Reserve Bank of New Zealand
Te Pūtea Matua

BPR132

Credit Risk Mitigation

Purpose of document

This document specifies the types of **credit risk** mitigation that may be recognised when a bank calculates the risk-weighted asset (**RWA**) for a credit exposure, the conditions under which recognition is allowed, and the way that the recognised mitigation affects the **RWA** calculation.

Document version history

1 July 2021	First issue date
1 October 2021	Minor formatting improvements
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Conditions of registration

The Banking (Prudential Supervision) Act 1989 (the **Act**) permits the Reserve Bank to impose conditions of registration (conditions) on **registered banks**[1].

This document BPR132: Credit Risk Mitigation forms part of the requirements for the following conditions:*

- A New Zealand-incorporated **registered bank** is normally subject to a condition requiring it to maintain capital ratios above specified minimum levels, and also to a condition imposing restrictions on its dividend payments when its **prudential capital buffer ratio** falls below specified levels[2]. This document sets out the methodology for recognising **credit risk** mitigation in the calculation of **credit risk RWAs**. A New Zealand-incorporated **registered bank** needs to calculate total **credit risk RWAs** as part of calculating its day-to-day values for the capital ratios and the capital buffer ratio, and hence monitor its compliance with these capital adequacy conditions.

* All of the material set out in this document forms part of the requirements of the applicable condition, except material that is expressly identified as guidance by being included in a shaded box like this.

[1] The conditions can relate to any of the matters referred to in sections 73 to 73B, 78, and 81 of the Act. The standard conditions are contained in Appendix 1 of document BS1: Statement of Principles.
[2] These conditions of registration relate to the matter referred to in: section 78(1)(c) of the Act (capital in relation to the size and nature of the business).

BPR132: Credit Risk Mitigation

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Part A: Introduction

A1 Purpose and applications

A1.1 Purpose

This document sets out the calculation methods a bank must use, and the conditions that must be met, for recognising the benefits of **credit risk** mitigation when calculating **credit risk RWAs**.

A1.2 Application

1. This document covers the following three general types of **credit risk** mitigation:

   a. collateral posted by a counterparty or by a **third party** on behalf of the counterparty (see Part B); and

   b. on-balance sheet netting of loans and deposits (see Part C); and

   c. guarantees provided to the bank and **credit derivatives** purchased by the bank (see Part D).

> Guidance: This document does not cover the measurement of the counterparty credit risk exposure arising on **derivatives** under a bilateral netting agreement with a single counterparty. That measurement approach and the conditions for using it are provided in Subpart E3 of BPR131, as part of the general methodology for calculating the **CEA** of **derivatives**.

2. Most of the methodologies provided in this document serve to adjust standardised **RWA** calculations although, exceptionally, Subpart D2 provides a separate **IRB** methodology for taking account of a guarantee or **credit derivative** held against an **IRB** modelled exposure.

3. The methodologies are also required as part of the calculation of **credit risk RWAs** for IRB modelled exposures where there is a standardised component to the calculation, such as the calculation of the **CEA** for a **derivative** where the bank holds collateral against the counterparty **credit risk**, and the calculation of a netted on-balance sheet exposure amount.

4. For **IRB credit risk RWAs** where none of the approaches in this document apply, a bank may take account of **credit risk** mitigation as part of its **credit risk** modelling, as provided for in BPR133.

5. The methodology allows **credit risk** mitigation to be recognised, to the extent specified, when there are certain types of mismatch between the underlying exposure and the mitigant as follows:

   a. currency mismatch (where the exposure is denominated in a different currency from the mitigant); and

   b. asset mismatch (where the reference obligation of a **credit derivative** is different from the underlying exposure); and

   c. maturity mismatch (where the mitigant is due to expire before the underlying exposure matures) (see Part E).

6. The different approaches available for the different cases of **credit risk** mitigation are summarised in Table A1.2.

