at least two different stratified risk positions or tranches that reflect different degrees of credit risk where credit risk of an underlying pool of exposures is transferred, in whole or in part, through the use of funded (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. [BCBS June 2006 par 540]

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10. Refer to Chapter 5 - Credit Risk Mitigation for capital guidance on credit derivatives.

11. Banks' exposures to a securitisation are hereafter referred to as "securitisation exposures". Securitisation exposures can include but are not restricted to the following: asset-backed securities, mortgage-backed securities, credit enhancements, liquidity facilities, interest rate or currency swaps, credit derivatives and tranched cover as described in Chapter 5 – Credit Risk Mitigation, paragraph 87. Reserve accounts, such as cash collateral accounts, recorded as an asset by the originating bank must also be treated as securitisation exposures. [BCBS June 2006 par 541]

12. A resecuritisation exposure is a securitisation exposure in which the risk associated with an underlying pool of exposures is tranched and at least one of the underlying exposures is a securitisation exposure. In addition, an exposure to one or more resecuritisation exposures is a resecuritisation exposure. [BCBS July 2009 par 541(i)]

OSFI Notes

13. The key factor is determining if an exposure is a resecuritisation exposure is the presence of two different levels of credit risk tranching in the structure, that is, one or more of assets to which the investors are ultimately exposed is itself a securitisation exposure. The existence of two or more layers of special purpose entities does not in itself cause a structure to be a resecuritisation.

14. Examples of resecuritisation exposures include;

- CDOs of ABS,
- A tranched exposure to a pool of underlying loans and a single tranche of an ABS,
- A credit derivative whose performance is linked to one or more resecuritisation exposures,

15. Liquidity asset purchase agreements provided at the pool level are generally not resecuritisations as the seller-provided first loss protection represents tranching of risk, assuming the underlying assets are not securitisations. Programme-wide liquidity facilities covering all the CP issued by the conduit would also generally not be a resecuritisation exposure unless one of the conduits investments is a resecuritisation exposure.

16. ABCP conduits may contain both resecuritisation and non-resecuritisation exposures such as where there are pool-specific liquidity facilities in addition to certain types of programme-wide credit enhancement (PWCE) facilities. The seller-provided protection represents one layer of credit risk tranching and therefore any pool-specific liquidity facilities would be securitisation exposures for the liquidity providers. The presence of a PWCE facility and/or different tranches of ABCP issued by the conduit may create resecuritisation exposures at the conduit level and will need to be assessed on a case by case basis. Institutions are encouraged to consult with OSFI when there is uncertainty about whether a particular exposure should be considered a resecuritisation exposure.

17. Underlying instruments in the pool being securitised may include but are not restricted to the following: loans, commitments, asset-backed and mortgage-backed securities, corporate bonds, equity securities, and private equity investments. The underlying pool may include one or more exposures. [BCBS June 2006 par 542]

7.2. Definitions and general terminology

7.2.1. Originating bank

18. For risk-based capital purposes, a bank is considered to be an originator with regard to a certain securitisation if it meets either of the following conditions:

(a) The bank originates directly or indirectly underlying exposures included in the securitisation; or

(b) 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.

[BCBS June 2006 par 543]

OSFI Notes

19. An institution is considered the supplier of the assets in any of the following circumstances:

- the assets are held on the balance sheet of the institution at any time prior to being transferred to an SPE,
- the institution lends to an SPE in order for that SPE to grant a loan to a borrower as though it were the institution*, or
- the institution enables** an SPE to directly originate assets that are financed with ABS.

20. OSFI reserves the right to adopt a look-through approach to determine the originator of the assets. The look-through approach may also be used to ensure appropriate capital is maintained by an institution in a securitization transaction.

* This method of lending is known as remote origination. The institution is regarded as the supplier because the SPE is creating an asset that is branded by the institution. The institution will incur reputational risk through the association with the product.

** For example, by providing credit approvals or administrative support.

7.2.2. Asset-backed commercial paper (ABCP) programme

21. An asset-backed commercial paper (ABCP) programme predominately issues commercial paper with an original maturity of one year or less that is backed by assets or other exposures held in a bankruptcy-remote, special purpose entity. [BCBS June 2006 par 544]

7.2.3. Clean-up call

22. A clean-up call is an option that permits the securitisation exposures (e.g. asset-backed securities) to be called before all of the underlying exposures or securitisation exposures have

been repaid. In the case of traditional securitisations, this is generally accomplished by repurchasing the remaining securitisation exposures once the pool balance or outstanding securities have fallen below some specified level. In the case of a synthetic transaction, the clean-up call may take the form of a clause that extinguishes the credit protection. [BCBS June 2006 par 545]

7.2.4. Credit enhancement

23. A credit enhancement is a contractual arrangement in which the bank retains or assumes a securitisation exposure and, in substance, provides some degree of added protection to other parties to the transaction. [BCBS June 2006 par 546]

OSFI Notes

24. An enhancement is an arrangement provided to an SPE to cover the losses associated with the pool of assets. Enhancement is a method of protecting investors in the event that cash flows from the underlying assets are insufficient to pay the interest and principal due for the ABS in a timely manner. Enhancement is used to improve or support the credit rating on more senior tranches, and therefore the pricing and marketability of the ABS.

25. Common examples of these facilities include: recourse provisions; senior/subordinated security structures; subordinated standby lines of credit; subordinated loans; third party equity; swaps that are structured to provide an element of enhancement; and any amount of liquidity facilities in excess of 103% of the face value of outstanding paper. In addition, these facilities include any temporary financing facility, other than qualifying servicer advances, provided by an institution to an enhancer or to an SPE to bridge the gap between the date a claim is made against a third party enhancer and when payment is received.

7.2.5. Credit-enhancing interest-only strip

26. A credit-enhancing interest-only strip *(I/O)* is an on-balance sheet asset that (i) represents a valuation of cash flows related to future margin income, and (ii) is subordinated. [BCBS June 2006 par 547]

7.2.6. Early amortisation

27. Early amortisation provisions are mechanisms that, once triggered, allow investors to be paid out prior to the originally stated maturity of the securities issued. For risk-based capital purposes, an early amortisation provision will be considered either controlled or non-controlled. A controlled early amortisation provision must meet all of the following conditions.

(a) The bank must have an appropriate capital/liquidity plan in place to ensure that it has sufficient capital and liquidity available in the event of an early amortisation.

(b) Throughout the duration of the transaction, including the amortisation period, there is the same pro rata sharing of interest, principal, expenses, losses and recoveries based on the bank's and investors' relative shares of the receivables outstanding at the beginning of each month.

(c) The bank must set a period for amortisation that would be sufficient for at least 90% of the total debt outstanding at the beginning of the early amortisation period to have been repaid or recognised as in default; and

(d) The pace of repayment should not be any more rapid than would be allowed by straight-line amortisation over the period set out in criterion (c).

[BCBS June 2006 par 548]

OSFI Notes

28. Securitization documentation should clearly state that early amortization cannot be precipitated by regulatory actions affecting the supplier of assets.

29. An early amortisation provision that does not satisfy the conditions for a controlled early amortisation provision will be treated as a non-controlled early amortisation provision. [BCBS June 2006 par 549]

7.2.7. Excess spread

30. Excess spread is generally defined as gross finance charge collections and other income received by the trust or special purpose entity (SPE, specified in paragraph 32) minus certificate interest, servicing fees, charge-offs, and other senior trust or SPE expenses.
[BCBS June 2006 par 550]

7.2.8. Implicit support

31. Implicit support arises when a bank provides support to a securitisation in excess of its predetermined contractual obligation. [BCBS June 2006 par 551]

7.2.9. Special purpose entity (SPE)

32. An SPE is a corporation, trust, or other entity organised for a specific purpose, the activities of which are limited to those appropriate to accomplish the purpose of the SPE, and the structure of which is intended to isolate the SPE from the credit risk of an originator or seller of exposures. SPEs are commonly used as financing vehicles in which exposures are sold to a trust or similar entity in exchange for cash or other assets funded by debt issued by the trust. [BCBS June 2006 par 552]

OSFI Notes

33. OSFI expects an institution to minimize its exposure to risk arising from its relationship with an SPE. An institution that sets up, or causes to be set up, an SPE will not have to hold capital as a result of this activity if the following conditions are met:

- the institution does not own any share capital in a company, nor is it the beneficiary of a trust, used as an SPE for purchasing and securitizing financial assets. For this purpose, share capital includes all classes of common and preferred share capital.

- the institution's name is not included in the name of a company or trust used as an SPE, nor is any connection implied with the institution by, for example, using a symbol closely associated with the institution. If, however, the institution is performing a specific function for a particular transaction or transactions (e.g., collecting and transmitting payments or providing enhancement), this may be indicated in the offering circular (subject to the *Name Use Regulations*).
- the institution does not have any of its directors, officers or employees on the board of directors of a company used as an SPE, unless the SPE's board has at least three members. Where the board consists of three or more members, the institution may not have more than one director. Where the SPE is a trust, the beneficiary and the indenture trustee and/or the issuer trustee must be third parties independent of the institution.
- the institution does not lend to the SPE on a subordinated basis, except as otherwise provided herein*.
- the institution does not support, except as provided elsewhere in this guideline, any losses suffered by the SPE, or investors in it, or bear any of the recurring expenses of the SPE.

34. Where an institution does not meet all of these conditions, it is required to hold capital against all debt instruments issued to third parties by the SPE.

* A loan provided by an institution to an SPE to cover initial transaction or set-up costs is a deduction from capital as long as the loan is capped at its original amount; amortized over the life of the securities issued by the SPE; and the loan is not available as a form of enhancement to the assets or securities issued.

7.3. Operational requirements for the recognition of risk transference

35. The following operational requirements are applicable to both the standardised and IRB approaches of the securitisation framework. [BCBS June 2006 par 553]

7.3.1. Operational requirements for traditional securitisations

36. An originating bank may exclude securitised exposures from the calculation of risk-weighted assets only if all of the following conditions have been met. Banks meeting these conditions must still hold regulatory capital against any securitisation exposures they retain.

(a) Significant credit risk associated with the securitised exposures has been transferred to third parties.

(b) The transferor does not maintain effective or indirect control over the transferred exposures. The assets are legally isolated from the transferor in such a way (e.g. through the sale of assets or through sub participation) that the exposures are put beyond the reach of the transferor and its creditors, even in bankruptcy or receivership. These conditions must be supported by an opinion provided by a qualified legal counsel.

The transferor is deemed to have maintained effective control over the transferred credit risk exposures if it: (i) is able to repurchase from the transferee the previously transferred exposures in order to realise their benefits; or (ii) is obligated to retain the risk of the

transferred exposures. The transferor's retention of servicing rights to the exposures will not necessarily constitute indirect control of the exposures.

(c) The securities issued are not obligations of the transferor. Thus, investors who purchase the securities only have claim to the underlying pool of exposures.

(d) 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.

(e) Clean-up calls must satisfy the conditions set out in paragraph 40.

(f) The securitisation does not contain clauses that (i) require the originating bank to alter systematically the underlying exposures such that the pool's weighted average credit quality is improved unless this is achieved by selling assets to independent and unaffiliated third parties at market prices; (ii) allow for increases in a retained first loss position or credit enhancement provided by the originating bank after the transaction's inception; or (iii) 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.

[BCBS June 2006 par 554]

7.3.2. Operational requirements for synthetic securitisations

37. For synthetic securitisations, the use of CRM techniques (i.e. collateral, guarantees and credit derivatives) for hedging the underlying exposure may be recognised for risk-based capital purposes only if the conditions outlined below are satisfied:

(a) Credit risk mitigants must comply with the requirements as set out in Chapter 5 – Credit Risk Mitigation of this guideline.

(b) Eligible collateral is limited to that specified in Chapter 5 – Credit Risk Mitigation, section 5.1.3 Eligible collateral pledged by SPEs may be recognised.

(c) Eligible guarantors are defined in Chapter 5 – Credit Risk Mitigation, section 5.1.5 . Banks may not recognise SPEs as eligible guarantors in the securitisation framework.

(d) Banks must transfer significant credit risk associated with the underlying exposure to third parties.

(e) 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:

- Clauses that materially limit the credit protection or credit risk transference (e.g. significant materiality thresholds below which credit protection is deemed not to be triggered even if a credit event occurs or those that allow for the termination of the protection due to deterioration in the credit quality of the underlying exposures);
- Clauses that require the originating bank to alter the underlying exposures to improve the pool's weighted average credit quality;
- Clauses that increase the banks' cost of credit protection in response to deterioration in the pool's quality;

- 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
- Clauses that provide for increases in a retained first loss position or credit enhancement provided by the originating bank after the transaction's inception.

