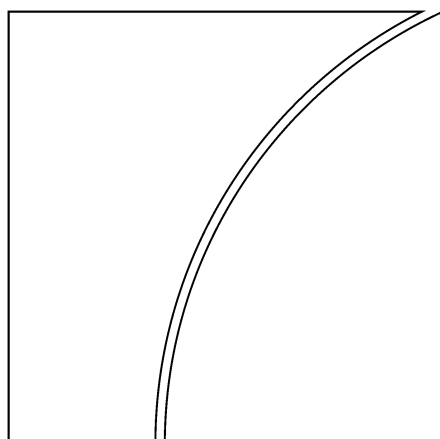


Basel Committee on Banking Supervision



Second Working Paper on Securitisation

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BANK FOR INTERNATIONAL SETTLEMENTS

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Second Working Paper on Securitisation

A. Introduction

1. The current Basel Accord contains very little guidance on the treatment of securitisation transactions. Given the large and rapidly growing securitisation markets, a robust treatment of securitisations is seen as an essential component of the Basel II framework. Without such a treatment, the new Accord would not achieve the objectives set out by the Basel Committee on Banking Supervision (the Committee).

2. The Committee therefore has sought to develop a capital treatment for securitisation exposures. The Committee's first consultative paper (released in June 1999)¹ introduced a securitisation proposal. This original proposal was expanded upon in the Committee's second consultative package (released in January 2001).² Those proposals primarily focused on the standardised treatment to traditional securitisations. Generally, banks were required to assign risk weights to securitisation exposures based on a few observable characteristics, such as the presence of an issue rating. Risk transfer requirements for traditional securitisations were also provided.

3. After consulting with the industry and conducting additional analyses, the Committee released a first Working Paper (WP1) on asset securitisation in October 2001.³ The aim was to issue for consultation an internal ratings-based (IRB) treatment for securitisations⁴ together with treatments of synthetic securitisations, liquidity facilities and securitisations of revolving credit exposures containing early amortisation features. Release of the working paper prompted more dialogue with the industry and further study on the part of the Committee's Securitisation Group. The outcome of these efforts is reflected in Section IV (Credit Risk – Securitisation Framework) of the QIS 3 Technical Guidance. The relevant section of the Technical Guidance is attached to this paper in Annex 3.⁵

4. The purpose of this second Working Paper (WP 2) is to discuss some of the new elements of the securitisation framework, such as improvements made to the IRB treatment, as well as those concerning liquidity facilities and structures containing early amortisation features. They are all aimed at improving the risk-sensitivity of the minimum capital requirements. The Committee is also seeking input on the supervisory review component (pillar 2) of the securitisation framework, the text of which is provided in Annex 4. As with other areas of the New Basel Capital Accord, the Committee is interested in obtaining

¹ "A New Capital Adequacy Framework", Basel Committee on Banking Supervision, June 1999. All documents by the Basel Committee cited in this paper are available on the website of the Bank for International Settlements at: www.bis.org.

² "The New Basel Accord" and "Asset Securitisation: Supporting Document to the New Basel Capital Accord", Basel Committee on Banking Supervision, January 2001.

³ "Working Paper on the Treatment of Asset Securitizations", Basel Committee on Banking Supervision, October 2001.

⁴ As specified in paragraph 558 of Annex 3, the IRB treatment for securitisation is a treatment available (and mandatory) for banks that have received supervisory approval to use the IRB approach for the relevant asset class. This treatment differs from the IRB approach for the relevant asset class in that it is not based on banks' estimates of PDs or LGDs of the individual securitisation exposures.

⁵ "Quantitative Impact Study 3 Technical Guidance", Basel Committee on Banking Supervision, October 2002.

feedback from banking organisations on its proposals for securitisations.⁶ The information collected will play an important role in determining whether further modifications are needed. Such modifications may include refinements to existing proposals or adjustments to the way in which the proposed minimum capital requirements have been calibrated.

B. Scope of the Securitisation Framework

5. In general, the securitisation framework is to apply when the transaction in question involves the stratification or tranching of credit risk. The performance and/or the risk of the tranching exposures would be linked to that of the underlying credits. This may occur when, for example, different classes of asset-backed securities (ABS) are issued to third party investors with each class having a different priority claim on the cash flows from the underlying pool of exposures. Alternatively, stratification of risk may arise through the use of credit risk mitigants, such as credit derivatives and/or guarantees, in the context of synthetic securitisations. More generally, and when determining whether a specific transaction is to be treated as a securitisation for regulatory purposes, banks are expected to look to the economic substance of a transaction rather than its legal form. They are also expected to do so when determining the minimum capital requirements applicable to positions generated by a securitisation.

6. General terminology is used throughout the securitisation framework with emphasis on the risk arising from different exposures. This represents a deliberate shift from the second consultative package where the securitisation proposals were discussed within the context of the role played by a bank, for example, whether it is an originator, an investor or a sponsor of a conduit program. Such a shift was seen as necessary in order to introduce more flexibility and risk-sensitivity into the framework by focusing on the credit risks being transferred and repackaged, as opposed to concentrating on the holder of such risks. In some areas, however, the revised proposals still introduce different capital requirements for originating banks when such a distinction has meaningful implications. For example, originating banks as defined in the QIS 3 Technical Guidance must satisfy a set of minimum operational criteria related to credit risk transference. Where these criteria are met, the originating bank may exclude exposures it has securitised from the calculation of its risk weighted assets or apply the rules for credit risk mitigation techniques. However, the bank would still have to hold regulatory capital against any retained or repurchased securitisation exposures. The general framework for the treatment of securitisation is summarised in Annex 2. The proposals for minimum capital requirements are identical to those provided in the relevant section of the QIS 3 Technical Guidance.

⁶ Any feedback on the securitisation proposals should be sent to the relevant national supervisory authorities and central banks, as well as to the Secretariat of the Basel Committee on Banking Supervision at the Bank for International Settlements, CH-4002 Basel, Switzerland, by 20 December 2002. Such feedback may be submitted via e-mail: BCBS.capital@bis.org or by fax: +41 61 280 9100. Please use this e-mail address only for providing written submissions and not for correspondence. Such submissions will not be posted to the BIS website.

C. Internal Ratings-based (IRB) Treatment

7. The IRB treatment of securitisations is one of the areas where modifications have been made. As outlined in WP1, the Committee has ruled out the possibility of allowing banks to rely on their own assessments of the credit risk of securitisation exposures (e.g. asset-backed securities) for regulatory capital purposes. The reason being that this would require banks for example to use credit risk models for assessing correlation effects within the underlying pool. Allowing banks to rely on credit risk models in setting regulatory capital is a step that the Committee has indicated it is not yet prepared to take.

8. The IRB treatment of securitisations is only available for and must be used by banks that have received supervisory approval to use the IRB approach for the relevant asset class. For example, if a bank qualifies for and is using an IRB approach for its residential mortgage loan portfolio, then it must use one of the IRB treatments of securitisation to calculate its capital requirements for the mortgage-backed securities it may hold. If the bank is not authorised to use the IRB approach for unsecuritised residential mortgages, then it may only apply the standardised securitisation treatment to such exposures.

Calculation of K_{IRB}

9. Originating banks as defined in paragraph 493 of Annex 3 must calculate the IRB capital requirement for the securitised pool of exposures (K_{IRB}).⁷ For IRB purposes, this category of institutions includes originators of the securitised exposures, as well as banks that serve as sponsors of asset-backed commercial paper (ABCP) conduits or similar programmes that acquire credit exposures from third-party entities. Other banks may also apply the treatment outlined for originators provided they received supervisory approval to do so for that specific structure.

10. As described in Section III (Credit risk - the Internal Ratings-Based Approach) of the Technical Guidance to QIS 3, the method for calculating K_{IRB} depends on the underlying exposure type. For example, in the IRB approach banks must calculate the capital charge for each individual corporate exposure making up a pool (known as a 'bottom-up' approach), whereas the charge can be calculated at the level of the pool as a whole (known as a 'top-down' approach) if it comprises retail exposures or eligible purchased corporate receivables.

11. Generally, industry representatives have welcomed the possibility of using the top-down purchased receivable approach although many noted that its original scope was too limited since it would only apply to unsecured receivables with a remaining maturity of six months. Otherwise, the receivables had to be secured. In the context of securitisations, banks have argued that many ABCP conduits and a number of other securitisation transactions have underlying receivables with longer maturities. It was further argued that such a requirement could have had a significant adverse impact on its application in the ABCP market, one of the largest and most liquid segments of the securitisation market. In light of the evidence provided, the Committee has decided to extend the original limit on remaining maturity to one year.

⁷ Within the securitisation framework, K_{IRB} is defined as the ratio of (a) the IRB capital requirement for the underlying credit exposures to (b) the notional amount of credit exposures that have been securitised (i.e. the sum of drawn amount plus undrawn amounts), as specified in paragraph 501 of Annex 3.

12. After calculating K_{IRB} , originating banks are required to determine the credit enhancement level (L) and thickness (T) of the securitisation exposure in question as defined in paragraphs 578 and 579 of Annex 3. These elements have an important bearing on whether the position is to be deducted, and are generally referred to as the “enhancement level”.

13. In some structures, there may be securitisation exposures that do not fall completely above or below the K_{IRB} threshold. If an originating bank holds an exposure that straddles the K_{IRB} boundary, it must treat the position as two separate exposures divided at K_{IRB} . The subdivided positions should be treated as any other exposure falling below or above K_{IRB} .

