Chapter 9

Securitisation

9.12 Calculation of risk-weighted exposure amounts under the IRB approach

9.12.1 R ■ BIPRU 9.12 applies to the calculation of *risk weighted exposure amounts* of *securitisation positions* under the *IRB approach*.

[**Note:** *BCD* Annex IX Part 4 point 37 (part)]

Hierarchy of methods

9.12.2 R For a *rated position* or a position in respect of which an inferred rating may be used, the *ratings based method* must be used to calculate the *risk weighted exposure amount*.

[**Note:** *BCD* Annex IX Part 4 point 38]

9.12.3 R For an *unrated position* the *supervisory formula method* must be used except where a *firm* uses the *ABCP internal assessment approach*.

[**Note:** *BCD* Annex IX Part 4 point 39]

9.12.4 G In cases where both the *ABCP internal assessment approach* and the *supervisory formula method* are available, a firm should determine the most appropriate approach and apply that approach consistently.

9.12.5 R A *firm* other than an *originator* or a *sponsor* may not use the *supervisory formula method* unless its *IRB permission* expressly permits it to do so.

[**Note:** *BCD* Annex IX Part 4 point 40]

9.12.6 R Subject to any *IRB permission* of the type described in ■ BIPRU 9.12.28 G, in the case of an *originator* or *sponsor* unable to calculate K_{IRB} and which has not obtained approval to use the *ABCP internal assessment approach*, and in the case of other *firms* where they have not obtained approval to use the *supervisory formula method* or, for positions in *ABCP programmes*, the *ABCP internal assessment approach*, a *risk weight* of 1250% must be assigned to *securitisation positions* which are unrated and in respect of which an inferred rating may not be used.

[**Note:** *BCD* Annex IX Part 4 point 41]

Use of inferred ratings

9.12.7 R When the following minimum operational requirements are satisfied a *firm* must attribute to an *unrated position* an inferred credit assessment equivalent to the credit assessment of those *rated positions* (the reference positions) which are the most senior positions which are in all respects subordinate to the unrated *securitisation position* in question:

(1) the reference positions must be subordinate in all respects to the unrated *securitisation position*;

(2) the maturity of the reference positions must be equal to or longer than that of the *unrated position* in question; and

(3) on an ongoing basis, any inferred rating must be updated to reflect any changes in the credit assessment of the reference positions.

[**Note:** *BCD* Annex IX Part 4 point 42]

Maximum risk-weighted exposure amounts

9.12.8 R For an *originator*, a *sponsor*, or for other *firms* which can calculate K_{IRB}, the *risk weighted exposure amounts* calculated in respect of its positions in a *securitisation* may be limited to that which would produce an amount in respect of its *credit risk capital requirement* equal to the sum of 8% of the *risk weighted exposure amount* which would be produced if the *securitised* assets had not been *securitised* and were on the balance sheet of the *firm* plus the *expected loss* amounts of those *exposures*.

[**Note:** *BCD* Annex IX Part 4 point 45]

Ratings based method

9.12.9 R ■ BIPRU 9.12.10 R to ■ BIPRU 9.12.19 R apply to the calculation of *risk weighted exposure amount* of *securitisation positions* under the *ratings based method*.

9.12.10 R Under the *ratings based method*, the *risk weighted exposure amount* of a rated *securitisation position* or *resecuritisation position* must be calculated by applying to the *exposure* value the *risk weight* associated with the *credit quality step* with which the credit assessment is associated as prescribed in ■ BIPRU 9.12.11 R multiplied by 1.06.

[**Note:** *BCD* Annex IX Part 4 point 46]

9.12.11 R Table:

This table belongs to ■ BIPRU 9.12.10 R

Credit Quality Step		Securitisation positions			Resecuritisation positions	
Credit assessments other than short term	Short-term credit assessments	A	B	C	D	E
1	1	7%	12%	20%	20%	30%
2		8%	15%	25%	25%	40%
3		10%	18%	35%	35%	50%
4	2	12%	20%		40%	65%
5		20%	35%		60%	100%
6		35%	50%		100%	150%
7	3	60%	75%		150%	225%
8		100%			200%	350%
9		250%			300%	500%
10		425%			500%	650%
11		650%			750%	850%
all other, unrated		1250%				

[**Note**: For mapping of the *credit quality step* to the credit assessments of eligible *ECAIs*, refer to: http://www.fca.org.uk/your-fca/documents/fsa-ecais-securitisation for the *FCA* and http://www.bankofengland.co.uk/publications/Documents/other/pra/policy/2013/ecaissecuritisation.pdf for the *PRA*.]