Table A1.2: Guidance on general application of credit risk mitigation

Collateral posted by a counterparty or by a third party on behalf of the counterparty		
	IRB exposure (only applies to any part of **EAD** arising from counterparty credit risk)	Standardised exposure
For counterparty exposures in the banking book	The bank must use the comprehensive approach.	The bank may use either the comprehensive approach or the simple approach.
For counterparty exposures in the trading book	The bank must use the comprehensive approach.	The bank must use the comprehensive approach.
Under the comprehensive approach, the bank reduces the exposure amount to the counterparty by a prescribed amount of the collateral posted. Under the simple approach, the bank risk-weights the collateralised portion of the counterparty exposure by the risk-weight that applies to the collateral as an exposure		
On balance-sheet netting		
IRB exposure	Standardised exposure	
In calculating EAD, the bank may net the exposure amount against a deposit held, subject to relevant requirements and mismatch adjustments.	The bank may net the exposure against a deposit held, subject to relevant requirements and mismatch adjustments.	
Guarantees and credit derivatives		
IRB exposure	Standardised exposure	
The bank must adjust the **PD** and/or **LGD** inputs used to model **RWA** for the exposure.	The bank must use the substitution approach.	
Under the substitution approach the bank applies the risk-weight of the provider (guarantor or **credit derivative** seller) instead of the underlying exposure of the obligor.		

A2 General requirements for recognition of credit risk mitigation

A2.1 Recognition of credit risk mitigation: standardised approach

A bank using the standardised approach to calculate the **RWA** for a **credit risk** exposure may recognise **credit risk** mitigation on that exposure only if–

a. the **credit risk** mitigation is of one of the types covered in this document and meets all requirements in this document applicable to that type of **credit risk** mitigation, apart from the requirements in Subpart D2; and

Guidance: Subpart D2 is only applicable to recognition of guarantees and **credit derivatives** under the **IRB** approach.

b. in calculating the **RWA**, the bank uses the calculation method specified in this document to take account of the **credit risk** mitigation.

A2.2 Recognition of credit risk mitigation: IRB approach

1. BPR133 specifies all the types of **credit risk** mitigation that a bank may use in calculating the **RWA** for a **credit risk** exposure under the **IRB approach**, and refers to the applicable parts of this document in the cases listed in subsection (3).

2. In each of the cases set out in subsection (3), a bank using the **IRB approach** to calculate the **RWA** for a **credit risk** exposure may only recognise the type of credit **risk mitigation** referred to if–

   a. the **credit risk** mitigation meets the minimum requirements set out in this document; and

   b. the bank recognises the **credit risk** mitigation using the calculation method prescribed in this document.

3. The cases referred to in subsection (2) are–

   a. where the bank intends to recognise collateral held to mitigate the counterparty **credit risk** on a **derivative**, in calculating the **EAD** for the exposure (see Part B); and

   b. where the bank intends to recognise collateral in calculating the net exposure amount for a single **SFT**, or a number of **SFTs** covered by a master netting agreement, as part of the **EAD** calculation for the counterparty (see Part B); and

   Guidance: Only the comprehensive **RWA** calculation method for collateral is available to banks using the **IRB approach**.

   c. where the bank intends to recognise on-balance sheet netting of loans and deposits as part of the **EAD** calculation for the exposure (see Part C); and

   d. where the bank intends to recognise a guarantee or **credit derivative** in the **RWA** calculation for the exposure (see Part D2).

   Guidance: Subpart D2 sets out the separate **IRB** method for taking account of guarantees and **credit derivatives** in the **RWA** calculation, under which the bank adjusts **PD** or **LGD**.

4. In any case not covered by subsection (3), a bank calculating the **RWA** for a credit exposure under the **IRB approach** may only recognise **credit risk** mitigation if permitted to do so by BPR133.

   Guidance: For example, other than in the situations in subsection (3)(a) and (b), BPR 133 allows a bank to take account of collateral in its **RWA** calculations by using its own estimation method to adjust **LGD**.

A2.3 General conditions on recognition of credit risk mitigants

1. A **credit risk** mitigation technique may only be recognised in calculating the **RWA** for a **credit risk** exposure if the supporting documentation meets the following requirements:

   a. the documentation must be binding on all parties and legally enforceable in all relevant jurisdictions; and

   b. the enforceability of the documentation must be verified through periodic legal reviews.

2. A bank may ignore **credit risk** mitigation in the **RWA** calculation for a transaction if recognising the **credit risk** mitigation as provided for in this document would result in a higher **RWA** amount.

3. The effects of **credit risk** mitigation must not be double counted.

> Guidance: This means that no additional recognition of **credit risk** mitigation is permitted for claims with an issue-specific rating that already takes into account **credit risk** mitigation.
>
> For **standardised banks**, this also means that **LMI** (Lender's Mortgage Insurance) can only be recognised as specifically provided for in the concessionary risk-weighting in section C3.10 of BPR131: Standardised Credit Risk RWAs, not under the general **credit risk** mitigation approach here.