Positions up to K_{IRB}

14. The IRB treatment of securitisation imposes the deduction of retained or purchased positions having credit enhancement levels of K_{IRB} or less. That is, if such positions fall below K_{IRB} , the amount of the position in question must be deducted from total regulatory capital. This requirement was introduced in the October 2001 Working Paper and remains in place.

15. Some industry participants have noted that requiring banks to deduct positions below K_{IRB} is inconsistent with the credit risk model used to develop the IRB framework. The Committee believes that this requirement is warranted in order to create strong incentives for originating banks to shed the risk associated with highly-subordinated securitisation positions that inherently contain the greatest risks. It also believes that a consistent treatment should be adopted for other banks wishing to use the same approach as originators.

Positions above K_{IRB}

16. For positions above K_{IRB} , banks must use the Ratings Based Approach (RBA, discussed below) if an external or inferred rating is available on the securitisation exposure in question. If not, originating banks and other banks with supervisory approval may apply the Supervisory Formula Approach (SFA). If a bank is not permitted to apply the SFA, an unrated securitisation exposure is to be deducted from total regulatory capital.

Maximum capital requirement

17. The WP1 proposal implied that an originating bank’s capital requirement could in certain cases be higher after a securitisation than before. The industry responded by stating that a securitisation cannot increase an originating bank’s overall credit risk. Instead, the main rationale for such transactions is to redistribute and transfer credit risk to third parties. In recognition that the original proposal may have provided banks with a disincentive to securitise, the Committee is currently proposing to ‘cap’ an originator’s capital charge at K_{IRB} . This means that for an originating bank (and other banks that receive supervisory approval to use SFA), the total capital requirement for all its exposures in a given securitisation will not exceed the IRB capital charge for the underlying pool with one exception. Capitalised assets (such as I/O strips as referenced in the Technical Guidance) that increase a bank’s regulatory capital are to be deducted. Such deductions are to be made in addition to the capital charges subject to the cap.

18. The cap on the maximum capital requirement is only applicable for a bank that is able, to the satisfaction of its supervisor, to calculate K_{IRB} for the underlying pool of securitised exposures. The reason for allowing the cap in this limited circumstance is because the IRB approach results in a risk-sensitive capital requirement under the New Accord. Therefore, K_{IRB} will better reflect the credit risk of the underlying pool. In other cases, banks will not be permitted to apply the cap.

Granularity

19. The proposals contained in WP1 prompted industry research focused on better estimating the risk transfer within securitisations. Based on this work and analyses conducted by the Committee, it became apparent that the RBA and SFA could be improved by incorporating additional risk drivers.

20. Available evidence suggests that the granularity within the underlying pool of exposures is an important determinant of how the risk is distributed across securitisation tranches. Specifically, it appears that securitisations of non-granular pools tend to shift greater amounts of systematic risk to more-senior tranches compared with otherwise identical securitisations of highly granular pools. This arises because the less granular pool will tend to exhibit greater probabilities of experiencing relatively high loss rates.

21. Accordingly, a granularity component has been incorporated into both the RBA and SFA. The Committee is now considering relaxing the conservative assumptions implied in the initial RBA and is proposing to have different risk weights applied to securitisation exposures depending upon the granularity of the underlying pools and the thickness of securitisation exposures. For the SFA, the new proposal would require banks to take into account the granularity of the underlying pool and the pool's exposure-weighted average loss given default (LGD). The impact of granularity under both the RBA and SFA is discussed in more detail below.

22. The remainder of this section discusses the two components of the IRB treatment of securitisations, the RBA and the SFA.

Ratings Based Approach

23. The Committee has taken steps to make the RBA more risk sensitive. As introduced in WP1, the RBA continues to link the risk weight for a tranche to an external credit rating, or an inferred rating, when available. An underlying premise of the RBA is that many securitisation exposures are externally rated and that regulatory use of these ratings is reasonable, given their wide market acceptance.

24. The securitisation framework further clarifies the circumstances under which a bank may rely on the RBA for determining the amount of capital required on a given securitisation exposure. As indicated in the securitisation proposals in Annex 3, positions with external or inferred ratings above B+ are to be risk-weighted, whereas positions rated no higher than B+ and those without ratings are to be deducted. This treatment applies unless the bank is an originator. For originating banks broadly defined, the RBA is available only for calculating the minimum capital requirements on positions with external or inferred ratings that have credit enhancement levels of at least K_{IRB} .

Levels of required capital

25. One of the challenges the Committee has had to address in linking an external rating to a capital charge is that such ratings typically reflect default probabilities or expected losses (EL) on the tranche and do not directly reflect unexpected losses (UL). That is, a rating provides information on an instrument's stand-alone credit risk whereas within the IRB framework, capital charges are intended to capture an asset's marginal contribution to portfolio risk (defined as EL + UL) under the assumption that the bank's overall credit portfolio is well diversified and highly granular. For whole loans, the relationship between EL and UL can be specified in a parsimonious manner with only a single additional regulatory parameter (representing the correlation of the borrower's performance with systematic risk).

For tranches of a securitisation, however, the relationship is much more complex and is sensitive to the composition of the underlying pool.

26. At a minimum, in theory, the economic capital for a securitisation tranche depends on the risk characteristics (e.g. PD and LGD) of the individual underlying exposures securitised; the average asset or default correlation among these exposures; the effective number of exposures in the pool; the credit enhancement level of the tranche in question; and the tranche's thickness. The current RBA risk-weights attempt to take account of these variables in a way that ensures prudential capital levels for a wide variety of possible securitisation structures.

27. In WP1, the ABS risk weights for exposures rated A- and higher were identical to those for similarly-rated, non-subordinated corporate bonds. The ABS risk weights for exposures rated below A- exceeded those for similarly-rated, non-subordinated corporate bonds. The Committee has considered the reasons why a securitisation tranche with a given rating may warrant a different capital requirement than a similarly rated corporate bond.

28. First, in practice many securitisation tranches, except for very senior positions, tend to be relatively thin, possibly accounting for only a small portion of the pool. Very thin, subordinated securitisation exposures are likely to exhibit loss-rates in the event of default that exceed those for corporate bonds having the same rating. Second, for a given level of total stand-alone credit risk, as measured by an external rating, an ABS, for example, backed by a granular pool likely embodies more systematic risk than a similarly-rated corporate loan whose risk is largely idiosyncratic. This reflects the diversification achieved within the securitisation structure. Indeed, in the limit, the stand-alone credit risk of a securitisation tranche backed by an infinitely granular pool will be effectively all systematic. Therefore, the marginal contribution to portfolio risk of such a tranche will be larger than a corporate bond with a similar rating.

29. Industry participants have expressed concerns related to applying higher risk weights for securitisation exposures than for similarly-rated traditional credit products, such as loans. For example, the ABS risk weight for exposures rated BBB+ was set higher than would normally be applied to a similarly-rated, non-subordinated, unsecured corporate loan under the foundation IRB approach. Banks have also questioned why the original proposal did not assign relatively lower risk weights to high quality securitisation tranches. Since WP1, however, many within the risk management community now seem to accept the view that securitisation tranches and loans having identical ratings may warrant different capital charges.

30. Research on the effects of pool granularity, noted above, suggests to the Committee that the risk weights for rated securitisation exposures presented in WP1 warrant revision. In particular, within the current proposal these risk weights depend on measures of a tranche's thickness and the pool's granularity. These modifications are tentative and included to provide a basis for consultation with the industry on this issue. The Committee intends to carry out further analysis of securitisation granularity adjustments in the coming months.

Thick exposures backed by highly granular pools

31. For highly-rated exposures, the Committee is proposing risk weights of 7% and 10% respectively for certain AAA and AA rated securitisation exposures under the RBA. To be eligible for these lower risk weights, (a) the underlying pool would need to be "highly granular", and (b) the exposures would need to constitute a relatively "thick" position in the securitisation structure.

32. An underlying pool of exposures would be deemed to be “highly granular” when it is comprised of at least 100 *effective* exposures. The “effective” number of exposures (N) is essentially a concentration-weighted count of unique obligors in the underlying pool. This measure of granularity is used for both the RBA and the SFA, and is calculated as in paragraph 580 of Annex 3. The Committee seeks industry comment on the minimum effective number of exposures that is needed for market participants to regard a pool as reasonably free of counterparty concentration risk.

33. As mentioned above, for a given rating and all other things equal, thin tranches would in principle tend to exhibit higher loss-rates in the event of default and vice-versa. To qualify for lower risk weights, highly rated positions in a securitisation structure are therefore subject to an eligibility test based on the number of effective exposures in the underlying pool and a measure of the position's relative seniority. For this purpose, relative seniority is measured as the share of the pool that is rated at least AA- and is no more senior than the tranche concerned. To illustrate, when the number of effective exposures equals 100, a tranche rated at least AA- would need to have a relative seniority (Q) of at least 35% to qualify for the 7% risk weight. As the number of effective exposures increases beyond 100, the eligibility threshold for Q declines monotonically.

34. The eligibility criteria, namely a minimum N number of 100 linked to a tranche's relative seniority, has been calibrated to ensure that only well diversified pools comprised of a significant number of obligors would qualify for the lowest risk weights. Most, if not all, tranches rated at least AA- in retail securitisations are likely to qualify for the lower risk weights given their inherently highly granular pools of underlying exposures. A significant proportion of highly rated tranches in securitisations of corporate exposures are also likely to satisfy these conditions. The preferential risk weights are restricted to highly rated tranches only.