[**Note:** *BCD*, Annex IX, Part 4, point 46]

9.12.12 R [deleted]

9.12.13 R For the purposes of ■ BIPRU 9.12.10 R:

(1) the weightings in column C of ■ BIPRU 9.12.11 R must be applied where the *securitisation position* is not a *resecuritisation position* and where the effective number of *exposures* securitised is less than six;

(2) for the remainder of the *securitisation positions* that are not *resecuritisation positions*, the weightings in column B must be applied unless the position is in the most senior *tranche* of a *securitisation*, in which case the weightings in column A must be applied; and

(3) for *resecuritisation positions*, the weightings in column E must be applied unless the *resecuritisation position* is in the most senior *tranche* of the *resecuritisation* and none of the underlying *exposures* were themselves *resecuritisation exposures*, in which case column D must be applied.

[**Note:** *BCD* Annex IX Part 4 point 47(part)]

9.12.14 R When determining under ■ BIPRU 9.12.13 R whether a *tranche* is the most senior for these purposes, a *firm* need not take into consideration amounts

due under interest rate or currency derivative contracts, fees due, or other similar payments.

[**Note:** *BCD* Annex IX Part 4 point 47 (part)]

9.12.15 G A senior *liquidity facility* need not be taken into account for the purposes of determining the most senior tranche under ■ BIPRU 9.12.13 R.

9.12.16 R [deleted]

9.12.17 R In calculating the effective number of *exposures securitised*, multiple *exposures* to one obligor must be treated as one *exposure*. The effective number of *exposures* is calculated as:

$N = (((_i)(EAD_i))^2)/((_i)(EAD_i^2))$

where EAD_i represents the sum of the *exposure* values of all *exposures* to the ith obligor. If the portfolio share associated with the largest *exposure*, C1, is available, the *firm* may compute N as 1/C1.

[**Note:** *BCD* Annex IX Part 4 point 49]

9.12.18 R [deleted]

9.12.19 R [deleted]

The ABCP internal assessment approach

9.12.20 R

(1) If:

(a) a *firm's IRB permission* allows it to use this treatment; and

(b) the conditions in (2)(16) are satisfied,

a *firm* may attribute to an *unrated position* in an *asset backed commercial paper programme* a derived rating as laid down in (3).

(2) Positions in the commercial paper issued from the programme must be *rated positions*.

(3) Under the *ABCP internal assessment approach*, the *unrated position* must be assigned by the *firm* to one of the rating grades described in (5). The position must be attributed a derived rating that is the same as the credit assessments corresponding to that rating grade as laid down in (5). Where this derived rating is, at the inception of the *securitisation*, at the level of investment grade or better, it must be treated in the same way as an eligible credit assessment by an *eligible ECAI* for the purposes of calculating *risk weighted exposure amounts*.

(4) The internal assessment methodology must be used in the *firms* internal risk management processes, including its decision making, management information and capital allocation processes.

(5) The *firms* internal assessment methodology must include rating grades. There must be a correspondence between such rating grades

and the credit assessments of *eligible ECAIs*. This correspondence must be explicitly documented.

(6) The *firm* must be able to satisfy the *appropriate regulator* that its internal assessment of the credit quality of the position reflects the publicly available assessment methodology of one or more *eligible ECAIs*, for the rating of securities backed by the *exposures* of the type *securitised*.

(7) If a *firm's IRB permission* permits this, a *firm* need not comply with the requirement for the assessment methodology of the *ECAI* to be publicly available where it can demonstrate that due to the specific features of the *securitisation* for example its unique structure - there is as yet no publicly available *ECAI* assessment methodology.

(8) The *ECAIs*, the methodology of which must be reflected as required by (6), must include those *ECAIs* which have provided an external rating for the commercial paper issued from the programme. Quantitative elements such as stress factors used in assessing the position to a particular credit quality must be at least as conservative as those used in the relevant assessment methodology of the *ECAIs* in question.

(9) In developing its internal assessment methodology the *firm* must take into consideration relevant published ratings methodologies of the *eligible ECAIs* that rate the commercial paper of the *ABCP programme*. This consideration must be documented by the *firm* and updated regularly, as outlined in (15).

(10) The *ABCP programme* must have collections policies and processes that take into account the operational capability and credit quality of the servicer. The programme must mitigate seller/servicer risk through various methods, such as triggers based on current credit quality that would preclude commingling of funds.

(11) The *ABCP programme* must incorporate structural features for example wind down triggers - into the purchase of *exposures* in order to mitigate potential credit deterioration of the underlying portfolio.