Part B: Collateral

B1 Methodology and general requirements

B1.1 Simple and comprehensive approaches

1. The requirements relating to the recognition of collateral are as follows:

   a. the methodology referred to as the comprehensive approach is set out in subpart B2; and

   b. the methodology referred to as the simple approach is set out in subpart B3; and

   c. the minimum requirements set out in sections B1.2 and B1.3 apply to both the comprehensive and simple approaches.

> Guidance: In the simple approach, the risk weight of collateral is substituted for the risk weight of the counterparty for the collateralised portion of an exposure, which is generally subject to a risk weight floor of 20%. The comprehensive approach allows fuller offset of collateral against exposures by effectively reducing the exposure amount by the value ascribed to the collateral.

2. Under both the simple and the comprehensive approaches, a capital requirement applies to a bank on either side of a collateralised transaction.

> Guidance: For example, both repurchase and reverse repurchase agreements are subject to capital requirements. Likewise, both sides of a securities lending and borrowing transaction are subject to explicit capital charges, as is the posting of securities in connection with a **derivative** exposure or other borrowing.

3. An **IRB bank** must use the comprehensive method for recognising collateral in any case falling within the scope of this document.

> Guidance: An **IRB bank** may use only the comprehensive method, and then only to the extent specified in section A1.2(2).

4. A **standardised bank** that intends to recognise collateral for the purpose of calculating **RWAs** must,–

   a. for exposures in the banking book, choose either the simple approach or the comprehensive approach and apply the chosen approach consistently to all banking book exposures where the bank has taken collateral; and

   b. use only the comprehensive approach for exposures in the trading book, when recognising collateral pledged against the counterparty risk on a trading book exposure.

B1.2 Eligible collateral

1. The forms of collateral eligible for credit risk mitigation are as follows:

   a. cash collateral in the form of–

      i. balances on deposit with the bank; or

      ii. a certificate of deposit or other similar instrument issued by the bank; and

   Guidance: A cash-funded credit linked note that is issued by the bank against an exposure in the banking book and that fulfils the criteria for **credit derivatives** will be treated as a cash collateralised transaction.

   b. a **debt security** that has an issue-specific rating agency assessment and is either–

      i. a claim on a **sovereign**, claim on a **lowest-risk multilateral development banks and supranationals**, an **other development bank**, a **public sector entity** , a **bank**, or a corporate, that has an issue-specific short-term rating grade of 1, 2, or 3 (see BPR131: Standardised credit risk RWAs, Table B2.2); or

      ii. a claim on a sovereign, that has an issue-specific long-term rating grade of 1, 2, 3, or 4, or a claim on another entity that has an issue-specific long-term rating grade of 1, 2 or 3 (see BPR131: Standardised credit risk RWAs, Table B2.3); and

   c. a **debt security** that has no issue-specific rating agency assessment and is–

      i. issued by a **bank** that has other rated issues of the same seniority that have an issue-specific short- or long-term rating grade of 1, 2, or 3; and

      ii. listed on a recognised exchange; and

      iii. classified as senior debt; and

   d. a listed **equity instrument** that is included in the NZX 50 or an overseas equivalent share market index.

2. However–

   a. securities issued by the counterparty or any person related to, or associated with, the counterparty, or by any other person whose credit quality has a material positive correlation with the credit quality of the original counterparty, are not eligible for recognition under this framework; and

   b. re-securitisations, irrespective of credit ratings, are not eligible financial collateral.

B1.3 Minimum requirements for collateral

1. A bank may only recognise collateral as **credit risk** mitigation for **RWA** purposes if the minimum legal and lodging requirements set out in subsections (2) and (3) are met.

2. The legal requirements are that–

a. there must be a formal written contractual agreement between the bank and the counterparty or **third party** lodging the collateral which establishes the bank's direct, explicit, irrevocable, and unconditional recourse to the collateral; and

b. the legal mechanism by which collateral is pledged or transferred must ensure that the bank has the right to liquidate or take legal possession of it immediately in the event of the default, insolvency, **statutory management**, voluntary administration, receivership, or bankruptcy of the counterparty or custodian of the collateral, or where any other credit event occurs that is defined in the transaction documentation as permitting enforcement of collateral; and

c. the bank must take all steps necessary to fulfil requirements under the law applicable to its interest in the collateral for obtaining and maintaining an enforceable security interest.