Exposures backed by non-granular pools

35. On the other hand, and for similar reasons, the risk weights applicable to highly rated tranches of a securitisation backed by non-granular pools of exposures may also need to be adjusted upwards especially if the investment in the tranche constitutes a significant fraction of the bank's overall balance sheet. As the pool of exposures underlying a securitisation becomes less diversified, the volatility of payoffs on the pool increase. The marginal value-at-risk measures (VaRs) for tranches with different levels of protection become increasingly similar and hence appropriate capital charges for more senior tranches increase. At the same time, senior and higher mezzanine tranches backed by less diversified pools seem to be accompanied by lower external ratings than those backed by diversified pools. This seems to reflect the impact of the implied increase in volatility on the expected loss or default probability of these tranches. The adjustments made may not be necessarily intended to allow for the increase in unexpected loss on tranches that occurs. Accordingly, within the RBA, the higher capital requirement that a tranche attracts when its pool is less diversified simply because of the lower rating may still not be sufficient to reflect the greater unexpected loss. The Committee wishes to explore with the industry whether an additional adjustment may be necessary for securitisation exposures backed by non-granular pools (see column 4 of table in paragraphs 570 and 571 of Annex 3).

Supervisory Formula Approach

36. The SFA is primarily designed for originating banks. Other banks may also use the SFA provided they have access to detailed information about the underlying pool of exposures, and supervisory approval to use it, because it relies on K_{IRB} as a primary input.

37. In the original proposal, the SFA specified the capital charge for a particular tranche based on three bank-supplied inputs: (a) K_{IRB} for the underlying pool; (b) the credit enhancement level (L) of the tranche, measured as the share of the pool allocated to more subordinated tranches; and (c) the thickness of the tranche (T). To incorporate the effects of pool granularity, under the current proposal banks are also required to calculate the effective number of exposures (N) in the pool, and the pool's exposure-weighted average loss rate given default (LGD). Discussions with industry participants suggest that these refinements will add to the risk sensitivity of the SFA while introducing little additional burden or complexity. The additional variables rely on no more information than is required to calculate K_{IRB} on the underlying pool.

38. The modifications to take into account the granularity of the underlying pool have the effect of making the capital requirement for positions above K_{IRB} under the SFA more risk-sensitive. WP1 proposed a systemic capital charge equal to $(1 + \beta) K_{IRB}$, where β represented a 'premium' to be set by the Committee. A value of 20% was initially proposed as a fixed premium in all cases. Based on the granularity modifications described above, securitisations involving non-granular pools generally would incur larger capital requirements for positions above K_{IRB} , while those involving highly granular pools would incur lower capital requirements. Within the SFA, the effects of granularity for positions above K_{IRB} are determined within a framework that is broadly consistent with that underlying the IRB treatment of whole loans; in particular, the SFA relies on the same correlation assumptions as in the IRB treatment of whole loans and presumes that the investor's overall credit portfolio is infinitely fine-grained.⁸

39. To limit the burden of having to assess the degree of granularity of the underlying pool for every transaction, the Committee is proposing a 'safe harbour' concept for calculating the effective number of loans. Specifically, subject to supervisory review, for SFA purposes banks can assume that securitisations of retail loans are, in effect, infinitely granular. This assumption simplifies some of the SFA computations.⁹ For non-retail exposures, banks can choose a simplified method if the following condition is met. In general, if the single largest exposure in the securitised pool represents no more than 3%¹⁰ of the total pool exposure, the bank may employ a supervisory LGD of 50%.¹¹

40. For positions beyond K_{IRB} , the SFA produces marginal capital requirements that decline exponentially. The rate of decline depends on the factors outlined above, such as the

⁸ IRB treatment of whole loans is based on a credit risk model that assumes a single systematic risk factor (denoted X) and an infinitely fine-grained portfolio. If portfolio capital is intended to cover value-at-risk at target solvency probability q , then the implied capital charge for *any* instrument (including tranches of securitised pools) is the instrument's expected loss conditional on X equalling its own q -th percentile value. For ABS tranches, this conditional expected loss is affected by granularity within the underlying pool. In essence, the tranche behaves as an option on the performance of the underlying pool, and its conditional expected loss depends on the volatility of the underlying. See Michael Gordy, 2002, "A Risk-Factor Model Foundation for Ratings-Based Bank Capital Rules," working paper; and Michael Gordy and David Jones, 2002, "Capital allocation for securitisations with uncertainty in loss prioritization," working paper. These papers will be made available on the BIS website.

⁹ Mechanically, this means that N can be treated as infinite with variables h and v equal to zero. See paragraph 574 of Annex 3.

¹⁰ The threshold is based on data gathered from the industry wherein banks have indicated that they tend to impose a 3% limit on the largest exposure share in collateralised debt obligations (CDO).

¹¹ The LGD value of 50% was chosen to maximise the impact of recovery risk on the total pool risk, so that it tends to maximise the risk of tranches above K_{IRB} .

granularity of the underlying pool.¹² In recognition that there is some credit risk associated with even the most highly rated exposures, the Committee has imposed a floor capital charge of 56 basis points (equivalent to a risk weight of 7%). This floor is likely to come into play when a senior tranche is unrated (and no inferred rating is available), thick and backed by a highly granular pool.

Relative capital requirements

41. In principle, the Committee seeks to obtain both prudential and comparable capital charges under the RBA and SFA for similar securitisation exposures. However, it is concerned that the two approaches may generate significantly different capital charges for some non-investment grade tranches. This concern reflects the observation that a bank using the SFA would have to deduct positions up to and including K_{IRB} . In contrast, a bank using the RBA generally would incur a much lower capital charge for a position rated at least BB-, even when the position was below K_{IRB} . On the other hand, banks able to calculate K_{IRB} would be subject to a cap, whereas the cap would not apply to banks that are unable to do so. Therefore, the overall effect of the different capital treatments is not entirely clear.

42. Accordingly, the Committee has requested that banks participating in the QIS 3 exercise calculate their capital requirements under both the RBA and the SFA for non-investment grade rated positions and unrated positions. The Committee is inviting feedback in order to be in a position to better align the two approaches and further improve the consistency of the IRB framework.

D. Eligible Liquidity Facilities and Off-balance Sheet Credit Enhancements

43. The Committee has also clarified the treatment of certain off-balance sheet exposures, such as “eligible” liquidity facilities and off-balance sheet credit enhancements that may be provided to securitisations. Exposures of this type may arise, for example, when banks enter into agreements to purchase assets from an asset-backed commercial paper (ABCP) programme when the conduit is in need of liquidity because it is temporarily unable to roll-over outstanding commercial paper. The current proposals contain standardised and IRB treatments for off-balance sheet exposures. The aim is to distinguish between facilities that would expose the bank to the credit risk of the underlying exposures when drawn, and those that also serve as credit enhancements, for example, to the conduit structure.

¹² The rate of decline also depends on supervisory parameters denoted τ and ω . For a given level of economic losses incurred by the pool, the parameter τ represents how closely a tranche's nominal credit enhancement and tranche thickness determine the actual prioritisation of economic losses among the tranches. The ω parameter controls the speed at which the marginal capital charge converges from (i) the supervisory determined deduction treatment up to K_{IRB} to (ii) the values of capital charges generated by the model for positions above K_{IRB} . As specified in paragraph 576 of Annex 3, values for these parameters have been set at $\tau=1000$ and $\omega=20$. These values have been selected to balance a desire to avoid cliff-effects in the marginal capital requirements against the avoidance of overly conservative capital charges against relatively senior tranches.

Standardised treatment

44. The standardised treatment sets out a number of criteria (see paragraph 528 of Annex 3) for determining whether an off-balance sheet exposure qualifies as an eligible liquidity facility. Such criteria are intended to ensure that a liquidity facility will only be deemed “eligible” for preferential treatment if it cannot provide permanent funding, provide credit support, or cover losses sustained in the underlying pool of exposures. When satisfied, banking organisations are to treat eligible liquidity facilities in the same manner as business commitments. A 20% credit conversion factor applies if the original maturity of the facility is one year or less. Otherwise, a credit conversion factor (CCF) of 50% is to be used.

45. Furthermore, the Committee has also recognised that there is a subset of facilities that can only be drawn in very limited circumstances i.e. facilities that are only available in the event of a general market disruption. Such facilities would not be drawn to cover short-term interruptions in cash flow arising from the underlying exposures. Instead, facilities of this type may only be triggered if there is a general market disruption such that third party investors are unwilling to purchase capital market instruments issued by a variety of entities at any price. Reflecting the low probability of a general market disruption, the Committee is proposing a 0% CCF for such facilities under the standardised treatment of securitisations. Subject to national discretion regarding their provision and regulatory treatment, a servicer cash advance is another category of facility eligible for a 0% credit conversion factor.

46. Facilities that do not meet the proposed criteria for “eligible” liquidity facilities and are not deemed at national discretion to be eligible servicer cash advances will be considered credit enhancements. They are to receive a 100% CCF and a risk weight in accordance with the decision rules provided for any other securitisation exposure. Therefore, the treatment will depend upon whether the exposure is externally rated, as discussed in paragraphs 517 to 525 of Annex 3.

47. Consultation with industry participants has suggested that most off-balance sheet exposures, such as eligible liquidity facilities and credit enhancements provided to ABCP conduits, are not likely to be externally rated or eligible for an inferred rating. Therefore, the Committee has proposed a treatment that, contrary to the general rule for securitisation exposures, does not require deduction of unrated facilities in all cases. Where a bank can demonstrate that the facility in question is sufficiently senior, a “look through” treatment has been made available (paragraphs 522 and 523). The treatment involves assigning to the facility in question a capital charge that reflects the riskiness of the underlying pool of exposures. In addition, under certain conditions, unrated second-loss positions that are of investment grade quality associated with ABCP programs would receive a 100% risk weight (paragraphs 524-525). The Committee has also given some thought to the treatment should ratings become available on such exposures. As ratings, like credit conversation factors, may take into account the probability of draw, the Committee would likely require banks to assign a 100% CCF to the exposure if it also intended to assign a risk weight based on the external rating. The aim would be not to double count the probability of a draw.