(f) An opinion must be obtained from a qualified legal counsel that confirms the enforceability of the contracts in all relevant jurisdictions.

(g) Clean-up calls must satisfy the conditions set out in paragraph 40.
[BCBS June 2006 par 555]

38. For synthetic securitisations, the effect of applying CRM techniques for hedging the underlying exposures are treated according to Chapter 5 – Credit Risk Mitigation, section 5.1. In case there is a maturity mismatch, the capital requirement will be determined in accordance with Chapter 5 – Credit Risk Mitigation section 5.1.6. When the exposures in the underlying pool have different maturities, the longest maturity must be taken as the maturity of the pool. Maturity mismatches may arise in the context of synthetic securitisations when, for example, a bank uses credit derivatives to transfer part or all of the credit risk of a specific pool of assets to third parties. When the credit derivatives unwind, the transaction will terminate. This implies that the effective maturity of the tranches of the synthetic securitisation may differ from that of the underlying exposures. Originating banks of synthetic securitisations must treat such maturity mismatches in the following manner. A bank using the standardised approach for securitisation must apply a 1250% risk weight to all retained positions that are unrated or rated below investment grade. A bank using the IRB approach must apply a risk weight of 1250% to unrated, retained positions if the treatment of the position is specified as such in paragraphs 101 to 134. Accordingly, when a 1250% risk weight is required, maturity mismatches are not taken into account. For all other securitisation exposures, the bank must apply the maturity mismatch treatment set forth in Chapter 5 – Credit Risk Mitigation, section 5.1.6.[BCBS June 2006 par 556]

OSFI Notes

39. The following apply to both traditional and synthetic securitizations:

- An institution should understand the inherent risks of the activity, be competent in structuring and managing such transactions, and have adequate staffing of the functions involved in the transactions.
- The terms and conditions of all transactions between the institution and the SPE should be at least at market terms and conditions (and any fees are paid in a timely manner) and meet the institution's normal credit standards. The Credit Committee or an equally independent committee should approve individual transactions.
- An institution's capital and liquidity plans should take into account the potential need to finance an increase in assets on its balance sheet as a result of early amortization or maturity events. If OSFI finds the planning inadequate, it may increase the institution's capital requirements.

- The capital requirements for asset securitization transactions will be limited to those set out in this guideline if the institution provides only the level of support (enhancement or liquidity) committed to in the various agreements that define and limit the levels of losses to be borne by the institution.

7.3.3. Operational requirements and treatment of clean-up calls

40. For securitisation transactions that include a clean-up call, no capital will be required due to the presence of a clean-up call if the following conditions are met: (i) 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; (ii) 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 (iii) the clean-up call must only be exercisable when 10% or less of the original underlying portfolio, or securities issued remain, or, for synthetic securitisations, when 10% or less of the original reference portfolio value remains. [BCBS June 2006 par 557]

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41. An agreement that permits an institution to purchase the remaining assets in a pool when the balance of those assets is equal to or less than 10% of the original pool balance is considered a clean-up call and no capital is required. However, a clean-up call that permits the remaining loans to be repurchased when their balance is greater than 10% of the original pool balance or permits the purchase of non-performing loans is considered a first loss enhancement.

42. Securitisation transactions that include a clean-up call that does not meet all of the criteria stated in paragraph 40 result in a capital requirement for the originating bank. For a traditional securitisation, the underlying exposures must be treated as if they were not securitised. Additionally, banks must not recognise in regulatory capital any gain-on-sale, as defined in paragraph 46. For synthetic securitisations, the bank purchasing protection must hold capital against the entire amount of the securitised exposures as if they did not benefit from any credit protection. If a synthetic securitisation incorporates a call (other than a clean-up call) that effectively terminates the transaction and the purchased credit protection on a specific date, the bank must treat the transaction in accordance with paragraph 38 and Chapter 5 – Credit Risk Mitigation, section 5.1.6. [BCBS June 2006 par 558]

43. If a clean-up call, when exercised, is found to serve as a credit enhancement, the exercise of the clean-up call must be considered a form of implicit support provided by the bank and must be treated in accordance with the supervisory guidance pertaining to securitisation transactions. [BCBS June 2006 par 559]

7.4. Treatment of securitisation exposures

7.4.1. Calculation of capital requirements

44. Banks are required to hold regulatory capital against all of their securitisation exposures, including those arising from the provision of credit risk mitigants to a securitisation

transaction, investments in asset-backed securities, retention of a subordinated tranche, and extension of a liquidity facility or credit enhancement, as set forth in the following sections. Repurchased securitisation exposures must be treated as retained securitisation exposures. [BCBS June 2006 par 560]

(i) 1250% Risk Weight

45. Securitisation exposures that were previously required to be deducted from regulatory capital will now be risk-weighted at 1250% as noted in the applicable tables below (refer to Chapter 2 – *Definition of Capital* Section 2.3.4 for an itemized list). Credit enhancing I/Os (net of the amount deducted from Tier 1 as in paragraph 46) are to be risk-weighted at 1250%. Exposures risk-weighted at 1250% may be calculated net of any specific allowances[3] taken against the relevant securitisation exposures. [BCBS June 2011 par 90]

46. Banks must deduct from Common Equity Tier 1 capital any increase in equity capital resulting from a securitisation transaction, such as that associated with expected future margin income (FMI) resulting in a gain-on-sale that is recognised in regulatory capital. Such an increase in capital is referred to as a "gain-on-sale" for the purposes of the securitisation framework. [BCBS June 2006 par 562]

47. For the purposes of the EL-provision calculation as set out in Chapter 6 – Credit Risk – Internal Ratings Based Approach, section 6.7, securitisation exposures do not contribute to the EL amount. Similarly, any specific allowances against securitisation exposures are not to be included in the measurement of eligible allowances. [BCBS June 2006 par 563]

(ii) Implicit support

48. When a bank provides implicit support to a securitisation, it must, at a minimum, hold capital against all of the exposures associated with the securitisation transaction as if they had not been securitised. Additionally, banks would not be permitted to recognise in regulatory capital any gain-on-sale, as defined in paragraph 46. Furthermore, the bank is required to disclose publicly that (a) it has provided non-contractual support and (b) the capital impact of doing so. [BCBS June 2006 par 564]

7.4.2. Operational requirements for use of external credit assessments

49. The following operational criteria concerning the use of external credit assessments apply in the standardised and IRB approaches of the securitisation framework:

(a) 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

[3] Under IFRS 9, Stage 3 allowances and partial write-offs are considered to be specific allowances, while Stage 1 and Stage 2 allowances are considered to be general allowances.

assessment must fully take into account and reflect the credit risk associated with timely repayment of both principal and interest.

(b) The external credit assessments must be from an eligible ECAI as recognised by the bank's national supervisor in accordance with Chapter 3 – Credit Risk Standardized Approach, section 3.6 with the following exception. In contrast with bullet three of Chapter 3 – Credit Risk – Standardized Approach, paragraph 121, an eligible credit assessment, procedures, methodologies, assumptions, and the key elements underlining the assessments must be publicly available, on a non-selective basis and free of charge[4]. 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 ratings assumptions should be publicly available. Consequently, ratings that are made available only to the parties to a transaction do not satisfy this requirement. [BCBS June 2011 par 120]

(c) Eligible ECAIs must have a demonstrated expertise in assessing securitisations, which may be evidenced by strong market acceptance.

(d) A bank must apply external credit assessments from eligible ECAIs consistently across a given type of securitisation exposure. Furthermore, a bank cannot use the credit assessments issued by one ECAI for one or more tranches and those of another ECAI for other positions (whether retained or purchased) within the same securitisation structure that may or may not be rated by the first ECAI. Where two or more eligible ECAIs can be used and these assess the credit risk of the same securitisation exposure differently, Chapter 3 – Credit Risk – Standardized Approach, section 3.6.2.2 will apply.

(e) Where CRM is provided directly to an SPE by an eligible guarantor defined in Chapter 5 – Credit Risk Mitigation, paragraph 82, and is reflected in the external credit assessment assigned to a securitisation exposure(s), the risk weight associated with that external credit assessment should be used. In order to avoid any double counting, no additional capital recognition is permitted. If the CRM provider is not recognised as an eligible guarantor in Chapter 5 – Credit Risk Mitigation, paragraph 82, the covered securitisation exposures should be treated as unrated.

(f) In the situation where a credit risk mitigant is not obtained by the SPE but rather applied to a specific securitisation exposure within a given structure (e.g. ABS tranche), the bank must treat the exposure as if it is unrated and then use the CRM treatment outlined in chapter 5 – Credit Risk Mitigation, to recognise the hedge. [BCBS June 2006 par 565]

(g)

(i) 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 ABCP where it provides an unfunded securitisation exposure extended to the ABCP programme (e.g. liquidity facility or credit enhancement), and that exposure plays a role in

[4] Where the eligible credit assessment is not provided free of charge the ECAI should provide an adequate justification, within their own publicly available Code of Conduct, in accordance with the 'comply or explain' nature of the IOSCO Code of Conduct Fundamentals for Credit Rating Agencies.

determining the credit assessment on the ABCP, the bank must treat the ABCP as if it were not rated. The bank must continue to hold capital against the other securitisation exposure it provides (eg against the liquidity facility and/or credit enhancement).

(ii) The treatment described in (g)(i) is also applicable to exposures held in the trading book. A bank's capital requirement for such exposures held in the trading book can be no less than the amount required under the banking book treatment.

(iii) Banks are permitted to recognise overlap in their exposures, consistent with paragraph 69. For example, a bank providing a liquidity facility supporting 100% of the ABCP issued by an ABCP programme and purchasing 20% of the outstanding ABCP of that programme could recognise an overlap of 20% (100% liquidity facility + 20% CP held – 100% CP issued = 20%). If a bank provided a liquidity facility that covered 90% of the outstanding ABCP and purchased 20% of the ABCP, the two exposures would be treated as if 10% of the two exposures overlapped (90% liquidity facility + 20% CP held – 100% CP issued = 10%). If a bank provided a liquidity facility that covered 50% of the outstanding ABCP and purchased 20% of the ABCP, the two exposures would be treated as if there were no overlap. Such overlap could also be recognised between specific risk 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.

[BCBS July 2009]

OSFI Notes

50. Exposures referred to in (i) above, such as ABCP, are to be treated as unrated securitisation exposures for regulatory capital purposes if the overlapping exposure treatment described in (iii) above and paragraph 69 is not applicable. The risk-based capital calculation would then require the application of one of the standardized or IRB approaches for unrated exposures.

51. If the two exposures, such as in the example provided in (iii), do overlap and meet the requirements, then no additional risk-based capital is required for the overlap. In addition, if the overlapping position that is not being recognized represents a balance sheet asset, then a reconciling item may be required within regulatory reporting schedules to ensure inclusion of that item in the leverage ratio.

Information on the underlying collateral supporting securitisation exposures

52. In order for a bank to use the securitisation framework, it must have the information specified in paragraphs (i) through (iii).

(i) As a general rule, a bank must, on an ongoing basis, have a comprehensive understanding of the risk characteristics of its individual securitisation exposures,

whether on balance sheet or off balance sheet, as well as the risk characteristics of the pools underlying its securitisation exposures.

(ii) Banks must be able to access performance information on the underlying pools on an on-going basis in a timely manner. Such information may include, as appropriate: exposure type; percentage of loans 30, 60 and 90 days past due; default rates; prepayment rates; loans in foreclosure; property type; occupancy; average credit score or other measures of creditworthiness; average loan-to-value ratio; and industry and geographic diversification. For resecuritisations, banks should have information not only on the underlying securitisation tranches, such as the issuer name and credit quality, but also on the characteristics and performance of the pools underlying the securitisation tranches.

(iii) A bank must have a thorough understanding of all structural features of a securitisation transaction that would materially impact the performance of the bank's exposures to the transaction, such as the contractual waterfall and waterfall-related triggers, credit enhancements, liquidity enhancements, market value triggers, and deal-specific definitions of default.

[BCBS July 2009]

OSFI Notes

53. The correspondence of OSFI-recognized rating agency long- and short-term ratings to the rating categories in the Framework, described in Chapter 3 – Credit Risk – Standardized Approach, sections 3.6.2.1 and 3.6.2.5, applies to this section as well. Note that the risk weights assigned to the rating categories in this section are in some cases different from those assigned to the rating categories in section 3.6.2.