Guidance: This includes clear and robust procedures for the immediate liquidation of collateral to ensure that any legal conditions required for declaring the default of the counterparty and liquidating the collateral are observed and that the collateral can be liquidated promptly.

3. The lodging requirements are that–

a. cash collateral must be lodged with the bank; and

b. cash collateral in the form of a certificate of deposit or bank bill issued by the bank must be retained by the bank (that is, the bank must have physical possession of it) until the collateral obligations have been extinguished; and

c. collateral, other than cash collateral, must be held by either the bank, an independent custodian, or some other **third party** and, if it is not held by the bank, the bank must ensure that the actual holder segregates the collateral from the holder's own assets; and

d. in the case of collateral lodged on behalf of the counterparty by a **third party**, there must be collateral agreements in place with the **third party** that satisfy the requirements of subsection (2).

4. Under the comprehensive approach, collateral that is lodged for a shorter period than that of the underlying exposure may be recognised, but only if the requirements for maturity mismatch are satisfied (see Part E).

B2 Treatment of collateral: comprehensive approach

B2.1 Use of collateral

1. Under the comprehensive approach, the bank must adjust the exposure amount to a counterparty to reflect eligible collateral using one of the following:

a. the formula set out in section B2.9, if the exposure is one of a number of **SFTs** with the counterparty and subject to a master netting agreement meeting the requirements of section B2.8; or

b. in all other cases, the formula set out in section B2.2.

2. Using haircuts, the bank must adjust both the amount of the exposure to the counterparty (the volatility-adjusted exposure amount) and the value of the collateral (the volatility-adjusted collateral amount).

3. The size of the required haircuts depends on the type of instrument, the type of transaction, and the frequency of remargining or revaluing.

4. If the exposure and collateral are denominated in different currencies, the bank must make an additional downwards adjustment to the collateral amount to take into account possible future fluctuations in exchange rates.

5. For certain types of **SFTs**, a 0% haircut may be used to calculate the exposure amount after **credit risk** mitigation.

Guidance: The conditions for a zero haircut are set out in section B2.6.

6. The adjusted exposure amount after **credit risk** mitigation, E*, is the difference between the volatility-adjusted exposure amount and the volatility-adjusted collateral amount.

7. Under the standardised approach, E* must be risk-weighted using the risk weight applicable to the underlying counterparty.

8. Under the **IRB approach**, E* forms part of the bank's total net **EAD** for that counterparty.

B2.2 Calculation of adjusted exposure amount for collateralised transactions

1. Subject to subsections (2) and (3), a bank must calculate the adjusted exposure amount of a transaction with eligible collateral using the following formula:

$$E^* = \max\{0, [E \times (100\% + H_E) - C \times (100\% - H_C - H_{FX})]\}$$

where—

E^* is the adjusted exposure amount after risk mitigation

E is the current value of the exposure

H_E is the haircut appropriate to the exposure

C is the current value of the collateral

H_C is the haircut appropriate to the collateral

H_{FX} is the haircut appropriate for currency mismatch between the collateral and exposure (see subsection B2.1(4)).

Guidance: The haircuts referred to in HE, HC, and HFX are the standard haircuts specified in section B2.3 and Table B2.3, adjusted in accordance with sections B2.4 and B2.5.

2. When the exposure arises from the counterparty **credit risk** on a single **derivative** or bilaterally netted **derivatives** within the scope of Part E of BPR131, the bank must calculate the collateralised exposure amount using the following formula:

$$E^* = \max\{0, [\mathbf{CEA} - C \times (100\% - H_C - H_{FX})]\}$$

where—

CEA is the credit equivalent amount of the **derivative** or netted **derivatives** calculated in accordance with Part E of BPR 131; and

other terms have the meaning given in subsection (1).

Guidance: This means that collateral held against a **derivative** or group of netted **derivatives** with a single counterparty is adjusted by the haircuts HC and HFX as applicable, with the haircuts adjusted in accordance with sections B2.4 and B2.5, but the haircut HE does not apply.

If the collateral held against a **derivative** or group of netted **derivatives** is subject to a standard Credit Support Annex (or equivalent documentation), a currency mismatch arises on any of the collateral that is in a currency other than the Base Currency specified in the Credit Support Annex.

Where a group of netted **derivatives** and the collateral held against them are in a mix of currencies, the bank may use any reasonable approach to determine which portions of the collateral can be matched by currency to portions of the net **derivative** exposure, and then apply the required haircut HFX to the rest of the collateral held.