IRB treatment

48. Off-balance sheet exposures are treated somewhat differently under the IRB component of the securitisation framework. As mentioned above in paragraph 9, bank providers of liquidity facilities and/or credit enhancements would be required under the IRB securitisation treatment to calculate K_{IRB} on the underlying credit exposures on an on-going basis. Otherwise, the exposure in question must be deducted. As required of other securitisation exposures, banks are to deduct off-balance sheet items falling below K_{IRB} . If the position exceeds this threshold, the bank must apply the RBA or the SFA as outlined above.

49. Consistent with the IRB treatment of other securitisation exposures, other important determinants are the credit enhancement level and the size of the exposure held by the originating bank relative to K_{IRB} . In determining the thickness of a tranche, banks are expected to look to the full notional amount of the off-balance sheet exposure. There is an exception for eligible liquidity facilities that can only be drawn in the event of a general market disruption. While the thickness of the position is based on the full value of such facilities, a bank is only required to recognise 20% of the resulting capital requirement generated through the SFA. As indicated in Annex 3, if the eligible facility is externally rated, the bank may rely on the external rating under RBA, provided it assigns a 100% CCF rather than a 20% CCF to the facility.

50. The rationale for requiring banks to recognise the entire notional amount of most off-balance sheet exposures is that the IRB treatment of securitisation allows a bank to take into account directly key determinants of the risk of its overall position. As noted previously, these key factors include the IRB capital charge against the underlying pool, the position's thickness, the granularity of the underlying pool and the seniority of the position as reflected in its credit enhancement level. Consideration of these elements will result in more risk sensitive capital charges than can be achieved under the mechanics of the standardised treatment for securitisations.

E. Early Amortisation Features

51. The framework includes a specific treatment for the originators of securitisations of revolving exposures that contain early amortisation features. An early amortisation mechanism, if triggered, allows investors to be paid out prior to the contractual maturity of the securities issued (e.g. ABS). The implication is that the originating bank will become exposed to any new exposures arising from the underlying pool of accounts. Such mechanisms can in effect partly shield investors from fully sharing in the losses of the underlying accounts to the extent that the early amortisation provision trigger is generally related to the deterioration in quality of the underlying pool of exposures. Accordingly, the Committee is proposing a capital treatment that accounts for this risk exposure of the originating bank.

52. The proposed treatment applicable under both the standardised and the IRB treatments of securitisations would apply when the following two criteria have been satisfied. First, the credit risk exposures have been sold into a securitisation structure containing an early amortisation feature, and second, the credit risk exposures are of a revolving nature.¹³ Other structures, such as replenishment structures wherein the underlying credit exposures do not revolve and where the early amortisation provision, if triggered, eliminates a bank's ability to add new exposures to the underlying pool, are excluded from the early amortisation treatment.

53. The original proposal concerning early amortisation features involved fixed CCFs to be applied to all structures containing such a feature. After further study, the Committee is proposing a set of conversion factors tied to the excess spread level for securitisations of uncommitted retail credit lines that contain early amortisation features as discussed below. For other types of underlying revolving exposures, a fixed credit conversion factor applies.

¹³ Revolving assets include lines of credit where draws and repayments can vary within an agreed limit.

54. The current proposal also clarifies the total capital charges for originators of these types of transactions. They are expected to hold capital for the originator's interest (determined in accordance with any other securitisation exposure) and the investors' interest. The charge for the investors' interest is to be determined by applying the appropriate credit conversion factor as discussed below, and the risk weight appropriate to the underlying pool of exposures.

Uncommitted retail credit lines with early amortisation provisions

55. The proposed treatment allows, through the use of specific credit conversion factors, for a progressive build-up in an originating bank's capital requirement prior to an early amortisation trigger being activated. This is achieved through the following relationship: the closer the three month average excess spread level is to the early amortisation trigger, the higher the credit conversion factor. Levels of credit conversion factors are intended to reflect the probability of the trigger being hit and its consequence. This is to say that any new draws on the underlying accounts have to be funded by the originating bank when such a feature has been triggered.

56. In addition, the Committee is also proposing to distinguish between two types of early amortisation provisions: controlled and non-controlled. Application of the "non-controlled" early amortisation feature will result in a more rapid payout for investors when compared to the "controlled" mechanism. The implication is that the potential risk to the originating bank is somewhat different under the two features all else equal. Accordingly, the proposals contain two sets of credit conversion factors to reflect the difference in potential risk for the originator.

57. The proposed treatment of uncommitted retail lines has been developed based on securitisations containing early amortisation triggers where excess spread¹⁴ plays a key role. The rationale for relying upon excess spread is that its deterioration beyond a certain level is currently the most relevant economic trigger for securitisation of credit card receivables.

58. The mechanics of the proposal are as follows. A bank is required to look to two reference excess spread levels: the point at which the bank is required to trap excess spread (or 4.5% if the point is not specified in the deal documentation); and the excess spread level at which an early amortisation is triggered. It would then divide the distance between the two points into four equal segments and apply the credit conversion factors outlined in paragraphs 550 and 556 of Annex 3.

Other structures with early amortisation provisions

59. The Committee is proposing a 100% CCF for securitisations of committed retail credit and all non-retail exposures that contain non-controlled early amortisation features. The treatment is based on a view that in such transactions the originating bank will transfer little of its credit risk. In practical terms, this would mean, for example under the IRB treatment, that the full amount of K_{IRB} will be the capital requirement.

¹⁴ Excess spread is defined as gross finance charge collections and other fee income received by the trust or special purpose entity (SPE) minus certificate interest, servicing fees, charge-offs and other senior trust or SPE expenses.

60. As controlled early amortisation provisions imply a somewhat lower potential risk for the originating bank, the proposed CCF levels for committed retail and all non-retail credit lines are different from those with non-controlled provisions. Based on limited evidence, the Committee is tentatively proposing an 80% CCF for all such transactions. It would, however, welcome and evaluate any data provided by the industry related to the appropriateness of such a conversion factor. Information that could be helpful for this purpose include whether credit enhancement levels and/or the net cost of issuing securities would differ depending upon the presence of a non-controlled or a controlled early amortisation provision, all else being equal. If the controlled amortisation allows for greater risk transference as compared to a non-controlled mechanism, an expectation might be to observe higher credit enhancement levels and/or a higher net cost of issuing securities through a securitisation.

61. It would also be helpful to determine the portion of securitisations of committed retail and all non-retail exposures containing controlled or uncontrolled early amortisation features. Depending upon the outcome of additional analysis, the proposed CCF for such securitisations may be adjusted.

F. Supervisory Review

62. The Committee's Securitisation Group has also developed a supervisory review component (pillar two) for this framework. The supervisory review elements are provided in Annex 4. The proposals are intended to provide industry participants with some insight related to supervisory expectations when considering specific securitisation exposures. The following paragraphs highlight two specific areas - the provision of implicit support and call provisions - where changes have been introduced. In both cases, the proposals are meant to allow for greater supervisory flexibility in assessing specific cases.

Provision of implicit support

63. Cases where implicit support are provided, as opposed to contractual support, are likely to raise supervisory concerns under the assumption that such support would undermine the transfer of credit risk to third-parties that may be associated with a given securitisation. The supervisory implications are that when a bank provides implicit support, the consequences of this support should be reflected in both the institution's capital requirements and public disclosures.

64. The main modification to the original proposal in this area relates to cases where a bank is found to have provided implicit support on more than one occasion. Supervisory flexibility has been introduced to address such instances in order to allow for each supervisory authority to take appropriate action, as warranted by the specific circumstances of the cases under review. The Committee recognises that there may be a range of circumstances related to the provision of implicit support in more than one instance. Accordingly, it acknowledges that not every situation will necessarily warrant requiring the bank to treat the underlying assets for the structure in question as if they had not been securitised, as well as preventing the bank from recognising any capital relief for future transactions, as was initially proposed.

Call provisions

65. Similar points can be made for call provisions and, specifically, time-calls associated with securitisations. The supervisory expectations are focused on time calls, with the

treatment of clean-up calls provided for under pillar one of the securitisation framework. Like the treatment of implicit support, this supervisory review component is intended to ensure that securitisation transactions containing time calls are treated for regulatory capital purposes on the basis of their economic substance.

Annex 1

Illustrative example: Capital requirement for securitisations of revolving, unconditional retail exposures containing uncontrolled early amortisation features

1. This scenario discusses from the perspective of an originating bank the possible capital treatment of a securitisation of uncommitted retail exposures with a non-controlled early amortisation feature, as discussed in paragraph 556 of the proposals captured in Annex 3. An originating bank securitising assets, e.g. credit cards, through such a structure would be required to hold increasing amounts of regulatory capital as the probability of an early amortisation event increases. In other words, the likelihood of an early amortisation being triggered increases as the level of excess spread declines.