(12) The *ABCP programme* must incorporate underwriting standards in the form of credit and investment guidelines. In deciding on an asset purchase, the programme administrator must consider the type of asset being purchased, the type and monetary value of the *exposures* arising from the provision of liquidity facilities and *credit enhancements*, the loss distribution, and the legal and economic isolation of the transferred assets from the entity selling the assets. A credit analysis of the asset sellers risk profile must be performed and must include analysis of past and expected future financial performance, current market position, expected future competitiveness, leverage, cash flow, and interest coverage, and debt rating. In addition, a review of the sellers underwriting standards, servicing capabilities, and collection processes must be performed.

(13) The *ABCP programme's* underwriting standards must establish minimum asset eligibility criteria that, in particular,

(a) exclude the purchase of assets that are significantly past due or defaulted;

(b) limit excess concentration to individual obligor or geographic area; and

(c) limit the tenor of the assets to be purchased.

(14) The aggregated estimate of loss on an asset pool that the *ABCP programme* is considering purchasing must take into account all sources of potential risk, such as credit risk and *dilution risk*. If the seller-provided *credit enhancement* is sized based on only credit-related losses, then a separate reserve must be established for *dilution risk*, if *dilution risk* is material for the particular *exposure* pool. In addition, in sizing the required enhancement level, the programme must review several years of historical information, including losses, delinquencies, dilutions, and the turnover rate of the receivables.

(15) Internal or external auditors, an *ECAI*, or the *firm's* internal credit review or risk management function must perform regular reviews of the internal assessment process and the quality of the internal assessments of the credit quality of the *firms exposures* to an *ABCP programme*. If the *firms* internal audit, credit review, or risk management functions perform the review, then these functions must be independent of the *ABCP programme* business line, as well as the customer relationship.

(16) The *firm* must track the performance of its internal ratings over time to evaluate the performance of its internal assessment methodology and must make adjustments, as necessary, to that methodology when the performance of the *exposures* routinely diverges from that indicated by the internal ratings.

[**Note:** *BCD* Annex IX Part 4 points 43 and 44]

Supervisory formula method

9.12.21 R Subject to any *permission* of the type described in ■ BIPRU 9.12.28 G, under the *supervisory formula method*, the *risk weight* for a *securitisation position* must be the *risk weight* to be applied in accordance with ■ BIPRU 9.12.22 R. However, the *risk weight* must be no less than 20% for *resecuritisation positions* and no less than 7% for all other *securitisation positions*.

[**Note:** *BCD* Annex IX Part 4 point 52]

9.12.22 R (1) Subject to any *permission* of the type described in ■ BIPRU 9.12.28 G, the *risk weight* to be applied to the *exposure* amount must be:

12.5 (S[L+T] - S[L]) / T

(2) The remaining provisions of this paragraph define the terms used in the formulae in (1) and (3).

(3)
$$S[x] = \begin{cases} x & \text{when } x \le K_{IRBR} \\ K_{IRBR} + K[x] - K[K_{IRBR}] + (d \cdot K_{IRBR} h) \left(1 - e^{\omega (K_{IRBR} - x)/K_{IRBR}}\right) & \text{when } K_{IRBR} < x \end{cases}$$

(4)
$$h = (1 - K_{IRBR} / ELGD)^N$$

(5) $$c = K_{IRBR} / (1 - h)$$

(6) $$v = \frac{(ELGD - K_{IRBR}) K_{IRBR} + 0.25 (1 - ELGD) K_{IRBR}}{N}$$

(7) $$f = \left(\frac{v + K_{IRBR}^{2}}{1 - h} - c^{2} \right) + \frac{(1 - K_{IRBR}) K_{IRBR} - v}{(1 - h)\tau}$$

(8) $$g = \frac{(1 - c)c}{f} - 1$$

(9) $$a = g \cdot c$$

(10) $$b = g \cdot (1 - c)$$

(11) $$d = 1 - (1 - h) \cdot (1 - Beta [K_{IRBR} ; a, b])$$

(12) $$K[x] = (1 - h) \cdot ((1 - Beta [x; a, b]) x + Beta [x; a + 1, b] c).$$

(13) $\tau = 1000,$

(14) $\omega = 20.$

(15) In these expressions, *Beta [x; a, b]*refers to the cumulative beta distribution with parameters a and b evaluated at x.

(16) T (the thickness of the *tranche* in which the position is held) is measured as the ratio of (a) the nominal amount of the *tranche* to (b) the sum of the *exposure* values of the *exposures* that have been *securitised*. For these purposes the *exposure* value of a *financial derivative instrument* must, where the current replacement cost is not a positive value, be the potential future credit exposure calculated in accordance with ■ BIPRU 13 (Treatment of derivative instruments).

(17) K_{IRBR} is the ratio of (a) K_{IRB} to (b) the sum of the *exposure* values of the *exposures* that have been *securitised*. K_{IRBR} is expressed in decimal form (for example, K_{IRB} equal to 15% of the pool would be expressed as K_{IRBR} of 0.15).