3. For two or more **SFTs** with a given counterparty that are subject to a master netting agreement meeting the requirements of section B2.8, the adjusted exposure amount must be calculated using the formula in section B2.9.

B2.3 Standard supervisory haircuts

1. The standard supervisory exposure and collateral haircuts expressed as percentages are as set out in Table B2.3.

Guidance: The percentages given in the table are based on remargining and collateral revaluation being undertaken on a daily basis, and assumes a 10 working day holding period. The holding period refers to the estimated time between the last day on which the bank held the correct amount of collateral, and final liquidation of the collateral, in the event of default. If other remargining frequencies or assumed holding periods apply, haircuts must be adjusted in accordance with sections B2.4 and B2.5.

Table B2.3 – Standard supervisory haircuts (%)

External rating grade for debt securities	Residual maturity	Sovereigns	Other Issuers	Securitisation exposures
1 (long- and short-term)	≤ 1 year	0.5	1	2
	> 1 year, ≤ 5 years	2	4	8
	> 5 years	4	8	16
2 or 3 (long- and short-term) and unrated bank securities	≤ 1 year	1	2	4
	> 1 year, ≤ 5 years	3	6	12
	> 5 years	6	12	24
4 (long-term)	all	15	n/a	n/a
Equities in the NZX 50 or an overseas equivalent			15	
Cash in the same currency			0	
Currency mismatch (H_{FX})			8	

Guidance: This table relates to the elements of the formula in section B2.2: H_{FX} is the last item in the table (currency mismatch), the other items in the table being for the purposes of establishing H_E and H_C. The guidance note following section B2.5 explains how the necessary adjustments are to be made.

2. In Table B2.3:

   a. "sovereigns" includes the **lowest-risk multilateral development banks and supranationals** that qualify for a zero risk weight under section C2.4 of BPR131; and

   b. "other issuers" includes **banks**, **PSEs**, and corporates; and

   c. "cash in the same currency" relates to eligible cash collateral, as defined in section B1.2(1)(a); and

   d. external rating grades are as defined in subpart B2 of BPR131; and

   e. "unrated **bank** securities" refers to collateral that is eligible under section B1.2(1)(c).

3. For a transaction in which the bank lends an instrument that is not eligible as collateral under section B1.2, the bank must calculate E* using the formula in subsection B2.2(1), with the haircut HE on the exposure set at 25%.

B2.4 Adjustments to standard supervisory haircuts where standard assumptions do not apply

1. If remargining or revaluation is not undertaken on a daily basis, the haircut must be scaled up, depending on the actual number of working days between remargining or revaluations.

2. If the transaction is of a type for which the minimum holding period specified in Table B2.4 is not 10 days, the haircut must be scaled up or down as applicable.

3. The formula for carrying out the adjustments described in this section is set out in section B2.5, and the adjustments must be made to any of the applicable haircuts in the formula in section B2.2 (that is, to H_E, H_C, or H_{FX}).

Table B2.4 – Minimum holding periods

Transaction type	Minimum holding period	Condition
SFTs	5 working days	daily remargining
other capital market transactions	10 working days	daily remargining
secured lending	20 working days	daily revaluing

B2.5 Adjustment for haircuts

The supervisory haircut to be used for a collateralised exposure is calculated by the formula:

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

where—

H is the supervisory haircut to be used for HE, HC, or HFX, as applicable, in the formula for E* in section B2.2

H_M is the standard haircut from Table B2.3

T_M is the minimum holding period specified in Table B2.4 for the transaction type to which the collateralised exposure belongs (5, 10, or 20 working days, as applicable)

N_R is the actual number of working days between–

i. remargining, for capital market transactions; or

ii. revaluation, for secured transactions.

Guidance: For example, if the collateral is an **equity** in the NZX50, Table B2.3 gives a value for H_M of 15%. If the actual number of working days between remargining or revaluation (as the case may be) is 6 days, then the value of N_R is 6 (days). Finally, if the collateral is being held in relation to secured lending, the relevant minimum holding period in Table B2.4 for that type of transaction is 20 days, giving a value for T_M of 20 (days).

Inserting those values into the formula would mean that the supervisory haircut (**H**) is 23.7%, calculated as follows:

$H = 15\% \times \sqrt{\frac{6+(20-1)}{10}} = 15\% \times \sqrt{2.5}$ and hence H (haircut to use) = 23.7%

(rounded). This value of H is inserted for the collateral haircut H_C in the formula in section B2.2(1).