2. The scenario is based on a revolving securitisation where \$20 billion of credit card receivables are held in a master trust. The originating bank has a 20% beneficial interest in the trust (seller's interest) and investors holds the remaining 80% (investors' interest). That is, the originating bank effectively owns \$4 billion of credit card receivables, which is carried on its balance sheet and assessed an IRB capital requirement. The remaining \$16 billion of receivables has been securitised and removed from the originating bank's balance sheet. The bank has recorded an asset (e.g. an interest-only strip receivable) representing the net present value of excess future margin income equal to 3% of the amount of the off-balance sheet credit card receivables (i.e. the investors' interest), or \$480 million. Capitalising the excess future margin income as an asset also increase the originating bank's income and regulatory capital base.

3. In addition, assume that the overall IRB capital charge against the drawn credit card balances within the master trust (K_{IRB}^{15}) is \$1,432 million. **In this example, the IRB capital charge does not reflect the amount of undrawn off-balance sheet commitments.**¹⁶ Thus, K_{IRB} for the seller's interest is \$286.4 million (20%) while the amount of K_{IRB} allocated to the off-balance sheet investors' interest is equal to \$1,145.6 million (80%).

4. As stated in the securitisation documents, the spread trapping trigger is 4.5% while the three-month average excess spread level at which an early amortisation would be triggered is 0%. Assume that the present level of excess spread is 4%, which would require the originating bank to maintain capital equal to 5% percent of K_{IRB} allocated to the investors' interest, as outlined in paragraph 556 of the proposals set forth in Annex 3. This will result in a capital charge of \$57.3 million.

¹⁵ K_{IRB} in this example is used to denote the amount of the capital requirement and not the ratio.

¹⁶ Note that this example deals only with the treatment of drawn credit card balances placed in the master trust and, hence, securitised. In particular, it does not reflect the IRB capital charges against the associated undrawn credit card commitments. In general, for the originating bank in this example, its total capital charge against the credit card accounts assigned to the master trust would equal the charge shown below that is associated with the drawn balances (\$343.7 million) *plus* the entire IRB capital charge against the portions of the credit lines that are undrawn.

5. The capital requirements for the originating bank are as follows:

- | | | |
|-----|--|-----------------|
| (1) | Seller's interest | \$286.4 million |
| (2) | 5% of K_{IRB} allocated to the investors' interest | \$57.3 million |

Total Capital Requirement **\$343.7 million**

Table (in \$ thousands)

	Position Held	Dollar Amount	1988 Accord		Standardised		IRB Treatment	
			RW	Capital Charge	RW	Capital Charge	ABS RW	Capital Charge
Originating Bank	On-balance sheet credit cards	\$4,000,000	100%	\$320,000	75%	\$240,000		\$286,400
	Off-balance sheet securitised cards	\$16,000,000	N/A	N/A	Convert at 5%, RW at 75%	\$48,000	5% of K_{IRB} allocated to Investors' Interest	\$57,300
Originating Bank's Capital Charge				\$320,000		\$288,000		\$343,700
On-Balance Sheet Capital Charge				\$1,600,000		\$1,200,000		\$1,432,000

Note: the booked excess future margin income (\$480 million in this example) is to be deducted in addition.

Annex 2

Summary of Capital Treatment for Securitisation

The following table presents an overview of the securitisation framework. It comprises standardised and IRB treatments, each of which is summarised below.

Securitisation Exposure	Standardised Approach	IRB Approach	
		Originating Bank*	Investing Bank
Rated investment grade (Banks under the IRB approach may look to an external rating or inferred rating equivalent to investment grade)	All banks: AAA to AA-: 20% RW A+ to A-: 50% RW BBB+ to BBB-: 100% RW	Exposures below K_{IRB}: Deduction Exposures above K_{IRB}: Ratings-based approach (RBA) Maximum capital requirement: K_{IRB}	All positions: RBA Maximum capital requirement: None
Rated non-investment grade	Originating banks: All positions: Deduction Investing banks: BB+ to BB- : 350% B+ and below: Deduction	Exposures below K_{IRB}: Deduction Exposures above K_{IRB}: RBA Maximum capital requirement: K_{IRB}	All positions: RBA Maximum capital requirement: None
Unrated	All banks: All positions (**): Deduction	Exposures below K_{IRB}: Deduction Exposures above K_{IRB}: Supervisory Formula Approach (SFA) or deduction Maximum capital requirement: K_{IRB}	All positions: Deduction Maximum capital requirement: None

* Investing banks with information to calculate K_{IRB} need supervisory approval to use SFA in order to be included in this category. Originating banks are required to be in this category.

** Exceptions for unrated exposures in the standardised approach include: (a) look-through treatment for unrated most senior securitisation exposures, and (b) second loss positions provided to ABCP programs meeting the following criteria:

- (a) Economically in a second loss position or better and the first loss position must provide meaningful credit protection to the second loss position;
- (b) The associated credit risk must be the equivalent of investment grade or better; and
- (c) The institution providing the unrated, direct credit substitute must not retain or provide the first loss position.

Annex 3

Proposals pertaining to Securitisation Framework

This Annex contains the proposed minimum capital requirements for securitisation. It is an excerpt from the Quantitative Impact Study 3 Technical Guidance.

Part I: Proposed Minimum Capital Requirements

IV. Credit Risk – Securitisation Framework

A. Scope and definitions of transactions covered under the securitisation framework

486. For the purpose of calculating regulatory capital requirements, transactions that satisfy (a) and (b), or (a) and (c), as well as (d) of the following conditions are considered to be securitisations under the New Accord:

- (a) Transactions involving one or more underlying credit exposures from which stratified positions or tranches are created that reflect different degrees of credit risk. Such positions may take the form of a security or of an unfunded credit derivative;
- (b) Transactions where payments to investors depend upon the performance of specified underlying credit exposure(s), as opposed to being derived from an obligation (e.g. debt) of the entity originating those exposures. Such underlying credit exposures may include loans, commitments and receivables;
- (c) Transactions that involve credit derivative(s) where the investors' potential risk is dependent upon the performance of the underlying pool of credit exposure(s); and
- (d) Transactions that do not satisfy the definition of specialised lending as specified in paragraph 182 to 189.

487. Within this framework, credit exposures arising from all types of securitisations (i.e. traditional or synthetic) that satisfy the above-mentioned characteristics will be 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, and credit derivatives provided to a securitisation exposure. This section also covers credit risk mitigation purchased for and provided to securitisation exposures.

488. The capital treatment for a securitisation exposure must be determined on the basis of the economic substance of the securitisation transaction rather than its legal form.

B. Definitions

1. Types of securitisations

(i) Traditional securitisations

489. A traditional securitisation involves the (economic) transfer of assets and other credit exposures through pooling and repackaging by a special purpose entity (SPE) into securities

that can be sold to investors. This may be accomplished by legally isolating the underlying exposures from the originating bank or through sub-participation.

(ii) Synthetic securitisations

490. A synthetic securitisation generally involves the transfer of credit risk 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 to which the originator is exposed.

(iii) Securitisation of revolving assets

491. Such securitisations involve underlying credit exposures wherein the borrower is permitted to vary the drawn amount within an agreed limit under a line of credit (e.g. credit card receivables and corporate loan commitments).

2. Different roles played by banks

(i) Investing bank

492. An investing bank is an institution, other than the originator, sponsor or servicer, that assumes the economic risk of a securitisation exposure.

(ii) Originating bank

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

- (a) The bank originates directly or indirectly credit exposures included in a securitisation; or
- (b) The bank serves as a sponsor of an asset-backed commercial paper (ABCP) conduit or similar program that acquires credit exposures from third party entities. In the context of such programs, a bank would generally be considered a sponsor and, in turn, an originator if it, in fact or in substance, manages or advises the program, places securities into the market, or provides liquidity and/or credit enhancements.

(iii) Servicer bank

494. A servicer bank is one that manages the underlying credit exposures of a securitisation on a day-to-day basis in terms of collection of principal and interest, which is then forwarded to investors in securitisation exposures.

3. General terminology

(i) Clean-up call

495. A clean-up call is an option that permits an originating bank or a servicing bank to call the securitisation exposures (e.g. asset-backed securities) before all of the underlying credit 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.

(ii) *Credit enhancement*

496. 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. Credit enhancements may take various forms, some of which are listed as examples in the supervisory guidance pertaining to securitisation.

(iii) *Early amortisation*

497. 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 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 there is a pro rata sharing of interest, principal, expenses, losses and recoveries based on the beginning of the month balance of receivables outstanding.
- (c) The bank must set a period for amortisation that would be sufficient for 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).

498. An early amortisation feature that does not satisfy the conditions for a controlled mechanism will be treated as a non-controlled feature.

(iv) *Excess spread*

499. Excess spread is defined as gross finance charge collections and other fee income received by the trust or special purpose entity (SPE) minus certificate interest, servicing fees, charge-offs, and other senior trust or SPE expenses. Finance charges may include market interchange fees.

(v) *Implicit support*

500. Implicit support arises when an institution provides support to a securitisation in excess of its predetermined contractual obligation.

K_{IRB}

501. K_{IRB} is the ratio of (a) the internal ratings-based (IRB) capital requirement for the underlying credit exposures to (b) the notional amount of credit exposures that have been securitised (i.e. the sum of drawn amounts plus undrawn commitments). Quantity (a) above must be calculated in accordance with the applicable minimum IRB standards (as set out in section III of this document) as if the securitised exposures 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 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).

(vi) *Special purpose entity (SPE)*

502. A special purpose entity (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 credit exposures. SPEs are commonly used as financing vehicles in which credit exposures are sold to a trust or similar entity in exchange for cash or other assets funded by debt issued by the trust.

C. Operational criteria for the recognition of risk transference

503. The following operational criteria are applicable to both the standardised and IRB approaches of the securitisation framework.