54. Effective October 31, 2008, new securities issued by securitization SPEs, other than securities issued as a result of the "Montreal Accord"[5], must be rated by at least two recognized ECAIs to permit, in the case of any securitization exposure related to such securities, the use of a standardized or internal ratings-based approach[6], or an Internal Assessment Approach[7], by a FRE[8]. In all cases where a securitization exposure arises from a re-securitization and the exposure is acquired after October 31, 2008, the securities issued by the re-securitization SPE (or such securitization exposure), other than securities issued as a result of the "Montreal Accord",

[5] The "Montreal Accord" is the restructuring agreement reached on December 23, 2007 by the Pan-Canadian Investors Committee for Third-Party Structured Asset-Backed Commercial Paper, approved by investors on April 25, 2008, and sanctioned by the Ontario Superior Court of Justice on June 5, 2008.

[6] This two rating requirement also applies to any inferred ratings used under the CAR Ratings-Based Approach. Such two rating requirement may be satisfied by a combination of an external rating from one ECAI and an inferred rating based on a reference securitization exposure rated by another ECAI or by two ratings (based on external credit ratings from two ECAIs) of the same reference securitization exposure.

[7] This two rating requirement for the CAR internal assessment approach requires, pursuant to paragraph 112 , that the unrated securitization exposure may only be rated under the IAA if the ABCP has two external ratings.

[8] This two rating requirement applies whenever a FRE is seeking to use an external credit rating to establish the capital required to support a securitization exposure. In the case of deposit-taking institutions subject to CAR, the two rating requirement applies to securitization exposures regardless of whether the standardized or the internal Ratings-Based Approach is utilized; Section 7.4 is amended accordingly.

must be rated by two recognized ECAIs to permit a FRE to use a ratings-based or Internal Assessment Approach for such exposure.[9] Further, in the case of a re-securitization exposure acquired after October 31, 2008, the Supervisory Formula under CAR can only be applied based on the ultimate underlying assets (e.g. the third party loans or receivables giving rise to cash flows) and not based upon securities issued by any underlying securitization. When a FRE uses two ratings which correspond to different risk weights, the higher of the two risk weights must be used. With innovative or highly structured products such as re-securitizations, FREs should exercise caution when relying on ratings if significant disagreement exists between ratings agencies as to the efficacy of using ratings to evaluate risk.

7.4.3. Standardised approach for securitisation exposures

(i) Scope

55. Banks that apply the standardised approach to credit risk for the type of underlying exposure(s) securitised must use the standardised approach under the securitisation framework. [BCBS June 2006 par 566]

(ii) Risk weights

56. The risk-weighted asset amount of a securitisation exposure is computed by multiplying the amount of the position by the appropriate risk weight determined in accordance with the following tables. For off-balance sheet exposures, banks must apply a CCF and then risk weight the resultant credit equivalent amount. If such an exposure is rated, a CCF of 100% must be applied. For positions with long-term ratings of B+ and below and short-term ratings other than A-1/P-1, A-2/P-2, A-3/P-3, a 1250% risk weight is required. A 1250% risk weight is also required for unrated positions with the exception of the circumstances described in paragraphs 60 to 64. [BCBS June 2006 par 567]

Risk weights - Long-term rating category[10]

External Credit Assessment	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ and below or unrated
Securitisation Exposures	20%	50%	100%	350%	1250%
Resecuritisation Exposures	40%	100%	225%	650%	1250%

[9] This two rating requirement applies whenever a FRE is seeking to use an external credit rating to establish the capital required to support a re-securitization exposure and, as described in the preceding footnote, the existing guidance is amended accordingly.

[10] The rating designations used in the following charts are for illustrative purposes only and do not indicate any preference for, or endorsement of, any particular external assessment system.

Risk Weights - Short-term rating category

External Credit Assessment	A-1/P-1	A-2/P-2	A-3/P-3	All other ratings or unrated
Securitisation Exposures	20%	50%	100%	1250%
Resecuritisation Exposures	40%	100%	225%	1250%

[BCBS June 2006 par 567 and July 2009]

57. The capital treatment of positions retained by originators, liquidity facilities, credit risk mitigants, and securitisations of revolving exposures are identified separately. The treatment of clean-up calls is provided in paragraphs 40 to 43. [BCBS June 2006 par 568]

Investors may recognise ratings on below-investment grade exposures

58. Only third-party investors, as opposed to banks that serve as originators, may recognise external credit assessments that are equivalent to BB+ to BB- for risk weighting purposes of securitisation exposures. [BCBS June 2006 par 569]

Originators to apply a 1250% risk weight to below-investment grade exposures

59. Originating banks as defined in paragraph 18 must risk weight at 1250% all retained securitisation exposures rated below investment grade (i.e. BBB-). [BCBS June 2006 par 570]

(iii) Exceptions to general treatment of unrated securitisation exposures

60. As noted in the tables above, unrated securitisation exposures must be risk weighted at 1250% with the following exceptions: (i) the most senior exposure in a securitisation, (ii) exposures that are in a second loss position or better in ABCP programmes and meet the requirements outlined in paragraph 63, and (iii) eligible liquidity facilities. [BCBS June 2006 par 571]

Treatment of unrated most senior securitisation exposures

61. If the most senior exposure in a securitisation of a traditional or synthetic securitisation is unrated, a bank that holds or guarantees such an exposure may determine the risk weight by applying the "look-through" treatment, provided the composition of the underlying pool is known at all times. Banks are not required to consider interest rate or currency swaps when determining whether an exposure is the most senior in a securitisation for the purpose of applying the "look-through" approach. [BCBS June 2006 par 572]

62. In the look-through treatment, the unrated most senior position receives the average risk weight of the underlying exposures subject to supervisory review. Where the bank is unable to determine the risk weights assigned to the underlying credit risk exposures, the unrated position must be risk weighted at 1250%. [BCBS June 2006 par 573]

Treatment of exposures in a second loss position or better in ABCP programmes

63. A risk weight of 1250% is not required for those unrated securitisation exposures provided by sponsoring banks to ABCP programmes that satisfy the following requirements:

(a) The exposure is economically in a second loss position or better and the first loss position provides significant credit protection to the second loss position;

(b) The associated credit risk is the equivalent of investment grade or better; and

(c) The bank holding the unrated securitisation exposure does not retain or provide the first loss position.

[BCBS June 2006 par 574]

64. Where these conditions are satisfied, the risk weight is the greater of (i) 100% or (ii) the highest risk weight assigned to any of the underlying individual exposures covered by the facility. [BCBS June 2006 par 575]

Risk weights for eligible liquidity facilities

65. For eligible liquidity facilities as defined in paragraph 67 and where the conditions for use of external credit assessments in paragraph 49 are not met, the risk weight applied to the exposure's credit equivalent amount is equal to the highest risk weight assigned to any of the underlying individual exposures covered by the facility. [BCBS June 2006 par 576]

(iv) Credit conversion factors for off-balance sheet exposures

66. For risk-based capital purposes, banks must determine whether, according to the criteria outlined below, an off-balance sheet securitisation exposure qualifies as an 'eligible liquidity facility' or an 'eligible servicer cash advance facility'. All other off-balance sheet securitisation exposures will receive a 100% CCF. [BCBS June 2006 par 577]

Eligible liquidity facilities

67. Banks are permitted to treat off-balance sheet securitisation exposures as eligible liquidity facilities if the following minimum requirements are satisfied:

(a) The facility documentation must clearly identify and limit the circumstances under which it may be drawn. Draws under the facility must be limited to the amount that is likely to be repaid fully from the liquidation of the underlying exposures and any seller-provided credit enhancements. In addition, the facility must not cover any losses incurred in the underlying pool of exposures prior to a draw, or be structured such that draw-down is certain (as indicated by regular or continuous draws);

(b) The facility must be subject to an asset quality test that precludes it from being drawn to cover credit risk exposures that are in default as defined in Chapter 6 – Credit Risk - Internal Ratings Based Approach, section 6.8.7 (ii) to (iv). In addition, if the exposures that a liquidity facility is required to fund are externally rated securities, the facility can

only be used to fund securities that are externally rated investment grade at the time of funding;

(c) The facility cannot be drawn after all applicable (e.g. transaction-specific and programme-wide) credit enhancements from which the liquidity would benefit have been exhausted; and

(d) Repayment of draws on the facility (i.e. assets acquired under a purchase agreement or loans made under a lending agreement) must not be subordinated to any interests of any note holder in the programme (e.g. ABCP programme) or subject to deferral or waiver.

[BCBS June 2006 par 578]

68. Where these conditions are met, the bank may apply a 50% CCF to the eligible liquidity facility regardless of the maturity of the facility. However, if an external rating of the facility itself is used for risk-weighting the facility, a 100% CCF must be applied. [BCBS June 2006 par 579]

Treatment of overlapping exposures

69. A bank may provide several types of facilities that can be drawn under various conditions. The same bank may be providing two or more of these facilities. Given the different triggers found in these facilities, it may be the case that a bank provides duplicative coverage to the underlying exposures. In other words, the facilities provided by a bank may overlap since a draw on one facility may preclude (in part) a draw under the other facility. In the case of overlapping facilities provided by the same bank, the bank does not need to hold additional capital for the overlap. Rather, it is only required to hold capital once for the position covered by the overlapping facilities (whether they are liquidity facilities or credit enhancements). Where the overlapping facilities are subject to different conversion factors, the bank must attribute the overlapping part to the facility with the highest conversion factor. However, if overlapping facilities are provided by different banks, each bank must hold capital for the maximum amount of the facility. [BCBS June 2006 par 581]

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70. For greater certainty with respect to paragraph 69, the securitisation exposure included for risk-based capital purposes must be that which produces the higher amount of regulatory capital.

Eligible servicer cash advance facilities

71. Subject to national discretion, if contractually provided for, servicers may advance cash to ensure an uninterrupted flow of payments to investors so long as the servicer is entitled to full reimbursement and this right is senior to other claims on cash flows from the underlying pool of exposures. At national discretion, such undrawn servicer cash advances or facilities that are unconditionally cancellable without prior notice may be eligible for a 0% CCF. [BCBS June 2006 par 582]

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72. Collecting and transmitting payments

An institution whose only involvement with a particular asset securitization transaction is to collect interest and principal payments on the underlying assets and transmit these funds to the SPE or investors in the SPE securities (or a trustee representing them) should be under no obligation to remit funds to the SPE or the investors unless and until the funds are received from the obligors. Where this condition is met, this activity does not attract any capital.

An institution that is collecting interest and principal payments on the underlying assets and transmitting these funds to the SPE or investors in the SPE securities (or a trustee representing them) may also:

- structure transactions,
- analyze the underlying assets,
- perform due diligence and credit reviews,
- monitor the credit quality of the portfolio of underlying assets, and
- provide servicer advances (see conditions outlined in (ii) below).

In this role, an institution should:

- comply with the conditions specified for an institution setting up an SPE,
- have evidence available in its records that its legal advisers are satisfied that the terms of the asset securitization protect it from any liability to investors in the SPE (except normal contractual obligations relating to its role in collecting and transmitting payments), and
- ensure that any offering circular contains a highly visible, unequivocal statement that the institution, serving in this capacity, does not stand behind the issue or the SPE and will not make good on any losses in the portfolio.

Where an institution that is not making servicer advances meets all these conditions, this activity does not attract any capital.

Where an institution does not meet all these conditions, it is required to maintain capital against all debt instruments issued to third parties by the SPE.

73. Making servicer advances

An institution may be contractually obligated to provide funds to an SPE to ensure an uninterrupted flow of payments to investors in the SPE's securities, solely under the unusual circumstance that payments from the underlying assets have not been received due to temporary timing differences. An institution that provides such support is typically referred to as a servicing agent and the funds provided are typically referred to

as servicer advances. Where an institution acts as a servicing agent, OSFI expects the following conditions to be met:

- Servicer advances are not made to offset shortfalls in cash flow that arise from assets in default.
- The credit facility under which servicer advances are funded is unconditionally cancellable by the servicing agent.
- The total value of cash advances is limited to the total amount transferable for that collection period.
- Servicer advances rank ahead of all claims by investors in SPE securities, expenses and other cash allocations.
- The repayment of servicer advances comes from subsequent collections or the available enhancement facilities.
- Servicer advances are repaid within thirty-one business days from the day the cash is advanced.
- The servicing agent performs an assessment of the likelihood of repayment of servicer advances prior to each advance and such advances should only be made if prudent lending standards are met.