B2.6 Conditions for a zero haircut

For **SFTs**, where the counterparty is a core market participant (as defined in section B2.7), a haircut of zero will apply if the following conditions are satisfied:

a. each of the exposure and the collateral is either cash, or a sovereign security qualifying for a 0% risk weight under section C2.2 of BPR131; and

b. the exposure and the collateral are denominated in the same currency; and

c. either the transaction is overnight or both the exposure and collateral are marked to market daily and are subject to daily remargining; and

d. the collateral agreement specifies that, in the event of the counterparty's failure to remargin, the time between the last mark to market before that event and the liquidation of the collateral is not more than 4 working days; and

Guidance: This does not require the bank to always liquidate the collateral, but rather to have the capability to do so within the given time frame.

e. the transaction is settled across a settlement system that is regularly used by core market participants for that type of transaction; and

f. the documentation covering the agreement is standard ISDA documentation for **SFTs** in the securities concerned; and

g. the transaction is governed by documentation specifying that, if the counterparty fails to satisfy an obligation to deliver cash or securities or to deliver a margin call or otherwise defaults, then the transaction is immediately terminable; and

h. upon any default event, regardless of whether or not the counterparty is insolvent or bankrupt, the bank has an unequivocal, legally enforceable, right to immediately seize and liquidate the collateral for its own benefit.

B2.7 Core market participants

The following entities are considered core market participants:

a. the New Zealand Government:

b. the Reserve Bank of New Zealand:

c. **banks**.

B2.8 Recognition of SFTs covered by master netting agreements

A bilateral netting agreement covering **SFTs** with a given counterparty is recognised as **credit risk** mitigation for **RWA** purposes if, in all relevant jurisdictions, it–

a. is legally enforceable in the event of default, regardless of whether or not the counterparty is insolvent, bankrupt, or under **statutory management**; and

b. gives the non-defaulting party the right to immediately terminate and close out all transactions under the agreement in the event of default, including in the event of insolvency, bankruptcy, or **statutory management**; and

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

d. allows for the immediate liquidation or set-off of collateral in the event of default, including in the event of insolvency, bankruptcy, or **statutory management** or other similar forms of administration.

B2.9 Formula for calculating exposure under master netting agreement

1. If a bank is calculating the capital requirement for a number of **SFTs** subject to a master netting agreement, the formula in section B2.2 is replaced with the formula in subsection (2).

Guidance: The purpose of the formula is to give a net exposure amount after netting all the exposures and collateral, plus an add-on amount to reflect possible price changes of the securities involved in the transactions, and a further add-on for **currency risk**, if any. The net long or short position in each security included in the netting agreement is multiplied by the appropriate haircut. All other rules for the calculation of haircuts set out in sections B2.3 to B2.7 apply to banks using bilateral netting agreements for **SFTs**.

SFTs that are not covered by a master netting agreement are treated as individual collateralised transactions, and the formula in section B2.2 applies for calculating the net exposure amount for each **SFT**.

2. The formula for calculating the net exposure to a counterparty from a netting set of *n* **SFTs**, taking into account a master netting agreement, is as follows:

$$E^* = Max\left\{0, \sum_{i=1}^{n} E_i - \sum_{i=1}^{n} C_i + \sum_{j=1}^{m} H_j \times Abs\left(S_j\right) + \sum_{r=1}^{R} H_{FX} \times Abs\left(S_r^{fx}\right)\right\}$$

where—

E^* is the exposure value after **credit risk** mitigation

E_i is the current value of the exposure (cash or securities lent) on transaction i (i = 1 to n)

C_i is the current value of the collateral amount (cash or securities borrowed) on transaction i (i = 1 to n)

S_j is the net position in any security j (j = 1 to m), where individual positions in the security may arise either from lending the security (positive amount) or receiving the security as collateral (negative amount).

Abs denotes the absolute value function

H_j is the haircut applicable to security j, determined in accordance with sections B2.3 to B2.7.

S_r^{fx} is the net position in any security denominated in a currency different from the settlement currency (r = 1 to R), which is a subset of the full set of m securities (so that R ≤ m, and R may be zero).

H_{FX} is the foreign currency haircut applicable to security r, determined in accordance with sections B2.3 to B2.5.

B3 Treatment of collateral: simple approach

B3.1 Recognition of collateral

1. Under the simple approach, collateral is recognised for **credit risk** mitigation purposes only if the collateral is pledged for at least the life of the exposure, and is marked to market with a minimum frequency of six-monthly.