1. Operational criteria for traditional securitisations

504. An originating bank that transfers exposures it has originated may exclude securitised exposures from the calculation of risk-weighted assets if at a minimum 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 subparticipation) that the credit exposures are therefore 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;
- (c) The securities issued are not obligations of the transferor. Thus, investors by purchasing 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) It will be determined that a transferor has maintained effective control over the transferred credit risk exposures if it: (i) is able to repurchase from the transferee the previously transferred credit exposures in order to realise their benefits; or (ii) is obligated to retain the risk of the transferred credit exposures. The transferor's retention of servicing rights to the credit exposures will not necessarily constitute indirect control of the exposures;
- (f) Any clean-up calls that are contractually permitted must satisfy the conditions outlined in paragraphs 506 to 511. Further, the clean-up calls must not be mandatory (i.e. they are to be exercised solely at the discretion of the bank) and cannot be used to provide credit support; and
- (g) The securitisation does not contain clauses that (i) require the originating bank to alter systematically the underlying credit exposures such that the pool's weighted average credit quality is improved; (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.

2. Operational criteria for use of synthetic securitisations

505. For synthetic securitisations, the use of credit risk mitigation 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 section II B.
- (b) Eligible collateral is limited to that specified in paragraph 108 and 109 of the standardised approach.
- (c) Eligible guarantors are limited to core market participants as defined in paragraph 159 of the standardised approach. Banks may not recognise SPEs as eligible guarantors in the securitisation framework.
- (d) Banks must transfer significant credit risk associated with the underlying credit 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 credit exposures);
 - Clauses that require the originating bank to alter the underlying credit exposures such that it can result in improvements to 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 banks, such as investors and third-party providers of credit enhancements in response to a deterioration in the credit quality of the underlying 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.

3. Operational requirements and treatment of clean-up calls

506. Clean-up calls may be included in the contract only if they are not mandatory but exercised at the discretion of the originating bank and cannot be used to provide credit support. Further, they must only be executed when the cost of servicing the outstanding securities exceeds the benefits of servicing the underlying credit exposures. Securitisation transactions containing clean-up calls that can be used to purchase non-performing credit exposures will require the originator to treat exposures in the underlying pool as if they did not result in any risk transference. If a clean-up call, when exercised, is found to provide credit support, this action will be considered a form of implicit support provided by the bank and will be treated accordingly.

(i) *Clean-up calls for traditional securitisations*

507. A clean-up call is considered a credit enhancement if it can be exercised when more than 10 percent of the original nominal value of the transferred credit exposures or the original issuance of securities backed by the underlying credit exposures are outstanding. Where this is the case, the underlying exposures will be treated as if they had not been securitised.

508. Subject to the above operational criteria for the recognition of risk transference, clean-up calls on 10 percent or less of the original nominal value of the transferred exposures or original issuance of securities will not generate a capital requirement.

(ii) *Clean-up calls for synthetic securitisations*

509. Banks may only include clean-up calls in situations where specific protected credit risk exposures are referenced. In the case of a general reference to a category of claims against a given entity (referred to as “names”), the bank will be required to treat the underlying exposures as if there had not been any risk transference for capital purposes.

510. A clean up call is considered a credit enhancement if it can be exercised when more than 10 percent of the initially issued securitisation exposures (e.g. credit linked notes, credit default swaps) are outstanding. Where this is the case, the bank must hold capital against the entire amount of securitised exposures as if there was no credit protection.

511. Subject to the above operational criteria for the recognition of risk transference, clean-up calls on 10 percent or less of the initially issued securitisation exposures (e.g. credit-linked notes and credit default swaps) will not generate a capital requirement.

D. Treatment of Securitisation Exposures

1. Minimum Capital Requirement

512. 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 ABS 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 will be treated as retained securitisation exposures.

(i) *Deduction*

513. When a bank is required to deduct a securitisation exposure from regulatory capital, the deduction will be taken 50% from Tier 1 and 50% from Tier 2 with one exception. Banks will be required to deduct from Tier 1 capital any expected future margin income (FMI) (e.g. interest-only strips receivable) that has been capitalised and carried as an asset on balance sheet and recognised in regulatory capital. Exposures of this type are referred to as “capitalised assets” for the purposes of the securitisation framework.

(ii) *Implicit Support*

514. When a banking organisation provides implicit support to one of its securitisations, it will be required, at a minimum, to hold capital against all of the exposures associated with the securitisation transaction as if they had not been securitised. Additionally, the bank is required to disclose publicly that (a) it has provided non-contractual support and (b) the capital impact of doing so.

2. Operational Criteria for Use of External Credit Assessments

515. The following operational criteria concerning the use of external credit assessments apply to 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 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 supervisory authority in accordance with paragraphs 52 to 70 with the following exception:
 - Eligible external credit assessments will only include those that are available publicly to the market, meaning that the rating is of the type that is published in an accessible form and included in the rating agency's transition matrix. Accordingly, eligible assessments for securitisations do not include those that are only made available to domestic and foreign institutions with legitimate interests and at equivalent terms. In addition, "private ratings" will not qualify for this condition, even if they are available to all parties of the transaction.
- (c) Eligible ECAIs must have a demonstrated expertise in securitisations, which may be evidenced by strong market acceptance.
- (d) A bank is expected to apply external credit assessments from eligible ECAIs consistently across a given type of securitisation exposure. Further, a bank cannot use one institution's credit assessments for one or more tranches and another ECAI's credit assessment for other positions (whether retained or purchased) within the same securitisation structure that may or may not be rated by the first agency.
- (e) In cases where two or more eligible ECAIs can be used and these assess the credit risk of the same securitisation exposure differently, paragraphs 58 to 60 will apply.
- (e) The bank may not recognise an external credit assessment on a specific securitisation exposure (e.g. ABS tranche) if the external assessment reflects the benefits of a credit risk mitigant that has been provided only to that position. In such cases, the individual exposure will be treated as if it is unrated and the credit risk mitigation rules will be applied separately.

3. Standardised Approach for Securitisation Exposures

(i) Scope

516. 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.

(ii) Risk Weights

517. The risk-weighted 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 credit conversion factor (CCF) and then risk weight the resultant credit equivalent amount. For positions with

long-term ratings of B+ and below and for those that are unrated, deduction from capital will be required. Deduction is also required for positions with short-term ratings other than A1/P1, A2/P2, A3/P3 and those that are unrated.

518. The capital treatment of positions retained by originators; liquidity facilities; recognition of credit risk mitigants; and securitisations of revolving exposures are identified separately. The treatment of clean-up calls is provided in paragraphs 506 to 511.

Long-term rating category¹⁷

External Credit Assessment	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ and below or unrated
Risk Weight	20%	50%	100%	350%	Deduction

Short-term rating category

External Credit Assessment	A1/P1	A2/P2	A3/P3	All other ratings or unrated
Risk Weight	20%	50%	100%	Deduction

Investors may recognise ratings on below-investment grade exposures

519. Only third party investors, as opposed to banks that serve as originators in substance, may recognise external credit assessments that are equivalent to BB+ to BB- for risk weighting purposes of securitisation exposures.

Originators to deduct below-investment grade exposures

520. Originating banks as defined in paragraph 493 must deduct all retained securitisation exposures rated below investment grade (e.g. below BBB- using the illustrative external credit assessments provided above).

(iii) Exceptions to General Treatment of Unrated Securitisation Exposures

521. As noted in the earlier table, unrated securitisation exposures would normally be deducted. Exceptions to this rule apply to (a) unrated most senior securitisation exposures, and (b) exposures that are in a second loss position or better in ABCP programs and meet the requirements outlined in paragraph 524.

(a) Treatment of unrated most senior securitisation exposures in securitisations

522. If the most senior securitisation exposure of a traditional or synthetic securitisation is unrated, a bank that holds or guarantees such an exposure may apply the “look-through” treatment provided the composition of the underlying pool is known at all times.

¹⁷ 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.

523. In the look-through treatment, the notional amount of the unrated most senior position will receive the average risk weight assigned to the underlying credit exposures subject to supervisory review. Where the bank is unable to determine the risk weights assigned to the underlying credit risk exposure(s), the unrated position must be deducted.

(b) Treatment of exposures that are in a second loss position or better in ABCP programs

524. Deduction is not required for unrated, securitisation exposures provided by sponsoring banks to ABCP programs that satisfy the following requirements:

- (a) The exposure is economically in a second loss position or better and the first loss position must provide significant credit protection to the second loss position;
- (b) The associated credit risk must be the equivalent of investment grade or better; and
- (c) The institution holding the unrated securitisation exposure must not retain or provide the first loss position.

525. Where these conditions are satisfied, banks will apply a risk weight that is the greater of (i) 100% or (ii) the highest risk weight assigned to any of the underlying individual credit exposures covered by the facility.

(c) Risk weights for eligible liquidity facilities

526. For securitisation exposures meeting the criteria listed in paragraphs 528 to 529, 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 credit exposures covered by the eligible liquidity facility.

(iv) Credit Conversion Factors for Off-balance Sheet Exposures

527. 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 a servicer cash advance facility. For risk based capital purposes, all other off-balance sheet securitisation exposures will receive a 100% CCF.