74. Where all of the conditions in paragraphs 72 and 73 are met, institutions should treat undrawn facilities as off-balance sheet commitments. Drawn facilities will be treated as on-balance sheet loans. In all other circumstances, the facilities will be treated as first loss enhancements.

(v) Treatment of credit risk mitigation for securitisation exposures

75. The treatment below applies to a bank that has obtained a credit risk mitigant on a securitisation exposure. Credit risk mitigants include guarantees, credit derivatives, collateral and on-balance sheet netting. Collateral in this context refers to that used to hedge the credit risk of a securitisation exposure rather than the underlying exposures of the securitisation transaction. [BCBS June 2006 par 583]

76. When a bank other than the originator provides credit protection to a securitisation exposure, it must calculate a capital requirement on the covered exposure as if it were an investor in that securitisation. If a bank provides protection to an unrated credit enhancement, it must treat the credit protection provided as if it were directly holding the unrated credit enhancement. [BCBS June 2006 par 584]

Collateral

77. Eligible collateral is limited to that recognised under the standardised approach for CRM (Chapter 5 – Credit Risk Mitigation, paragraphs 43 and 45). Collateral pledged by SPEs may be recognised. [BCBS June 2006 par 585]

Guarantees and credit derivatives

78. Credit protection provided by the entities listed in Chapter 5 – Credit Risk Mitigation, paragraph 82 may be recognised. SPEs cannot be recognised as eligible guarantors. [BCBS June 2006 par 586]

79. Where guarantees or credit derivatives fulfil the minimum operational conditions as specified in Chapter 5 – Credit Risk Mitigation, section 5.1.5(i), banks can take account of such credit protection in calculating capital requirements for securitisation exposures. [BCBS June 2006 par 587]

80. Capital requirements for the guaranteed/protected portion will be calculated according to CRM for the standardised approach as specified in Chapter 5 – Credit Risk Mitigation, section 5.1.5 (iii) to (v). [BCBS June 2006 par 588]

Maturity mismatches

81. For the purpose of setting regulatory capital against a maturity mismatch, the capital requirement will be determined in accordance with Chapter 5 – Credit Risk Mitigation, section 5.1.6. When the exposures being hedged have different maturities, the longest maturity must be used. [BCBS June 2006 par 589]

(vi) Capital requirement for early amortisation provisions

Scope

82. As described below, an originating bank is required to hold capital against all or a portion of the investors' interest (i.e. against both the drawn and undrawn balances related to the securitised exposures) when:

(a) It sells exposures into a structure that contains an early amortisation feature; and

(b) The exposures sold are of a revolving nature. These involve exposures where the borrower is permitted to vary the drawn amount and repayments within an agreed limit under a line of credit (e.g. credit card receivables and corporate loan commitments).

[BCBS June 2006 par 590]

83. The capital requirement should reflect the type of mechanism through which an early amortisation is triggered. [BCBS June 2006 par 591]

84. For securitisation structures wherein the underlying pool comprises revolving and term exposures, a bank must apply the relevant early amortisation treatment (outlined below in paragraphs 86 to 97) to that portion of the underlying pool containing revolving exposures. [BCBS June 2006 par 592]

85. Banks are not required to calculate a capital requirement for early amortisations in the following situations:

(a) Replenishment structures where the underlying exposures do not revolve and the early amortisation ends the ability of the bank to add new exposures;

(b) Transactions of revolving assets containing early amortisation features that mimic term structures (i.e. where the risk on the underlying facilities does not return to the originating bank);

(c) Structures where a bank securitises one or more credit line(s) and where investors remain fully exposed to future draws by borrowers even after an early amortisation event has occurred;

(d) The early amortisation clause is solely triggered by events not related to the performance of the securitised assets or the selling bank, such as material changes in tax laws or regulations.

[BCBS June 2006 par 593]

Maximum capital requirement

86. For a bank subject to the early amortisation treatment, the total capital charge for all of its positions will be subject to a maximum capital requirement (i.e. a 'cap') equal to the greater of (i) that required for retained securitisation exposures, or (ii) the capital requirement that would apply had the exposures not been securitised. In addition, banks must deduct the entire amount of any gain-on-sale and risk weight the credit enhancing I/Os arising from the securitisation transaction in accordance with paragraphs 0 to 47. [BCBS June 2006 par 594]

Mechanics

87. The originator's capital charge for the investors' interest is determined as the product of (a) the investors' interest, (b) the appropriate CCF (as discussed below), and (c) the risk weight appropriate to the underlying exposure type, as if the exposures had not been securitised. As described below, the CCFs depend upon whether the early amortisation repays investors through a controlled or non-controlled mechanism. They also differ according to whether the securitised exposures are uncommitted retail credit lines (e.g. credit card receivables) or other credit lines (e.g. revolving corporate facilities). A line is considered uncommitted if it is unconditionally cancellable without prior notice. [BCBS June 2006 par 595]

(vii) Determination of CCFs for controlled early amortisation features

88. An early amortisation feature is considered controlled when the definition as specified in paragraph 27 is satisfied. [BCBS June 2006 par 596]

Uncommitted retail exposures

89. For uncommitted retail credit lines (e.g. credit card receivables) in securitisations containing controlled early amortisation features, banks must compare the three-month average excess spread defined in paragraph 30 to the point at which the bank is required to trap excess spread as economically required by the structure (i.e. excess spread trapping point). [BCBS June 2006 par 597]

90. In cases where such a transaction does not require excess spread to be trapped, the trapping point is deemed to be 4.5 percentage points. [BCBS June 2006 par 598]

91. The bank must divide the excess spread level by the transaction's excess spread trapping point to determine the appropriate segments and apply the corresponding conversion factors, as outlined in the following table. [BCBS June 2006 par 599]

Controlled early amortisation features

	Uncommitted		**Committed**
Retail credit lines	**3-month average excess spread Credit Conversion Factor (CCF)**		90% CCF
	133.33% of trapping point or more	0% CCF	
	less than 133.33% to 100% of trapping point	1% CCF	
	less than 100% to 75% of trapping point	2% CCF	
	less than 75% to 50% of trapping point	10% CCF	
	less than 50% to 25% of trapping point	20% CCF	
	less than 25%	40% CCF	
Non-retail credit lines	90% CCF		90% CCF

92. Banks are required to apply the conversion factors set out above for controlled mechanisms to the investors' interest referred to in paragraph 87. [BCBS June 2006 par 600]

Other exposures

93. All other securitised revolving exposures (i.e. those that are committed and all non-retail exposures) with controlled early amortisation features will be subject to a CCF of 90% against the off-balance sheet exposures**.** [BCBS June 2006 par 601]

(viii) Determination of CCFs for non-controlled early amortisation features

94. Early amortisation features that do not satisfy the definition of a controlled early amortisation as specified in paragraph 27 will be considered non-controlled and treated as follows. [BCBS June 2006 par 602]

Uncommitted retail exposures

95. For uncommitted retail credit lines (e.g. credit card receivables) in securitisations containing non-controlled early amortisation features, banks must make the comparison described in paragraphs 89 and 90. [BCBS June 2006 par 603]

96. The bank must divide the excess spread level by the transaction's excess spread trapping point to determine the appropriate segments and apply the corresponding conversion factors, as outlined in the following table. [BCBS June 2006 par 604]

Non-controlled early amortisation features

	Uncommitted	**Committed**
Retail credit lines	**3-month average excess spread** **Credit Conversion Factor (CCF)** 133.33% or more of trapping point 0% CCF less than 133.33% to 100% of trapping point 5% CCF less than 100% to 75% of trapping point 15% CCF less than 75% to 50% of trapping point 50% CCF less than 50% of trapping point 100% CCF	100% CCF
Non-retail credit lines	100% CCF	100% CCF

Other exposures

97. All other securitised revolving exposures (i.e. those that are committed and all non-retail exposures) with non-controlled early amortisation features will be subject to a CCF of 100% against the off-balance sheet exposures. [BCBS June 2006 par 605]

7.4.4. Internal ratings-based approach for securitisation exposures

(i) Scope

98. Banks that have received approval to use the IRB approach for the type of underlying exposures securitised (e.g. for their corporate or retail portfolio) must use the IRB approach for securitisations. Conversely, banks may not use the IRB approach to securitisation unless they receive approval to use the IRB approach for the underlying exposures from their national supervisors. [BCBS June 2006 par 606]

99. If the bank is using the IRB approach for some exposures and the standardised approach for other exposures in the underlying pool, it should generally use the approach corresponding to the predominant share of exposures within the pool. The bank should consult with its national

supervisors on which approach to apply to its securitisation exposures. To ensure appropriate capital levels, there may be instances where the supervisor requires a treatment other than this general rule. [BCBS June 2006 par 607]

100. Where there is no specific IRB treatment for the underlying asset type, originating banks that have received approval to use the IRB approach must calculate capital charges on their securitisation exposures using the standardised approach in the securitisation framework, and investing banks with approval to use the IRB approach must apply the RBA. [BCBS June 2006 par 608]

(ii) Hierarchy of approaches

101. The Ratings-Based Approach (RBA) must be applied to securitisation exposures that are rated, or where a rating can be inferred as described in paragraph 109. Where an external or an inferred rating is not available, either the Supervisory Formula (SF) or the Internal Assessment Approach (IAA) must be applied. The IAA is only available to exposures (e.g. liquidity facilities and credit enhancements) that banks (including third-party banks) extend to ABCP programmes. Such exposures must satisfy the conditions of paragraphs 111 and 112. For liquidity facilities to which none of these approaches can be applied, banks may apply the treatment specified in paragraph 130. Exceptional treatment for eligible servicer cash advance facilities is specified in paragraph 132. Securitisation exposures to which none of these approaches can be applied must be risk weighted at 1250%. [BCBS June 2006 par 609]

(iii) Maximum capital requirement

102. For a bank using the IRB approach to securitisation, the maximum capital requirement for the securitisation exposures it holds is equal to the IRB capital requirement that would have been assessed against the underlying exposures had they not been securitised and treated under the appropriate sections of the IRB framework as set out in Chapter 6 – Credit Risk – Internal Ratings Based Approach, including section 6.7. In addition, banks must deduct the entire amount of any gain-on-sale and risk weight the credit enhancing I/Os arising from the securitisation transaction in accordance with paragraphs 0 to 47. [BCBS June 2006 par 610]

(iv) Ratings-Based Approach (RBA)

103. Under the RBA, the risk-weighted assets are determined by multiplying the amount of the exposure by the appropriate risk weights, provided in the tables below. [BCBS June 2006 par 611]

104. The risk weights depend on (i) the external rating grade or an available inferred rating, (ii) whether the credit rating (external or inferred) represents a long-term or a short-term credit rating, (iii) the granularity of the underlying pool and (iv) the seniority of the position. [BCBS June 2006 par 612]

105. For purposes of the RBA, a securitisation exposure is treated as a senior tranche if it is effectively backed or secured by a first claim on the entire amount of the assets in the underlying securitised pool. While this generally includes only the most senior position within a

securitisation transaction, in some instances there may be some other claim 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 subject to the "senior tranches" column.

Examples:

(a) In a typical synthetic securitisation, the "super-senior" tranche would be treated as a senior tranche, provided that all of the conditions for inferring a rating from a lower tranche are fulfilled.

(b) In a traditional securitisation where all tranches above the first-loss piece are rated, the most highly rated position would be treated as a senior tranche. However, when there are several tranches that share the same rating, only the most senior one in the waterfall would be treated as senior.

(c) 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 over-collateralisation/reserves provided by the seller and as being most senior only if it is sized to cover all of the outstanding commercial paper and other senior debt supported by the pool, so that no cash flows from the underlying pool could be transferred to other creditors until any liquidity draws were repaid in full. In such a case, the RBA risk weights in the left-most column can be used. 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, then the "Base risk weights" column is applicable.

[BCBS June 2006 par 613]

Senior resecuritisation exposures are defined as resecuritisation exposures satisfying the following two conditions: (a) the exposure is a senior position, and (b) none of the underlying exposures are themselves resecuritisation exposures.