> Guidance: This means that a bank using the simple approach is unable to use the maturity mismatch adjustment provided for in Part E.
>
> The portion of an exposure collateralised by eligible collateral must be risk-weighted in accordance with section B3.2. The portion of the exposure not covered by the collateral must be risk-weighted using the risk weight applicable to the counterparty.

2. The release of collateral must be conditional on the repayment of the exposure.

3. However, collateral may be reduced in proportion to the amount of any reduction in the exposure amount.

B3.2 Risk weighting of collateralised transaction

1. Subject to the exceptions set out in subsections (2) and (3), the portion of an exposure collateralised by eligible collateral must be risk-weighted at the higher of–

   a. the risk weight applicable to the collateral under Part C of BPR131; or

   b. 20%.

2. A 0% risk weight may be applied to the portion of an exposure collateralised by eligible collateral if the transaction is–

   a. a collateralised transaction where the exposure and the collateral are denominated in the same currency, and either:

      i. the collateral is cash on deposit with the bank; or

ii. the collateral is in the form of sovereign securities eligible for a 0% risk weight, provided that the market value of the collateral used to determine the collateralised portion has been discounted by 20%; or

b. an **SFT** that fulfils the conditions for a zero haircut set out in section B2.6 and is with a core market participant (as defined in section B2.7); or

c. a **derivative** transaction in the banking book that is–

i. marked to market on a daily basis; and

ii. fully collateralised by cash; and

iii. denominated in the same currency as the collateral:

3. A 10% risk weight may be applied to the portion of an exposure collateralised by eligible collateral if the transaction is–

a. an **SFT** that fulfils the conditions for a zero haircut set out in section B2.6, but is not with a core market participant; or

b. a **derivative** transaction collateralised by sovereign securities that qualify for a 0% risk weight.

4. For determining the portion of the claim to be treated as collateralised in this section, the bank must use the market value of the collateral at its most recent revaluation.

Guidance: For example, a bank has a loan of $100 to a corporate borrower with a risk rating grade of 2. The bank holds collateral against the loan in the form of NZ government bonds with a current value of $60, under terms meeting the conditions in section B3.1. In this case, the bank may apply a 0% risk weight to $48 of the total exposure ($60 discounted by 20%, in accordance with subsection (2)(a)(ii)), and a 50% risk weight to the remaining $52 of the exposure (50% being the risk weight for a corporate with rating grade 2: see Table C2.7 of BPR131). The total **RWA** is then $26 (50% of $52).

Part C: On-balance sheet netting

C1 Recognition of on-balance sheet netting

C1.1 On-balance sheet netting of loans and deposits

This Part sets out the requirements for bilateral on-balance sheet netting of loans and deposits.

C1.2 Requirements for on-balance sheet netting

A bank may recognise on-balance sheet netting in calculating the **RWA** for a credit exposure when the following requirements are met:

a. there must be a well-founded legal basis for concluding that the bilateral netting agreement is enforceable in each relevant jurisdiction, regardless of whether the counterparty is insolvent or bankrupt; and

b. the bank must at all times be able to identify the loans and deposits that are subject to the bilateral netting agreement; and

c. the bank must monitor and control its roll-off risks; and

d. the bank must monitor and control the relevant exposure on a net basis.

Guidance: Bilateral netting agreements with legal entities that are related to each other may be comingled, to the extent that the exposures and collateral can be rolled up into a single holding company or other unifying entity.

C2 Calculation of exposure value

C2.1 Treatment of loans and deposits

1. Where bilateral on-balance sheet netting of loans and deposits is recognised, the net exposure value is calculated by the formula in section C2.2(1).

Guidance: The formula in section C2.2(1) uses the same methodology as for collateral (see the formula in section B2.2(1)), but with the loan treated as the exposure and the deposit treated as cash collateral.

2. No haircuts apply to the loan and deposit amounts unless they are denominated in different currencies, in which case the standard supervisory haircut for a currency mismatch applies to the deposit, scaled up if daily mark to market is not conducted.

C2.2 Formula for calculating exposure

1. The formula for calculating the net exposure value for loans that are netted against deposits under a recognised bilateral netting agreement is as follows:

$$E^* = \max\{0, [E - C_A \times (100\% - H_{FX})]\}$$

where–

E^* is the exposure value after risk mitigation

E is the current value of the exposure (that is, the value of the loans) to the counterparty subject to the bilateral netting agreement

H_{FX} is the supervisory haircut for a currency mismatch (specified as the last item in Table B2.3 in section B2.3(1)) adjusted, if revaluation takes place less frequently than daily (see section B2.4), in accordance with the formula in section B2.5 with the minimum holding period T_M set at 10 days.