(18) L (the *credit enhancement* level) is measured as the ratio of the nominal amount of all *tranche*s subordinate to the *tranche* in which the position is held to the sum of the *exposure* values of the *exposures* that have been *securitised*. Capitalised future income must not be included in the measured L. Amounts due by counterparties to *financial derivative instruments* that represent *tranche*s more junior than the *tranche* in question may be measured at their current replacement cost (without the potential future credit exposures) in calculating the enhancement level.

(19) N is the effective number of exposures calculated in accordance with ■ BIPRU 9.12.17 R - ■ BIPRU 9.12.18 R. In the case of *resecuritisations*, the *firm* must look at the number of *securitisation exposures* in the pool and not the number of underlying *exposures* in original pools from which the underlying *securitisation exposures* stem.

(20) ELGD, the *exposure*-weighted average loss-given-default, is calculated as follows:

$$ELGD = \frac{\sum_i LGD_i \cdot EAD_i}{\sum_i EAD_i}$$

(21) In (20) LGD_i represents the average *LGD* associated with all *exposures* to the ith obligor, where *LGD* is determined in accordance with ■ BIPRU 4. In the case of *resecuritisation*, an *LGD* of 100% must be applied to the *securitised* positions. When default risk and *dilution risk* for purchased receivables are treated in an aggregate manner within a *securitisation* (e.g. a single reserve or over-collateralisation is available to cover losses from either source), the *LGD* input must be constructed as a weighted average of the *LGD* for credit risk and the 75% *LGD* for *dilution risk*. The weights are the stand-alone capital charges for credit risk and *dilution risk* respectively.

[**Note:** *BCD* Annex IX Part 4 point 53 (part)]

Simplified inputs

9.12.23 R

(1) Under the *supervisory formula method*, if the *exposure* value of the largest *securitised exposure*, C_1, is no more than 3% of the sum of the *exposure* values of the *securitised exposures*, then for the purposes of the *supervisory formula method* the *firm* may set *LGD* equal 50% and N equal to either:

(a)

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

;or

(b) $N=1/C_1$.

(2) C_m is the ratio of the sum of the *exposure* values of the largest 'm' *exposures* to the sum of the *exposure* values of the *exposures securitised*. The level of m may be set by the *firm*.

(3) For *securitisations* involving *retail exposures*, the *supervisory formula method* may be implemented using the simplifications: *h* = 0 and *v* = 0.

[**Note:** *BCD* Annex IX Part 4 point 53 (part)]

9.12.24 G

Where a *securitisation* of *retail exposures* has a sufficiently low value of N for the simplification in ■ BIPRU 9.12.23 R (3) to result in a material change in the capital charge as compared to the position if the approach in ■ BIPRU 9.12.23 R were not taken, a *firm* should discuss with the *appropriate regulator* the suitability of its use.

Liquidity Facilities

9.12.25 R The provisions in ■ BIPRU 9.12.26 R to ■ BIPRU 9.12.28 G apply for the purposes of determining the *exposure* value of an unrated *securitisation position* in the form of certain types of *liquidity facility*.

[**Note:** *BCD* Annex IX Part 4 point 55]

Liquidity facilities only available in the event of general market disruption

9.12.26 R [deleted]

Cash advance facilities

9.12.27 R A conversion figure of 0% may be applied to the nominal amount of a *liquidity facility* that meets the conditions set out in ■ BIPRU 9.11.12 R.

[**Note:** *BCD* Annex IX Part 4 point 57]

Exceptional treatment for liquidity facilities where KIRB cannot be calculated

9.12.28 G

(1) When it is not practical for the *firm* to calculate the *risk weighted exposure amounts* for the *securitised exposures* as if they had not been *securitised* and the position does not qualify for the *ABCP internal assessment approach*, a *firm* may apply to the *appropriate regulator* for a variation of its *IRB permission* under which, on an exceptional basis, it may temporarily apply the method in (2) for the calculation of *risk weighted exposure amounts* for an unrated *securitisation position* in the form of a *liquidity facility* that meets the conditions to be a *liquidity facility* set out in ■ BIPRU 9.11.10 R.

(2) Under the method in this paragraph, the highest *risk weight* that would be applied under the *standardised approach* to any of the *securitised exposures* had they not been *securitised* may be applied to the *securitisation position* represented by the *liquidity facility*. To determine the *exposure* value of the position a conversion figure of 50% may be applied to the nominal amount of the *liquidity facility* if the facility has an original maturity of one year or less. In other cases a conversion factor of 100% must be applied.

[**Note:** *BCD* Annex IX Part 4 points 58 and 59]