[BCBS July 2009]

106. The risk weights provided in the first table below apply when the external assessment represents a long-term credit rating, as well as when an inferred rating based on a long-term rating is available. [BCBS June 2006 par 614]

107. Banks may apply the risk weights for senior positions if the effective number of underlying exposures (N, as defined in paragraph 125) is 6 or more and the position is senior as defined above. When N is less than 6, the risk weights in column 4 of the first table below apply. In all other cases, the risk weights in column 3 of the first table below apply. [BCBS June 2006 par 615]

RBA risk weights when the external assessment represents a long-term credit rating and/or an inferred rating derived from a long-term assessment

	Securitisation Exposures			Resecuritisation Exposures	
External Rating (Illustrative)	**Risk weights for senior positions and eligible senior IAA exposures**	**Base risk weights**	**Risk weights for tranches backed by non-granular pools**	**Senior**	**Non-senior**
AAA	7%	12%	20%	20%	30%
AA	8%	15%	25%	25%	40%
A+	10%	18%	35%	35%	50%
A	12%	20%		40%	65%
A-	20%	35%		60%	100%
BBB+	35%	50%		100%	150%
BBB	60%	75%		150%	225%
BBB-	100%			200%	350%
BB+	250%			300%	500%
BB	425%			500%	650%
BB-	650%			750%	850%
Below BB- and unrated	1250%				

108. The risk weights in the table below apply when the external assessment represents a short-term credit rating, as well as when an inferred rating based on a short-term rating is available. The decision rules outlined in paragraph 107 also apply for short-term credit ratings. [BCBS June 2006 par 616]

RBA risk weights when the external assessment represents a short-term credit rating and/or an inferred rating derived from a short-term assessment

	Securitisation Exposures			Resecuritisation Exposures	
External Rating (Illustrative)	**Risk weights for senior positions and eligible senior IAA exposures**	**Base risk weights**	**Risk weights for tranches backed by non-granular pools**	**Senior**	**Non-senior**
A-1/P-1	7%	12%	20%	20%	30%
A-2/P-2	12%	20%	35%	40%	65%
A-3/P-3	60%	75%	75%	150%	225%
All other ratings/unrated	1250%				

Use of inferred ratings

109. When the following minimum operational requirements are satisfied a bank must attribute an inferred rating to an unrated position. These requirements are intended to ensure that the unrated position is senior in all respects to an externally rated securitisation exposure termed the 'reference securitisation exposure'. [BCBS June 2006 par 617]

Operational requirements for inferred ratings

110. The following operational requirements must be satisfied to recognise inferred ratings.

(a) The reference securitisation exposure (e.g. ABS) must be subordinate in all respects to the unrated securitisation exposure. Credit enhancements, if any, must be taken into account when assessing the relative subordination of the unrated exposure and the reference securitisation exposure. For example, if the reference securitisation exposure benefits from any third-party guarantees or other credit enhancements that are not available to the unrated exposure, then the latter may not be assigned an inferred rating based on the reference securitisation exposure.

(b) The maturity of the reference securitisation exposure must be equal to or longer than that of the unrated exposure.

(c) On an ongoing basis, any inferred rating must be updated continuously to reflect any changes in the external rating of the reference securitisation exposure.

(d) The external rating of the reference securitisation exposure must satisfy the general requirements for recognition of external ratings as delineated in paragraph 49.

[BCBS June 2006 par 618]

(v) Internal Assessment Approach (IAA)

111. A bank may use its internal assessments of the credit quality of the securitisation exposures the bank extends to ABCP programmes (e.g. liquidity facilities and credit enhancements) if the bank's internal assessment process meets the operational requirements 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 RBA for purposes of assigning the notional amounts of the exposures. [BCBS June 2006 par 619]

112. 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.

(a) For the unrated exposure to qualify for the IAA, the ABCP must be externally rated. The ABCP itself is subject to the RBA.

(b) The internal assessment of the credit quality of a securitisation exposure to the ABCP programme must be based on an 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.

(c) In order for banks to use the IAA, their supervisors must be satisfied (i) that the ECAI meets the ECAI eligibility criteria outlined in Chapter 3 – Credit Risk – Standardized Approach, section 3.6 and (ii) with the ECAI rating methodologies used in the process. In addition, banks have the responsibility to demonstrate to the satisfaction of their supervisors how these internal assessments correspond with the relevant ECAI's standards.

For instance, when calculating the credit enhancement level in the context of the IAA, supervisors may, if warranted, disallow on a full or partial basis any seller-provided recourse guarantees or excess spread, or any other first loss credit enhancements that provide limited protection to the bank.

(d) The bank's internal assessment process must identify gradations of risk. Internal assessments must correspond to the external ratings of ECAIs so that supervisors can determine which internal assessment corresponds to each external rating category of the ECAIs.

(e) 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 ratings methodologies in developing their internal assessments.

- In the case where (i) the commercial paper issued by an ABCP programme is externally rated by two or more ECAIs and (ii) the different ECAIs' benchmark stress factors require different levels of credit enhancement to achieve the same external rating equivalent, the bank must apply the ECAI stress factor that requires the most conservative or highest level of credit protection. For example, if one ECAI required enhancement of 2.5 to 3.5 times historical losses for an asset type to obtain a single A rating equivalent and another required 2 to 3 times historical losses, the bank must use the higher range of stress factors in determining the appropriate level of seller-provided credit enhancement.
- 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.
- A bank cannot utilise an ECAI's rating methodology to derive an internal assessment if the ECAI's process or rating criteria is 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.

- In general, if the ECAI rating methodologies for an asset or exposure are not publicly available, then the IAA may not be used. However, in certain instances, for example, for new or uniquely structured transactions, which are not currently addressed by the rating criteria of an ECAI rating the programme's commercial paper, a bank may discuss the specific transaction with its supervisor to determine whether the IAA may be applied to the related exposures.

(f) 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.

(g) 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.

(h) 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.

(i) 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.

(j) The ABCP programme's underwriting policy must establish minimum asset eligibility criteria that, among other things,

- exclude the purchase of assets that are significantly past due or defaulted;
- limit excess concentration to individual obligor or geographic area; and
- limit the tenor of the assets to be purchased.

(k) The ABCP programme should have collections 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 co-mingling of funds and impose lockbox arrangements that would help ensure the continuity of payments to the ABCP programme.

(l) 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, identify any concentrations to an individual obligor or geographic region, and the granularity of the asset pool.

(m) 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.

[BCBS June 2006 par 620]

113. The notional amount of the securitisation exposure to the ABCP programme must be assigned to the risk weight in the RBA appropriate to the credit rating equivalent assigned to the bank's exposure. [BCBS June 2006 par 621]

114. If a bank's internal assessment process is no longer considered adequate, the bank's supervisor may preclude the bank from applying the internal assessment approach 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 SF or, if not available, to the method described in paragraph 130. [BCBS June 2006 par 622]

(vi) Supervisory Formula (SF)

115. As in the IRB approaches, risk-weighted assets generated through the use of the SF are calculated by multiplying the capital charge by 12.5. Under the SF, the capital charge for a securitisation tranche depends on five bank-supplied inputs: the IRB capital charge had the underlying exposures not been securitised (K_{IRB}); the tranche's credit enhancement level (L) and thickness (T); the pool's effective number of exposures (N); and the pool's exposure-weighted average loss-given-default (LGD). The inputs K_{IRB}, L, T and N are defined below. The capital charge is calculated as follows:

(1) *Tranche's IRB capital charge* = the amount of exposures that have been securitised *times* the greater of (a) 0.0056 x T, or (b) (S [L+T] – S [L]),

where the function S[.] (termed the 'Supervisory Formula') is defined in the following paragraph. When the bank holds only a proportional interest in the tranche, that position's capital charge equals the prorated share of the capital charge for the entire tranche.

For resecuritisation exposures (a) above would equal 0.0160 x T based on lowest risk weight of 20% divided by 12.5.

[BCBS June 2006 par 623, BCBS July 2009]

116. The Supervisory Formula is given by the following expression:

$$(2)\ S[L] = \begin{cases} L & \text{when } L \le K_{IRB} \\ K_{IRB} + K[L] - K[K_{IRB}] + (d \cdot K_{IRB} / \omega)(1 - e^{\omega(K_{IRB} - L)/K_{IRB}}) & \text{when } K_{IRB} < L \end{cases}$$

where

$$\begin{aligned} h &= (1 - K_{IRB} / LGD)^N \\ c &= K_{IRB} / (1 - h) \\ v &= \frac{(LGD - K_{IRB}) K_{IRB} + 0.25(1 - LGD) K_{IRB}}{N} \\ f &= \left(\frac{v + K_{IRB}^{\ 2}}{1 - h} - c^2 \right) + \frac{(1 - K_{IRB}) K_{IRB} - v}{(1 - h)\tau} \\ g &= \frac{(1 - c)c}{f} - 1 \\ a &= g \cdot c \\ b &= g \cdot (1 - c) \\ d &= 1 - (1 - h) \cdot (1 - Beta[K_{IRB}; a, b]) \\ K[L] &= (1 - h) \cdot ((1 - Beta[L; a, b])L + Beta[L; a + 1, b]c). \end{aligned}$$

[BCBS June 2006 par 624]

117. In these expressions, Beta [L; a, b] refers to the cumulative beta distribution with parameters a and b evaluated at L.[11] [BCBS June 2006 par 625]

118. The supervisory-determined parameters in the above expressions are as follows:

τ = 1000, and ω = 20

[BCBS June 2006 par 626]

Definition of K_{IRB}

119. K_{IRB} is the ratio of (a) the IRB capital requirement including the EL portion for the underlying exposures in the pool to (b) the exposure amount of the pool (e.g. the sum of drawn amounts related to securitised exposures plus the EAD associated with undrawn commitments related to securitised exposures). Quantity (a) above must be calculated in accordance with the applicable minimum IRB standards (as set out in Chapter 6 – Credit Risk – Internal Ratings Based Approach of this guideline) 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

[11] The cumulative beta distribution function is available, for example, in Excel as the function BETADIST.

securitisation exposures. K_{IRB} is expressed in decimal form (e.g. a capital charge equal to 15% of the pool would be expressed as 0.15). For structures involving an SPE, all the assets of the SPE that are related to the securitisations are to be treated as exposures in the pool, including assets in which the SPE may have invested a reserve account, such as a cash collateral account. [BCBS June 2006 par 627]

120. If the risk weight resulting from the SF is 1250%, banks must risk weight the securitisation exposure accordingly and in accordance with paragraphs 0 to 47. [BCBS June 2006 par 628]

121. In cases where a bank has set aside a specific allowances or has a non-refundable purchase price discount on an exposure in the pool, quantity (a) defined above and quantity (b) also defined above must be calculated using the gross amount of the exposure without the specific allowance and/or non-refundable purchase price discount. In this case, the amount of the non-refundable purchase price discount on a defaulted asset or the specific allowance can be used to reduce the securitisation exposure amount to which the 1250% risk weight is to be applied. [BCBS June 2006 par 629 and BCBS June 2011 par 90]

Credit enhancement level (L)

122. L is measured (in decimal form) as the ratio of (a) the amount of all securitisation exposures subordinate to the tranche in question to (b) the amount of exposures in the pool. Banks will be required to determine L before considering the effects of any tranche-specific credit enhancements, such as third-party guarantees that benefit only a single tranche. Any gain-on-sale and/or credit enhancing I/Os associated with the securitisation are not to be included in the measurement of L. The size of interest rate or currency swaps that are more junior than the tranche in question may be measured at their current values (without the potential future exposures) in calculating the enhancement level. If the current value of the instrument cannot be measured, the instrument should be ignored in the calculation of L. [BCBS June 2006 par 630]

123. If there is any reserve account funded by accumulated cash flows from the underlying exposures that is more junior than the tranche in question, this can be included in the calculation of L. Unfunded reserve accounts may not be included if they are to be funded from future receipts from the underlying exposures. [BCBS June 2006 par 631]

Thickness of exposure (T)

124. T is measured as the ratio of (a) the nominal size of the tranche of interest to (b) the notional amount of exposures in the pool. In the case of an exposure arising from an interest rate or currency swap, the bank must incorporate potential future exposure. If the current value of the instrument is non-negative, the exposure size should be measured by the current value plus the add-on as in the section 4.1.6.1 of Chapter 4 of the CAR guideline. If the current value is negative, the exposure should be measured by using the potential future exposure only. [BCBS June 2006 par 632]

Effective number of exposures (N)

125. The effective number of exposures is calculated as:

(3) $$N = \frac{(\sum_i EAD_i)^2}{\sum_i EAD_i^2}$$

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). In the case of re-securitisation (securitisation of securitisation exposures), the formula applies to the number of securitisation exposures in the pool and not the number of underlying exposures in the original pools. If the portfolio share associated with the largest exposure, C_1, is available, the bank may compute N as $1/C_1$. [BCBS June 2006 par 633]

Exposure-weighted average LGD

126. The exposure-weighted average LGD is calculated as follows:

(4) $$LGD = \frac{\sum_i LGD_i \cdot EAD_i}{\sum_i EAD_i}$$

where LGD_i represents the average LGD associated with all exposures to the i^{th} obligor. In the case of re-securitisation, an LGD of 100% must be assumed for the underlying securitised exposures. When default and dilution risks for purchased receivables are treated in an aggregate manner (e.g. a single reserve or over-collateralisation is available to cover losses from either source) within a securitisation, the LGD input must be constructed as a weighted-average of the LGD for default risk and the 100% LGD for dilution risk. The weights are the stand-alone IRB capital charges for default risk and dilution risk, respectively. [BCBS June 2006 par 634]

Simplified method for computing N and LGD

127. For securitisations involving retail exposures, subject to supervisory review, the SF may be implemented using the simplifications: $h = 0$ and $v = 0$ [BCBS June 2006 par 635]

128. Under the conditions provided 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.

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 SF, the bank may set LGD=0.50 and N equal to the following amount.