(a) Eligible liquidity facilities

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

- (a) The facility must clearly identify and limit the circumstances under which it may be drawn. In particular, the facility must not be used to provide credit support, cover losses sustained (e.g. acquire assets at above fair value) or serve as permanent funding for the securitisation;
- (b) Draws on the facility (i.e. assets acquired under a purchase agreement or loans made under a lending agreement) must not be subordinated to the interests of investors and the fee charged for the facility should not be subordinated or subject to waiver or deferral;
- (c) The facility cannot be drawn after the program's credit enhancements from which the liquidity facility would benefit have been exhausted;

- (d) The facility must include an asset quality test that precludes it from being drawn to cover deteriorated credit risk exposures (e.g. those that are past due or defaulted); and
- (e) The facility must include a provision that results in an automatic corresponding reduction in the amount that can be drawn or in the termination of the facility when the average quality of the pool falls below investment grade.

529. Where these conditions are met, the bank may apply a 20% CCF to the amount of eligible liquidity facilities with an original maturity of one year or less, or a 50% CCF if the facility has an original maturity of more than one year.

(b) Eligible liquidity facilities available only in the event of market disruption

530. Banks may apply a 0% CCF to eligible liquidity facilities that are only available in the event of a general market disruption (i.e. where a capital market instrument cannot be issued at any price). To qualify for this treatment, the conditions provided in paragraph 528 must be satisfied. Additionally, the funds advanced by the bank to pay holders of the capital market instruments (e.g. commercial paper) when there is a general market disruption must be secured by the underlying assets, and must rank at least pari passu with the claims of holders of the capital market instruments.

(c) Eligible servicer cash advance facilities

531. 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 servicer cash advances that are unconditionally cancellable without prior notice may be eligible for a 0% CCF.

(v) Recognition of Credit Risk Mitigants

532. 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 credit exposures of the securitisation transaction.

533. When a bank other than an originator provides credit protection to a securitisation exposure, it must calculate a capital requirement on the covered exposure as if it were an investor. 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.

(a) Collateral

534. Eligible collateral is limited to that recognised under the standard approach for credit risk mitigation (paragraphs 108 and 109).

(b) Guarantees and credit derivatives

535. Credit protection provided by the entities listed in paragraph 159 may be recognised. Special purpose entities will not be recognised as eligible guarantors.

536. Where guarantees or credit derivatives fulfil the minimum operational conditions as specified in paragraphs 154 to 158, banks can take account of such credit protection in calculating capital requirements on securitisation exposures.

537. Capital requirements for the guaranteed/protected portion will be calculated according to CRM for Standardised Approach as specified under paragraphs 160 to 165.

(c) Maturity mismatches

538. For the purpose of setting regulatory capital against a maturity mismatch, the capital requirement will be determined in accordance with paragraphs 166 to 168.

539. Maturity mismatches may arise in the context of synthetic securitisations when, for example, a bank uses credit derivatives to transfer the credit risk of a specified pool of assets to third parties. When the credit derivatives unwind, the transaction will terminate. Therefore, the effective maturity of the tranches of the synthetic securitisation will differ from that of the underlying exposures. Originating banks must treat such maturity mismatches in the following manner. The bank must deduct all retained positions that are unrated or rated below investment grade. For all other retained securitisation positions, the bank must apply the maturity mismatch treatment set forth in paragraph 166 to 168.

(vi) Capital Requirement for Early Amortisation Provisions

Scope

540. An originating bank will be required to apply the methodology described below to its off-balance sheet exposures when:

- (a) It sells credit exposures into a structure that contains an early amortisation feature; and
- (b) The credit exposures sold are of a revolving nature (i.e. lines of credit where draws and repayments can vary).

541. The bank will be required to hold capital against the sum of the originator's interest and the investors' interest arising from a securitisation of revolving credits that contains an early amortisation feature, as discussed in paragraph 546.

542. For securitisation structures wherein the underlying pool comprises revolving and term credit exposures, a bank must apply the relevant early amortisation treatment (outlined below in paragraphs 547 to 557) to that portion of the underlying pool containing revolving retail credit exposures.

Exemptions from early amortisation treatment

543. Replenishment structures where the underlying credit exposures do not revolve and the early amortisation ends the ability of the bank to add new exposures are not covered by this section and would not receive an additional capital charge under the early amortisation treatment.

544. 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) are also excluded from this treatment. Further, structures where a bank securitises one or more credit line(s) for which investors remain fully exposed to future draws by borrowers even after an early amortisation event has occurred are exempt from the early amortisation treatment.

Maximum capital requirement

545. 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 charge (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. Deduction of any capitalised assets (e.g. future margin income), if any, will be treated outside this maximum limit.

Mechanics

546. As indicated in paragraph 541, a bank will be required to hold capital against the sum of the originator's interest and the investors' interest arising from a securitisation of revolving credits that contain an early amortisation feature. The capital charge for the originator's interest should be determined in accordance with the treatment outlined in paragraphs 517 and 520. The capital charge for the investors' interest is determined by multiplying the notional amount of such exposures by the product of (a) the appropriate CCF (as discussed below), and (b) the risk weight appropriate to the underlying exposure type, as if the credit exposures had not been securitised. The credit conversion factors differ depending 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). The uncommitted lines must be unconditionally cancellable without prior notice.

(vii) Controlled Early Amortisation Features

Uncommitted retail exposures

547. An early amortisation feature will be considered controlled when the definition as specified in paragraph 497 is satisfied.

Mechanics

548. For uncommitted retail credit lines (e.g. credit card receivables) in securitisations containing controlled early amortisation features, banks must compare the three-month average of the following two reference excess spread levels:

- (a) The point at which the bank is required to trap excess spread as economically required by the structure; and
- (b) The excess spread level at which an early amortisation is triggered.

549. In cases where such a transaction does not require excess spread to be trapped, the first trapping point is deemed to be 4.5 percentage points greater than the excess spread level at which an early amortisation is triggered.

550. The bank must divide the distance between the two points described above into four equal segments. For example if the spread trapping point is 4.5% and the early amortisation trigger is 0%, then 4.5% is divided into four equal segments of 112.5 basis points each. The following conversion factors, based on illustrative segments, apply.

556. The bank must divide the distance between the two points described above into four equal segments. For example if the spread trapping point is 4.5% and the early amortisation trigger is 0%, then 4.5% is divided into four equal segments of 112.5 basis points each. The following conversion factors, based on illustrative segments, apply.

Non-controlled early amortisation features

	Uncommitted	Committed
Retail credit lines	<p style="text-align: center;">3-month average excess spread Credit Conversion Factor (CCF)</p> <p style="text-align: center;">450 basis points (bp) or more 0% CCF</p> <p style="text-align: center;">less than 450 bp to 337.5 bp 5% CCF</p> <p style="text-align: center;">less than 337.5 bp to 225 bp 10% CCF</p> <p style="text-align: center;">less than 225 bp to 112.5 bp 50% CCF</p> <p style="text-align: center;">less than 112.5 bp 100% CCF</p>	100% CCF
Non-retail credit lines	100% CCF	100% CCF

Other exposures

557. All other securitised revolving exposures (i.e. those that are committed and all non-retail credit exposures) with non-controlled early amortisation features will be subject to a credit conversion factor of 100% against the off-balance sheet exposures.

4. Internal Ratings-Based Approach for Securitisations

(i) Scope

558. Under the IRB approach for securitisations there are two methods for calculating capital requirements for securitisation positions: the Supervisory Formula Approach (SFA) and the Ratings-Based Approach (RBA). Banks that have received approval to use the IRB approach for the type of underlying credit exposure(s) securitised (e.g. for their corporate, retail, or specialised lending portfolio) must use either the SFA or the RBA, as indicated below, when determining the capital requirements on securitisation positions backed by such exposures. Conversely, banks may not use the SFA or RBA unless they receive approval to do so for the underlying exposures from their national supervisors.

559. With the exception of eligible liquidity facilities only available in the event of a general market disruption (see paragraph 584) and servicer cash advances, securitisation exposures are to be treated using either the SFA or RBA as appropriate.

(ii) *Hierarchy of Approaches*

Originating banks

560. Originating banks are required to calculate K_{IRB} . Positions retained or repurchased by the originating bank with credit enhancement levels (i.e. values of L discussed in paragraph 578) of less than or equal to K_{IRB} must be deducted from regulatory capital.

561. If the originating bank holds a tranche that straddles the K_{IRB} border, it must treat the exposure as two separate positions. The portion of the tranche that is below or equal to K_{IRB} must be deducted from regulatory capital. The bank would apply the RBA to the portion that falls above K_{IRB} if there is an external rating or one that can be inferred. If not, the SFA would apply. Otherwise, the position must be deducted.

562. For positions beyond K_{IRB} , when either an external rating or an inferred rating is available, the originating bank is required to apply the RBA in determining an exposure's capital requirement. Where an external or an inferred rating is not available, the capital requirement must be determined using the SFA. Otherwise, the position must be deducted.

563. The treatment for originating banks also applies to banks other than originators that receive supervisory approval to use the SFA for any portion of the securitisation in question.

Investing banks

564. Banks that are not originators and where paragraph 493 does not apply must use the RBA to determine the capital requirement on securitisation exposures for which an external or an inferred rating is available. Otherwise the position must be deducted or with supervisory approval the bank may calculate K_{IRB} , and, in turn, use the supervisory formula to determine the capital requirements.

(iii) *Maximum Capital Requirement*

565. For originators and other banks that receive supervisory approval to use the SFA (which requires calculation of K_{IRB} for the underlying pool), the total capital requirement against all exposures associated with the same securitisation transaction (excluding 'capitalised assets') will be capped at (i.e. will not exceed) the IRB capital requirement for the underlying pool of exposures. The cap amount is equal to the IRB capital charge that would be applied if the underlying securitised exposures were held directly on the bank's balance sheet, which would equal K_{IRB} times the nominal amount of credit exposures that have been securitised.