(5) $$N = \left(C_1 C_m + \left(\frac{C_m - C_1}{m-1} \right) \max\{1 - m C_1, 0\} \right)^{-1}$$

Alternatively, if only C_1 is available and this amount is no more than 0.03, then the bank may set LGD=0.50 and N=1/ C_1.[BCBS June 2006 par 636]

(vii) Liquidity facilities

129. Liquidity facilities are treated as any other securitisation exposure and receive a CCF of 100% unless specified differently in paragraphs 130 to 132. If the facility is externally rated, the bank may rely on the external rating under the RBA. If the facility is not rated and an inferred rating is not available, the bank must apply the SF, unless the IAA can be applied. [BCBS June 2006 par 637]

130. When it is not practical for the bank to use either the bottom-up approach or the top-down approach for calculating K_{IRB}, the bank may, on an exceptional basis and subject to supervisory consent, temporarily be allowed to apply the following method. If the liquidity facility meets the definition in paragraph 67, the highest risk weight assigned under the standardised approach to any of the underlying individual exposures covered by the liquidity facility can be applied to the liquidity facility. If the liquidity facility meets the definition in paragraph 67, the CCF must be 100%. In all other cases, the notional amount of the liquidity facility must be risk weighted at 1250%. [BCBS June 2006 par 639 and BCBS July 2009]

(viii) Treatment of overlapping exposures

131. Overlapping exposures are treated as described in paragraph 69. [BCBS June 2006 par 640]

(ix) Eligible servicer cash advance facilities

132. Eligible servicer cash advance facilities are treated as specified in paragraph 71. [BCBS June 2006 par 641]

(x) Treatment of credit risk mitigation for securitisation exposures

133. As with the RBA, banks are required to apply the CRM techniques as specified in the foundation IRB approach of Chapter 5 - Credit Risk Mitigation when applying the SF. The bank may reduce the capital charge proportionally when the credit risk mitigant covers first losses or losses on a proportional basis. For all other cases, the bank must assume that the credit risk mitigant covers the most senior portion of the securitisation exposure (i.e. that the most junior portion of the securitisation exposure is uncovered). Examples for recognising collateral and guarantees under the SF are provided in Appendix 7-1. [BCBS June 2006 par 642]

(xi) Capital requirement for early amortisation provisions

134. An originating bank must use the methodology and treatment described in paragraphs 82 to 97 for determining if any capital must be held against the investors' interest. For banks using the IRB approach to securitisation, investors' interest is defined as investors' drawn balances related to securitisation exposures and EAD associated with investors' undrawn lines related to securitisation exposures. For determining the EAD, the undrawn balances of securitised exposures would be allocated between the seller's and investors' interests on a pro rata basis, based on the proportions of the seller's and investors' shares of the securitised drawn balances. For IRB purposes, the capital charge attributed to the investors' interest is determined by the product of (a) the investors' interest, (b) the appropriate CCF, and (c) K_{IRB}. [BCBS June 2006 par 643]

Appendix 7-1 - Illustrative Examples: Calculating the Effect of Credit Risk Mitigation under Supervisory Formula

[BCBS June 2006 Annex 7]

Some examples are provided below for determining how collateral and guarantees are to be recognised under the SF.

Illustrative Example Involving Collateral ─ proportional cover

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

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

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

Where (based on the information provided above):

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

E = current value of the exposure (€100)

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

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

Hc = haircut appropriate to the collateral (0)

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

Step 2: Capital requirement = (E* / E) x SF capital requirement

Where (based on the information provide above):

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

Illustrative Example Involving a Guarantee ─ proportional cover

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

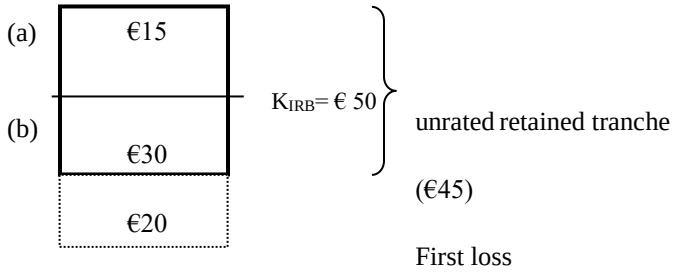
- The protected portion of the securitisation exposure (€80) is to receive the risk weight of the protection provider. The risk weight for the protection provider is equivalent to that for an unsecured loan to the guarantor bank, as determined under the IRB approach. Assume that this risk weight is 10%. Then, the capital charge on the protected portion would be: €80 x 10% x 0.08= €0.64.
- The capital charge for the unprotected portion (€20) is derived by multiplying the capital charge on the securitisation exposure by the share of the unprotected portion to the exposure amount. The share of the unprotected portion is: €20 / €100 = 20%. Thus, the capital requirement will be: €1.6 x 20% = €0.32.

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

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

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

Assume an originating bank that securitises a pool of loans of €1000. The K_{IRB} of this underlying pool is 5% (capital charge of €50). There is a first loss position of €20. The originator retains only the second most junior tranche: an unrated tranche of €45. We can summarise the situation as follows:



1. Capital charge without collateral or guarantees

According to this example, the capital charge for the unrated retained tranche that is straddling the K_{IRB} line is the sum of the capital requirements for tranches (a) and (b) in the graph above:

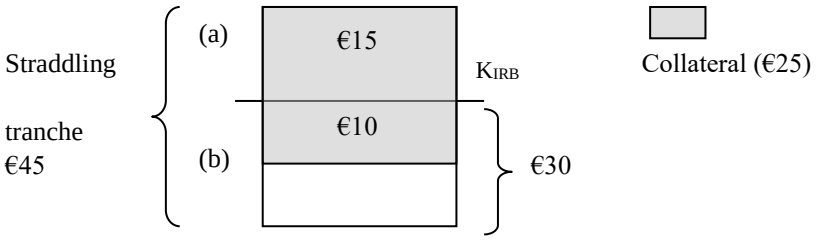
(a) Assume the SF risk weight for this subtranche is 820%. Thus, risk-weighted assets are €15 x 820% = €123. Capital charge is €123 x 8%= €9.84

(b) The subtranche below K_{IRB} must be risk-weighted at 1250%. Risk-weighted assets: €30 x1250% = €375. Capital charge of €375 x 8% = €30

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

2. Capital charge with collateral

Assume now that the originating bank has received €25 of collateral in the form of cash that is denominated in the same currency as the securitisation exposure. Because the tranche is straddling the K_{IRB} level, we must assume that the collateral is covering the most senior subtranche above K_{IRB} ((a) subtranche covered by €15 of collateral) and, only if there is some collateral left, the coverage must be applied to the subtranche below K_{IRB} beginning with the most senior portion (e.g. tranche (b) covered by €10 of collateral). Thus, we have:



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

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

Step 1: Adjusted Exposure Amount

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

Where:

E* = the exposure value after risk mitigation (€0)

E = current value of the exposure (€15)

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

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

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

Step 2: Capital requirement = (E* / E) x SF capital requirement

Capital requirement = 0 x €9.84 = €0

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

Step1: Adjusted Exposure Amount

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

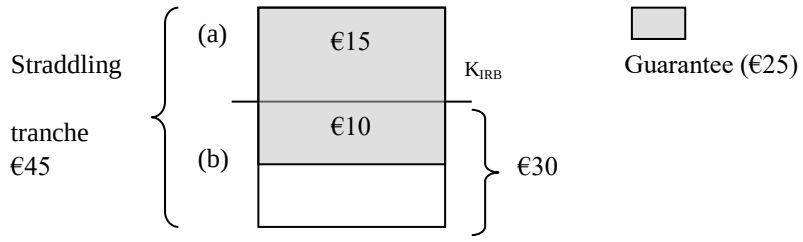
Step 2: Capital requirement = (E* / E) x SF capital requirement

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

Finally, the total capital charge for the unrated straddling tranche = €0 + €20 = €20

3. Guarantee

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



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

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

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

(b) The second subtranche has an initial exposure of €30 and guarantee of €10 which must be applied to the most senior portion of this subtranche. Accordingly, the protected part is €10 and the unprotected part is €20.

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

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

The capital charge for the unprotected portion (for an unrated position below K_{IRB}) is €20 x 1250% x 8%= €20

Total capital charge for the unrated straddling tranche = €0.24 (protected portion, above K_{IRB}) + €0.16 (protected portion, below K_{IRB}) + €20 (unprotected portion, below K_{IRB}) = €20.40

Appendix 7-2 - Pillar 2 Considerations

OSFI Notes

1. Some of the items identified in the supervisory review process for securitization are sufficiently detailed that they may be addressed by a set of operational requirements or a specific capital treatment. For this reason, the Pillar 2 requirements for securitization set out in the Basel II framework are included in Chapter 7. Institutions are encouraged to consider both Pillar 1 and Pillar 2 requirements when undertaking securitization transactions.

2. The Supplemental Pillar 2 Guidance included in the July 2009 Basel Enhancements guidance covers a wide range of risk management policies and practices. OSFI has appended the key topics specifically related to structured credit products at the end of this section.

Supervisory review process for securitisation

3. Further to the Pillar 1 principle that banks should take account of the economic substance of transactions in their determination of capital adequacy, supervisory authorities will monitor, as appropriate, whether banks have done so adequately. As a result, regulatory capital treatments for specific securitisation exposures might differ from those specified in Pillar 1 of the Framework, particularly in instances where the general capital requirement would not adequately and sufficiently reflect the risks to which an individual banking organisation is exposed. [BCBS June 2006 par 784]

4. Amongst other things, supervisory authorities may review where relevant a bank's own assessment of its capital needs and how that has been reflected in the capital calculation as well as the documentation of certain transactions to determine whether the capital requirements accord with the risk profile (e.g. substitution clauses). Supervisors will also review the manner in which banks have addressed the issue of maturity mismatch in relation to retained positions in their economic capital calculations. In particular, they will be vigilant in monitoring for the structuring of maturity mismatches in transactions to artificially reduce capital requirements. Additionally, supervisors may review the bank's economic capital assessment of actual correlation between assets in the pool and how they have reflected that in the calculation. Where supervisors consider that a bank's approach is not adequate, they will take appropriate action. Such action might include denying or reducing capital relief in the case of originated assets, or increasing the capital required against securitisation exposures acquired. [BCBS June 2006 par 785]

Significance of risk transfer

5. Securitisation transactions may be carried out for purposes other than credit risk transfer (e.g. funding). Where this is the case, there might still be a limited transfer of credit risk. However, for an originating bank to achieve reductions in capital requirements, the risk transfer arising from a securitisation has to be deemed significant by the national supervisory authority. If the risk transfer is considered to be insufficient or non-existent, the supervisory authority can require the application of a higher capital requirement than prescribed under Pillar 1 or,

alternatively, may deny a bank from obtaining any capital relief from the securitisations. Therefore, the capital relief that can be achieved will correspond to the amount of credit risk that is effectively transferred. The following includes a set of examples where supervisors may have concerns about the degree of risk transfer, such as retaining or repurchasing significant amounts of risk or "cherry picking" the exposures to be transferred via a securitisation. [BCBS June 2006 par 786]

6. Retaining or repurchasing significant securitisation exposures, depending on the proportion of risk held by the originator, might undermine the intent of a securitisation to transfer credit risk. Specifically, supervisory authorities might expect that a significant portion of the credit risk and of the nominal value of the pool be transferred to at least one independent third party at inception and on an ongoing basis. Where banks repurchase risk for market making purposes, supervisors could find it appropriate for an originator to buy part of a transaction but not, for example, to repurchase a whole tranche. Supervisors would expect that where positions have been bought for market making purposes, these positions should be resold within an appropriate period, thereby remaining true to the initial intention to transfer risk. [BCBS June 2006 par 787]

7. Another implication of realising only a non-significant risk transfer, especially if related to good quality unrated exposures, is that both the poorer quality unrated assets and most of the credit risk embedded in the exposures underlying the securitised transaction are likely to remain with the originator. Accordingly, and depending on the outcome of the supervisory review process, the supervisory authority may increase the capital requirement for particular exposures or even increase the overall level of capital the bank is required to hold. [BCBS June 2006 par 788]

Market innovations

8. As the minimum capital requirements for securitisation may not be able to address all potential issues, supervisory authorities are expected to consider new features of securitisation transactions as they arise. Such assessments would include reviewing the impact new features may have on credit risk transfer and, where appropriate, supervisors will be expected to take appropriate action under Pillar 2. A Pillar 1 response may be formulated to take account of market innovations. Such a response may take the form of a set of operational requirements and/or a specific capital treatment. [BCBS June 2006 par 789]

Provision of implicit support

9. Support to a transaction, whether contractual (i.e. credit enhancements provided at the inception of a securitised transaction) or non-contractual (implicit support) can take numerous forms. For instance, contractual support can include over collateralisation, credit derivatives, spread accounts, contractual recourse obligations, subordinated notes, credit risk mitigants provided to a specific tranche, the subordination of fee or interest income or the deferral of margin income, and clean-up calls that exceed 10 percent of the initial issuance. Examples of implicit support include the purchase of deteriorating credit risk exposures from the underlying pool, the sale of discounted credit risk exposures into the pool of securitised credit risk exposures, the purchase of underlying exposures at above market price or an increase in the first

loss position according to the deterioration of the underlying exposures. [BCBS June 2006 par 790]

10. The provision of implicit (or non-contractual) support, as opposed to contractual credit support (i.e. credit enhancements), raises significant supervisory concerns. For traditional securitisation structures the provision of implicit support undermines the clean break criteria, which when satisfied would allow banks to exclude the securitised assets from regulatory capital calculations. For synthetic securitisation structures, it negates the significance of risk transference. By providing implicit support, banks signal to the market that the risk is still with the bank and has not in effect been transferred. The institution's capital calculation therefore understates the true risk. Accordingly, national supervisors are expected to take appropriate action when a banking organisation provides implicit support. [BCBS June 2006 par 791]

11. When a bank has been found to provide implicit support to a securitisation, it will be required to hold capital against all of the underlying exposures associated with the structure as if they had not been securitised. It will also be required to disclose publicly that it was found to have provided non-contractual support, as well as the resulting increase in the capital charge (as noted above). The aim is to require banks to hold capital against exposures for which they assume the credit risk, and to discourage them from providing non-contractual support. [BCBS June 2006 par 792]

12. If a bank is found to have provided implicit support on more than one occasion, the bank is required to disclose its transgression publicly and national supervisors will take appropriate action that may include, but is not limited to, one or more of the following:

- The bank may be prevented from gaining favourable capital treatment on securitised assets for a period of time to be determined by the national supervisor;
- The bank may be required to hold capital against all securitised assets as though the bank had created a commitment to them, by applying a conversion factor to the risk weight of the underlying assets;
- For purposes of capital calculations, the bank may be required to treat all securitised assets as if they remained on the balance sheet;
- The bank may be required by its national supervisory authority to hold regulatory capital in excess of the minimum risk-based capital ratios.

[BCBS June 2006 par 793]

13. Supervisors will be vigilant in determining implicit support and will take appropriate supervisory action to mitigate the effects. Pending any investigation, the bank may be prohibited from any capital relief for planned securitisation transactions (moratorium). National supervisory response will be aimed at changing the bank's behaviour with regard to the provision of implicit support, and to correct market perception as to the willingness of the bank to provide future recourse beyond contractual obligations. [BCBS June 2006 par 794]

Residual risks

14. As with credit risk mitigation techniques more generally, supervisors will review the appropriateness of banks' approaches to the recognition of credit protection. In particular, with regard to securitisations, supervisors will review the appropriateness of protection recognised against first loss credit enhancements. On these positions, expected loss is less likely to be a significant element of the risk and is likely to be retained by the protection buyer through the pricing. Therefore, supervisors will expect banks' policies to take account of this in determining their economic capital. Where supervisors do not consider the approach to protection recognised is adequate, they will take appropriate action. Such action may include increasing the capital requirement against a particular transaction or class of transactions. [BCBS June 2006 par 795]

Call provisions

15. Supervisors expect a bank not to make use of clauses that entitles it to call the securitisation transaction or the coverage of credit protection prematurely if this would increase the bank's exposure to losses or deterioration in the credit quality of the underlying exposures. [BCBS June 2006 par 796]

16. Besides the general principle stated above, supervisors expect banks to only execute clean-up calls for economic business purposes, such as when the cost of servicing the outstanding credit exposures exceeds the benefits of servicing the underlying credit exposures. [BCBS June 2006 par 797]

17. Subject to national discretion, supervisory authorities may require a review prior to the bank exercising a call which can be expected to include consideration of:

- The rationale for the bank's decision to exercise the call; and
- The impact of the exercise of the call on the bank's regulatory capital ratio.

[BCBS June 2006 par 798]

18. The supervisory authority may also require the bank to enter into a follow-up transaction, if necessary, depending on the bank's overall risk profile, and existing market conditions. [BCBS June 2006 par 799]

19. Date related calls should be set at a date no earlier than the duration or the weighted average life of the underlying securitisation exposures. Accordingly, supervisory authorities may require a minimum period to elapse before the first possible call date can be set, given, for instance, the existence of up-front sunk costs of a capital market securitisation transaction. [BCBS June 2006 par 800]

Early amortisation

20. Supervisors should review how banks internally measure, monitor, and manage risks associated with securitisations of revolving credit facilities, including an assessment of the risk and likelihood of early amortisation of such transactions. At a minimum, supervisors should

ensure that banks have implemented reasonable methods for allocating economic capital against the economic substance of the credit risk arising from revolving securitisations and should expect banks to have adequate capital and liquidity contingency plans that evaluate the probability of an early amortisation occurring and address the implications of both scheduled and early amortisation. In addition, the capital contingency plan should address the possibility that the bank will face higher levels of required capital under the early amortisation Pillar 1 capital requirement. [BCBS June 2006 par 801]

21. Because most early amortisation triggers are tied to excess spread levels, the factors affecting these levels should be well understood, monitored, and managed, to the extent possible (see Appendix 7-2 paragraphs 9 to 13 on implicit support), by the originating bank. For example, the following factors affecting excess spread should generally be considered:

- Interest payments made by borrowers on the underlying receivable balances;
- Other fees and charges to be paid by the underlying obligors (e.g. late-payment fees, cash advance fees, over-limit fees);
- Gross charge-offs;
- Principal payments;
- Recoveries on charged-off loans;
- Interchange income;
- Interest paid on investors' certificates;
- Macroeconomic factors such as bankruptcy rates, interest rate movements, unemployment rates; etc.

[BCBS June 2006 par 802]

22. Banks should consider the effects that changes in portfolio management or business strategies may have on the levels of excess spread and on the likelihood of an early amortisation event. For example, marketing strategies or underwriting changes that result in lower finance charges or higher charge-offs, might also lower excess spread levels and increase the likelihood of an early amortisation event. [BCBS June 2006 par 803]

23. Banks should use techniques such as static pool cash collections analyses and stress tests to better understand pool performance. These techniques can highlight adverse trends or potential adverse impacts. Banks should have policies in place to respond promptly to adverse or unanticipated changes. Supervisors will take appropriate action where they do not consider these policies adequate. Such action may include, but is not limited to, directing a bank to obtain a dedicated liquidity line or raising the early amortisation credit conversion factor, thus, increasing the bank's capital requirements. [BCBS June 2006 par 804]

24. While the early amortisation capital charge described in Pillar 1 is meant to address potential supervisory concerns associated with an early amortisation event, such as the inability of excess spread to cover potential losses, the policies and monitoring described in this section recognise that a given level of excess spread is not, by itself, a perfect proxy for credit performance of the underlying pool of exposures. In some circumstances, for example, excess

spread levels may decline so rapidly as to not provide a timely indicator of underlying credit deterioration. Further, excess spread levels may reside far above trigger levels, but still exhibit a high degree of volatility which could warrant supervisory attention. In addition, excess spread levels can fluctuate for reasons unrelated to underlying credit risk, such as a mismatch in the rate at which finance charges reprice relative to investor certificate rates. Routine fluctuations of excess spread might not generate supervisory concerns, even when they result in different capital requirements. This is particularly the case as a bank moves in or out of the first step of the early amortisation credit conversion factors. On the other hand, existing excess spread levels may be maintained by adding (or designating) an increasing number of new accounts to the master trust, an action that would tend to mask potential deterioration in a portfolio. For all of these reasons, supervisors will place particular emphasis on internal management, controls, and risk monitoring activities with respect to securitisations with early amortisation features. [BCBS June 2006 par 805]

25. Supervisors expect that the sophistication of a bank's system in monitoring the likelihood and risks of an early amortisation event will be commensurate with the size and complexity of the bank's securitisation activities that involve early amortisation provisions. [BCBS June 2006 par 806]

26. For controlled amortisations specifically, supervisors may also review the process by which a bank determines the minimum amortisation period required to pay down 90% of the outstanding balance at the point of early amortisation. Where a supervisor does not consider this adequate it will take appropriate action, such as increasing the conversion factor associated with a particular transaction or class of transactions. [BCBS June 2006 par 807]

Appendix 7-3 - Supplemental Pillar 2 Guidance

[BCBS July 2009]

Specific risk management topics

A. Risk concentration

1. Unmanaged risk concentrations are an important cause of major problems in banks. A bank should aggregate all similar direct and indirect exposures regardless of where the exposures have been booked. A risk concentration is any single exposure or group of similar exposures (eg to the same borrower or counterparty, including protection providers, geographic area, industry or other risk factors) with the potential to produce (i) losses large enough (relative to a bank's earnings, capital, total assets or overall risk level) to threaten a bank's creditworthiness or ability to maintain its core operations or (ii) a material change in a bank's risk profile. Risk concentrations should be analysed on both a bank legal entity and consolidated basis, as an unmanaged concentration at a subsidiary bank may appear immaterial at the consolidated level, but can nonetheless threaten the viability of the subsidiary organisation. [BCBS July 2009 par 28]

2. Risk concentrations should be viewed in the context of a single or a set of closely related risk-drivers that may have different impacts on a bank. These concentrations should be integrated when assessing a bank's overall risk exposure. A bank should consider concentrations that are based on common or correlated risk factors that reflect more subtle or more situation-specific factors than traditional concentrations, such as correlations between market, credit risks and liquidity risk. [BCBS July 2009 par 29]

3. The growth of market-based intermediation has increased the possibility that different areas of a bank are exposed to a common set of products, risk factors or counterparties. This has created new challenges for risk aggregation and concentration management. Through its risk management processes and MIS, a bank should be able to identify and aggregate similar risk exposures across the firm, including across legal entities, asset types (eg loans, derivatives and structured products), risk areas (eg the trading book) and geographic regions. The typical situations in which risk concentrations can arise include:

- exposures to a single counterparty, borrower or group of connected counterparties or borrowers;
- industry or economic sectors, including exposures to both regulated and non-regulated financial institutions such as hedge funds and private equity firms;
- geographical regions;
- exposures arising from credit risk mitigation techniques, including exposure to similar collateral types or to a single or closely related credit protection provider;
- trading exposures/market risk;
- exposures to counterparties (eg hedge funds and hedge counterparties) through the execution or processing of transactions (either product or service);

- funding sources;
- assets that are held in the banking book or trading book, such as loans, derivatives and structured products; and
- off-balance sheet exposures, including guarantees, liquidity lines and other commitments.