(iv) *Rating Based Approach (RBA)*

566. Under the RBA, the risk-weighted assets are determined by multiplying the amount of the exposure by the appropriate ABS risk weights, provided in the tables below.

567. The ABS risk weights depend on (i) the external rating grade or an available inferred rating, (ii) whether the credit assessment (external or inferred) represents a long-term or a short-term credit rating, (iii) the granularity of the underlying pool and (iv) the high-level seniority of the position relative to the size of the pool (denoted as "Q").

568. Q is defined as the total size of all positions rated at least AA- that are not more senior than the tranche of interest, measured relative to the size of the pool and expressed as a decimal.

569. The ABS 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.

570. Banks may apply the risk weight for highly-rated thick tranches backed by highly granular pools (column 2 of the first table below) if the effective number of underlying exposures (N) (defined in paragraph 580) is 100 or more and the seniority of the position relative to the size of the pool (“Q”) is greater than or equal to $0.1 + 25/N$ (i.e. $Q \geq 0.1 + 25/N$). When the effective number of underlying exposures comprises less than 32 exposures the risk weights in column 4 of the first table below must be applied. In all other cases, the risk weights in column 3 of the first table below apply.

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

External Rating (Illustrative)	Risk weights for thick tranches backed by highly granular pools	Base risk weights	Risk weights for tranches backed by non-granular pools
Aaa	7%	12%	20%
Aa	10%	15%	25%
A	20%	20%	35%
Baa1	50%	50%	50%
Baa2	75%	75%	75%
Baa3	100%	100%	100%
Ba1	250%	250%	250%
Ba2	425%	425%	425%
Ba3	650%	650%	650%
Below Ba3 and unrated	Deduction	Deduction	Deduction

571. The ABS 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 570 also apply for short-term credit ratings.

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

External Rating (Illustrative)	Risk weights for thick tranches backed by highly granular pools	Base risk weights	Risk weights for tranches backed by non-granular pools
A1/P1	7%	12%	20%
A2/P2	20%	20%	35%
A3/P3	75%	75%	75%
All other ratings/unrated	Deduction	Deduction	Deduction

Use of Inferred Ratings

572. 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 (e.g. termed the 'reference securitisation exposure').

Operational requirements for 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 reference 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.
- (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 the standardised approach to credit risk.

(v) *Supervisory Formula Approach (SFA)*

573. Under the SFA, risk-weighted assets are calculated by multiplying the capital charge by 12.5. The capital charge for a securitisation tranche depends on five bank-supplied inputs: the IRB capital charge were the underlying securitised exposures held directly on the bank's balance sheet (K_{IRB}); the tranche's credit enhancement level (L) and thickness (T); the pool's effective number of loans (N); and the pool's exposure-weighted average loss-given-default (LGD). Given these inputs, all of which are defined below, the IRB capital charge for the securitisation tranche is as follows:

(1) *IRB capital charge* = (S [L+T] – S [L]) *times* the notional amount of credit exposures that have been securitised,

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.

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

(2)

$$S[L] = \left\{ \begin{array}{ll} L & \text{when } L \leq Kirb \\ Kirb + K[L] - K[Kirb] + (d \cdot Kirb / \omega)(1 - e^{\omega(Kirb - L) / Kirb}) & \text{when } Kirb < L \leq L^* \\ Kirb + K[L^*] - K[Kirb] + (d \cdot Kirb / \omega)(1 - e^{\omega(Kirb - L^*) / Kirb}) + (L - L^*) Floor & \text{when } L > L^* \end{array} \right\}$$

where

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

and L^* solves the following non-linear equation:

$$Floor = (1 - h) \cdot (1 - Beta[L^*; a, b]) + de^{\omega(Kirb - L^*) / Kirb}.$$

575. In these expressions, Beta [L; a, b] refers to the cumulative beta distribution with parameters a and b evaluated at L.¹⁸

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

Floor = 0.0056 (the lowest capital charge applicable under the RBA), $\tau = 1000$, and $\omega = 20$

K_{IRB}

577. K_{IRB} is defined in paragraph 501. Calculation of K_{IRB} must be done in accordance with the minimum requirements set forth in section III Credit risk - the Internal Ratings-based approach.

Credit enhancement level (L)

578. L is measured (in decimal form) as the ratio of (a) the notional amount of all securitisation exposures subordinate to the tranche in question to (b) the notional amount of credit exposures that have been securitised. 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 mezzanine tranche. Capitalised assets must not be included in the measured L.

Thickness of exposure (T)

579. T is measured as the ratio of (a) the nominal size of the tranche of interest to (b) the notional amount of credit exposures that have been securitised.

¹⁸ The cumulative beta distribution function is available in Excel as the function BETADIST.

Effective number of exposures (N)

580. Multiple exposures to one obligor must be consolidated. The effective number of exposures is calculated as:

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

where EAD_i represents the exposure-at-default associated with all exposures to the i^{th} obligor.

Exposure-weighted average loss-given-default (LGD)

581. The exposure-weighted average loss-given-default is calculated as follows:

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

where LGD_i represents the average loss-given-default associated with all exposures to the i^{th} obligor.

Simplified Method for Computing N and LGD

582. For securitisations involving retail exposures, subject to supervisory review, the SFA may be implemented using the simplifications: $h = 0$ and $v = 0$.

583. Under the conditions provided below, banks may employ a simplified method for calculating the effective number of loans and the exposure-weighted average LGD. Let C_m in the simplified calculation denote the share of the pool corresponding to the largest 'm' exposures (e.g. a 15% share corresponds to a value of 0.15). The level of m is to be 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 SFA the bank may set $LGD=0.50$ and N equal to the following amount

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

- 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 $N=1/ C_1$.

Eligible Liquidity Facilities Only Available in the Event of General Market Disruption

584. An eligible liquidity facility that is only drawn in the event of a general market disruption is assigned a 20% credit conversion factor (CCF) under the SFA. That is, an IRB bank is to recognise 20% of the capital charge generated under the SFA for the facility. If the eligible facility is externally rated, the bank may rely on the external rating under the RBA provided it assigns a 100% CCF rather than a 20% CCF to the facility.

Eligible Servicer Cash Advance Facilities

585. Eligible servicer cash advance facilities are to be handled in accordance with the standardised approach outlined in paragraph 531.

Recognition of Credit Risk Mitigants

586. Credit risk mitigants are to be recognised in the same manner as under the standardised approach to securitisation.

Capital Requirement for Early Amortisation Provisions

587. An originating bank must use the methodology and treatment described in paragraphs 547 to 557 for determining the capital charge for securitisations of revolving credits containing early amortisation provisions.

Annex 4

Supervisory Review Pillar for Securitisation

This Annex outlines the proposed supervisory review elements of the securitisation framework.

Part II: Supervisory Review

1. Further to the pillar one treatment that banks should take account of the economic substance of transactions in their determination of adequate capital, 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 the New Accord, particularly in instances where the general capital requirement would not adequately and sufficiently reflect the risks to which an individual banking organization is exposed.

2. 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, 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 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.

Significance of risk transfer

3. 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. Accordingly, the supervisory expectation is that, in order to achieve some capital relief, an originator is expected to have transferred some risk to third parties. 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 transferred, such as retaining or repurchasing significant amounts of risk or "cherry picking" the exposures to be transferred via a securitisation.

4. 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 be resold within an appropriate time frame, therefore remaining true to the initial intention to transfer risk.

5. Another implication of realising 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.

Market innovations

6. 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 of the new Accord. 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.

Provision of implicit support

7. 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 including, for instance, 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 securitisation at above market price and the substitution or replenishment of assets that systematically improve the quality of the securitised pool.

8. 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 recourse banks signal to the market that the risk is still on the bank's books 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.

9. 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. Also it will be required to disclose publicly that it was found to have provided non-contractual support and the consequences (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.

10. If a bank, however, is found to have provided implicit support on more than one occasion, the bank will be required to disclose its transgression publicly and national supervisors will take appropriate action. The supervisory action 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 to disclose its provision of implicit support the bank may be required by its national supervisor to hold regulatory capital in excess of the minimum risk-based capital ratios.

11. 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 banks 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.

Residual Risks

12. 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.

Call Provisions

13. This section of the supervisory guidance (pillar 2) pertaining to securitisation does not apply to clean-up calls as discussed in paragraph (xyz). Supervisors expect banks not to

make use of clauses that entitle it to end the coverage of credit protection prematurely if this would result in the bank having to account for losses or deterioration in the credit quality of the underlying exposures.

14. Time calls would not constitute a maturity mismatch when they are not associated with any explicit incentive to terminate the transaction early. When intending to exercise such a call, a bank would be expected to give prior notification to its supervisory authority. Subject to national discretion, supervisory authorities may conduct a review prior to the bank exercising the call which can be expected to include consideration of:

- The fact that, to the bank's best knowledge, the exercise of such a clause would not imply the calling bank having to account for losses on the securitised exposures;
- An explanation of the rationale underpinning the bank's decision to exercise the time call;
- A statement regarding the impact of the exercise of such a clause on the bank's capital adequacy ratio.

15. 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, existing market conditions or the impact of exercising the call on the bank's risk profile.

16. 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 cost of a capital market securitisation transaction.

Early Amortisation

17. Supervisory authorities expect banks to have adequate capital and liquidity plans to address the implications of both scheduled and early amortisation. Where supervisors do not consider these to be adequate, they will take appropriate action. Such action may include, but are not limited to directing a bank to obtain a dedicated liquidity line or raising the early amortisation conversion factor.

18. 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/class of transactions.