[BCBS July 2009 par 30]

4. Risk concentrations can also arise through a combination of exposures across these broad categories. A bank should have an understanding of its firm-wide risk concentrations resulting from similar exposures across its different business lines. Examples of such business lines include subprime exposure in lending books; counterparty exposures; conduit exposures and SIVs; contractual and non-contractual exposures; trading activities; and underwriting pipelines. [BCBS July 2009 par 31]

5. While risk concentrations often arise due to direct exposures to borrowers and obligors, a bank may also incur a concentration to a particular asset type indirectly through investments backed by such assets (eg collateralised debt obligations – CDOs), as well as exposure to protection providers guaranteeing the performance of the specific asset type (eg monoline insurers). A bank should have in place adequate, systematic procedures for identifying high correlation between the creditworthiness of a protection provider and the obligors of the underlying exposures due to their performance being dependent on common factors beyond systematic risk (i.e. "wrong way risk"). [BCBS July 2009 par 32]

6. Procedures should be in place to communicate risk concentrations to senior management in a manner that clearly indicates where in the organisation each segment of a risk concentration resides. A bank should have credible risk mitigation strategies in place that have senior management approval. This may include altering business strategies, reducing limits or increasing capital buffers in line with the desired risk profile. While it implements risk mitigation strategies, the bank should be aware of possible concentrations that might arise as a result of employing risk mitigation techniques. [BCBS July 2009 par 33]

7. Banks should employ a number of techniques, as appropriate, to measure risk concentrations. These techniques include shocks to various risk factors; use of business level and firm-wide scenarios; and the use of integrated stress testing and economic capital models. Identified concentrations should be measured in a number of ways, including for example consideration of gross versus net exposures, use of notional amounts, and analysis of exposures with and without counterparty hedges. A bank should establish internal position limits for concentrations to which it may be exposed. When conducting periodic stress tests, a bank should incorporate all major risk concentrations and identify and respond to potential changes in market conditions that could adversely impact their performance and capital adequacy. [BCBS July 2009 par 34]

8. The assessment of such risks under a bank's ICAAP and the supervisory review process should not be a mechanical process, but one in which each bank determines, depending on its business model, its own specific vulnerabilities. An appropriate level of capital for risk concentrations should be incorporated in a bank's ICAAP, as well as in Pillar 2 assessments. Each bank should discuss such issues with its supervisor. [BCBS July 2009 par 35]

9. A bank should have in place effective internal policies, systems and controls to identify, measure, monitor, manage, control and mitigate its risk concentrations in a timely manner. Not only should normal market conditions be considered, but also the potential build-up of concentrations under stressed market conditions, economic downturns and periods of general market illiquidity. In addition, the bank should assess scenarios that consider possible concentrations arising from contractual and non-contractual contingent claims. The scenarios should also combine the potential build-up of pipeline exposures together with the loss of market liquidity and a significant decline in asset values. [BCBS July 2009 par 36]

B. Off-balance sheet exposures and securitisation risk

10. Banks' use of securitisation has grown dramatically over the last several years. It has been used as an alternative source of funding and as a mechanism to transfer risk to investors. While the risks associated with securitisation are not new to banks, the recent financial turmoil highlighted unexpected aspects of credit risk, concentration risk, market risk, liquidity risk, legal risk and reputational risk, which banks failed to adequately address. For instance, a number of banks that were not contractually obligated to support sponsored securitisation structures were unwilling to allow those structures to fail due to concerns about reputational risk and future access to capital markets. The support of these structures exposed the banks to additional and unexpected credit, market and liquidity risk as they brought assets onto their balance sheets, which put significant pressure on their financial profile and capital ratios. [BCBS July 2009 par 37]

11. Weaknesses in banks' risk management of securitisation and off-balance sheet exposures resulted in large unexpected losses during the financial crisis. To help mitigate these risks, a bank's on- and off-balance sheet securitisation activities should be included in its risk management disciplines, such as product approval, risk concentration limits, and estimates of market, credit and operational risk. [BCBS July 2009 par 38]

12. In light of the wide range of risks arising from securitisation activities, which can be compounded by rapid innovation in securitisation techniques and instruments, minimum capital requirements calculated under Pillar 1 are often insufficient. All risks arising from securitisation, particularly those that are not fully captured under Pillar 1, should be addressed in a bank's ICAAP. These risks include:

- Credit, market, liquidity and reputational risk of each exposure;
- Potential delinquencies and losses on the underlying securitised exposures;
- Exposures from credit lines or liquidity facilities to special purpose entities; and
- Exposures from guarantees provided by monolines and other third parties.

[BCBS July 2009 par 39]

13. Securitisation exposures should be included in the bank's MIS to help ensure that senior management understands the implications of such exposures for liquidity, earnings, risk concentration and capital. More specifically, a bank should have the necessary processes in place to capture in a timely manner updated information on securitisation transactions including

market data, if available, and updated performance data from the securitisation trustee or servicer. [BCBS July 2009 par 40]

Risk evaluation and management

14. A bank should conduct analyses of the underlying risks when investing in the structured products and must not solely rely on the external credit ratings assigned to securitisation exposures by the CRAs. A bank should be aware that external ratings are a useful starting point for credit analysis, but are no substitute for full and proper understanding of the underlying risk, especially where ratings for certain asset classes have a short history or have been shown to be volatile. Moreover, a bank also should conduct credit analysis of the securitisation exposure at acquisition and on an ongoing basis. It should also have in place the necessary quantitative tools, valuation models and stress tests of sufficient sophistication to reliably assess all relevant risks. [BCBS July 2009 par 41]

15. When assessing securitisation exposures, a bank should ensure that it fully understands the credit quality and risk characteristics of the underlying exposures in structured credit transactions, including any risk concentrations. In addition, a bank should review the maturity of the exposures underlying structured credit transactions relative to the issued liabilities in order to assess potential maturity mismatches. [BCBS July 2009 par 42]

16. A bank should track credit risk in securitisation exposures at the transaction level and across securitisations exposures within each business line and across business lines. It should produce reliable measures of aggregate risk. A bank also should track all meaningful concentrations in securitisation exposures, such as name, product or sector concentrations, and feed this information to firm-wide risk aggregation systems that track, for example, credit exposure to a particular obligor. [BCBS July 2009 par 43]

17. A bank's own assessment of risk needs to be based on a comprehensive understanding of the structure of the securitisation transaction. It should identify the various types of triggers, credit events and other legal provisions that may affect the performance of its on- and off-balance sheet exposures and integrate these triggers and provisions into its funding/liquidity, credit and balance sheet management. The impact of the events or triggers on a bank's liquidity and capital position should also be considered. [BCBS July 2009 par 44]

18. Banks either underestimated or did not anticipate that a market-wide disruption could prevent them from securitising warehoused or pipeline exposures and did not anticipate the effect this could have on liquidity, earnings and capital adequacy. As part of its risk management processes, a bank should consider and, where appropriate, mark-to-market warehoused positions, as well as those in the pipeline, regardless of the probability of securitising the exposures. It should consider scenarios which may prevent it from securitising its assets as part of its stress testing and identify the potential effect of such exposures on its liquidity, earnings and capital adequacy. [BCBS July 2009 par 45]

19. A bank should develop prudent contingency plans specifying how it would respond to funding, capital and other pressures that arise when access to securitisation markets is reduced.

The contingency plans should also address how the bank would address valuation challenges for potentially illiquid positions held for sale or for trading. The risk measures, stress testing results and contingency plans should be incorporated into the bank's risk management processes and its ICAAP, and should result in an appropriate level of capital under Pillar 2 in excess of the minimum requirements. [BCBS July 2009 par 46]

20. A bank that employs risk mitigation techniques should fully understand the risks to be mitigated, the potential effects of that mitigation and whether or not the mitigation is fully effective. This is to help ensure that the bank does not understate the true risk in its assessment of capital. In particular, it should consider whether it would provide support to the securitisation structures in stressed scenarios due to the reliance on securitisation as a funding tool. [BCBS July 2009 par 47]

C. Reputational risk and implicit support

21. Reputational risk can be defined as the risk arising from negative perception on the part of customers, counterparties, shareholders, investors, debt-holders, market analysts or regulators that can adversely affect a bank's ability to maintain existing, or establish new, business relationships and continued access to sources of funding (eg through the interbank or securitisation markets). Reputational risk is multidimensional and reflects the perception of other market participants. Furthermore, it exists throughout the organisation and exposure to reputational risk is essentially a function of the adequacy of the bank's internal risk management processes, as well as the manner and efficiency with which management responds to external influences on bank-related transactions. [BCBS July 2009 par 48]

22. Reputational risk can often lead to the provision of implicit support, which may give rise to credit, liquidity, market and legal risk – all of which can have a negative impact on a bank's earnings, liquidity and capital position. A bank should identify potential sources of reputational risk to which it is exposed. These include the bank's business lines, liabilities, affiliated operations, off-balance sheet vehicles and the markets in which it operates. The risks that arise should be incorporated into the bank's risk management processes and appropriately addressed in its ICAAP and liquidity contingency plans. [BCBS July 2009 par 49]

23. Prior to the 2007 upheaval, many banks failed to recognise the reputational risk associated with their off-balance sheet vehicles. In stressed conditions some firms went beyond their contractual obligations to support their sponsored securitisations and off-balance sheet vehicles. A bank should incorporate the exposures that could give rise to reputational risk into its assessments of whether the requirements under the securitisation framework have been met and the potential adverse impact of providing implicit support. [BCBS July 2009 par 50]

24. Reputational risk may arise, for example, from a bank's sponsorship of securitisation structures such as ABCP conduits and SIVs, as well as from the sale of credit exposures to securitisation trusts. It may also arise from a bank's involvement in asset or funds management, particularly when financial instruments are issued by owned or sponsored entities and are distributed to the customers of the sponsoring bank. In the event that the instruments were not correctly priced or the main risk drivers not adequately disclosed, a sponsor may feel some

responsibility to its customers, or be economically compelled, to cover any losses. Reputational risk also arises when a bank sponsors activities such as money market mutual funds, in-house hedge funds and real estate investment trusts (REITs). In these cases, a bank may decide to support the value of shares/units held by investors even though is not contractually required to provide the support. [BCBS July 2009 par 51]

25. The financial market crisis has provided several examples of banks providing financial support that exceeded their contractual obligations. In order to preserve their reputation, some banks felt compelled to provide liquidity support to their SIVs, which was beyond their contractual obligations. In other cases, banks purchased ABCP issued by vehicles they sponsored in order to maintain market liquidity. As a result, these banks assumed additional liquidity and credit risks, and also put pressure on capital ratios. [BCBS July 2009 par 52]

26. Reputational risk also may affect a bank's liabilities, since market confidence and a bank's ability to fund its business are closely related to its reputation. For instance, to avoid damaging its reputation, a bank may call its liabilities even though this might negatively affect its liquidity profile. This is particularly true for liabilities that are components of regulatory capital, such as hybrid/subordinated debt. In such cases, a bank's capital position is likely to suffer. [BCBS July 2009 par 53]

27. Bank management should have appropriate policies in place to identify sources of reputational risk when entering new markets, products or lines of activities. In addition, a bank's stress testing procedures should take account of reputational risk so management has a firm understanding of the consequences and second round effects of reputational risk. [BCBS July 2009 par 54]

28. Once a bank identifies potential exposures arising from reputational concerns, it should measure the amount of support it might have to provide (including implicit support of securitisations) or losses it might experience under adverse market conditions. In particular, in order to avoid reputational damages and to maintain market confidence, a bank should develop methodologies to measure as precisely as possible the effect of reputational risk in terms of other risk types (eg credit, liquidity, market or operational risk) to which it may be exposed. This could be accomplished by including reputational risk scenarios in regular stress tests. For instance, non-contractual off-balance sheet exposures could be included in the stress tests to determine the effect on a bank's credit, market and liquidity risk profiles. Methodologies also could include comparing the actual amount of exposure carried on the balance sheet versus the maximum exposure amount held off-balance sheet, that is, the potential amount to which the bank could be exposed. [BCBS July 2009 par 55]

29. A bank should pay particular attention to the effects of reputational risk on its overall liquidity position, taking into account both possible increases in the asset side of the balance sheet and possible restrictions on funding, should the loss of reputation result in various counterparties' loss of confidence. [BCBS July 2009 par 56]

30. In contrast to contractual credit exposures, such as guarantees, implicit support is a more subtle form of exposure. Implicit support arises when a bank provides post-sale support to a securitisation transaction in excess of any contractual obligation. Such non-contractual support

exposes a bank to the risk of loss, such as loss arising from deterioration in the credit quality of the securitisation's underlying assets. [BCBS July 2009 par 57]

31. By providing implicit support, a bank signals to the market that all of the risks inherent in the securitised assets are still held by the organisation and, in effect, had not been transferred. Since the risk arising from the potential provision of implicit support is not captured *ex ante* under Pillar 1, it must be considered as part of the Pillar 2 process. In addition, the processes for approving new products or strategic initiatives should consider the potential provision of implicit support and should be incorporated in a bank's ICAAP. [BCBS July 2009 par 58]