C_A is–

i. the value of collateral (that is, the deposits), if there is no maturity mismatch between the deposits and the loans; or

ii. if there is a maturity mismatch, the value determined in accordance with, and subject to the conditions in, Part E.

2. Under the standardised approach, the exposure value after recognising on-balance sheet netting is multiplied by the risk weight applicable to the counterparty.

3. Under the **IRB approach**, the exposure value E is the bank's own estimate of **EAD** for the counterparty exposure before allowing for netting, and the value E^* after adjusting for on-balance sheet netting forms part of the bank's total net **EAD** for that counterparty.

Part D: Treatment of guarantees and credit derivatives under standardised and IRB approaches

D1 Treatment of guarantees and credit derivatives under standardised approach

D1.1 Introduction and application

1. Under the standardised approach, a bank must use the substitution method to reflect eligible guarantees and **credit derivatives** in **RWA** calculations, adjusted, where applicable, to take account of currency or maturity mismatches.

2. The substitution method involves the risk weight applicable to the credit protection provider (guarantor or **derivative** counterparty) being substituted for the risk weight applicable to the underlying exposure on the obligor (see section D1.11).

3. When an **IRB bank** is calculating the **RWA** for an exposure that is subject to the standardised approach–

   a. the bank must, in all cases, use the standardised substitution method set out in this subpart if it intends to recognise a guarantee or **credit derivative** in the **RWA** calculation; and

   b. if subsection (a) applies and the credit protection provider is within an accredited **IRB** model for the bank, the bank must–

      i. determine the standardised risk weight for the credit protection provider in accordance with BPR131; and

      ii. use that risk weight for applying the standardised substitution method.

4. The remaining sections of this Subpart apply as follows:

   a. section D1.2 specifies the eligibility requirements for recognising either a guarantee or a **credit derivative** in an **RWA** calculation;

   b. section D1.3 specifies the additional eligibility requirements applying specifically to guarantees;

   c. sections D1.4 to D1.7 specifies the additional eligibility requirements applying specifically to **credit derivatives**;

   d. sections D1.8 to D1.11 specify the methodology for adjusting an **RWA** calculation for an eligible guarantee or **credit derivative**, including where there is a currency mismatch (section D1.9) or a maturity mismatch (section D1.10).

D1.2 Conditions applying to recognition of guarantees and credit derivatives for RWA calculation

1. Subject to subsection (2), a bank may recognise a guarantee or **credit derivative** as **credit risk** mitigation in calculating an **RWA** only if–

   a. the credit protection provider is one of the following:

i. a **sovereign** or central bank:

ii. a **public sector entity**:

iii. a **lowest risk multilateral development bank and supranationals**, or **other development banks;**

iv. a **bank**:

v. a corporate with an **issuer** rating corresponding to a rating grade of 1 or 2 under Part B of BPR131; and

b. the credit protection provider is not a **connected person** of the bank.

2. A bank using the standardised approach may take account of a guarantee or credit **derivative** only if it–

a. represents a direct claim on the protection provider; and

b. is explicitly referenced to a specific exposure, or to a pool of exposures, (the underlying exposure), so that the extent of the cover is clearly defined and incontrovertible; and

c. is legally enforceable; and

Guidance: This means, in the case of a guarantee, that the guarantee must be actually posted and/or provided. A commitment to provide a guarantee is not sufficient.

d. is irrevocable; and

Guidance: This means that there must be no clause that would allow the protection provider to cancel cover unilaterally or that would increase the effective cost of cover as a result of deteriorating credit quality in the hedged exposure.

e. is unconditional; and

Guidance: This means that there must be no provisions in the contract that could prevent the protection provider from being obliged to make immediate payment should the original counterparty fail to make payments due.

f. meets the additional requirements set out in section D1.3 (in the case of a guarantee) or sections D1.4 to D1.7 (in the case of a **credit derivative**).

D1.3 Additional eligibility requirements for guarantees

The additional requirements that apply to a guarantee are that the guarantee must–

a. cover all types of payment the obligor is required to make under the documentation for the underlying exposure; and

Guidance: This will include, for example, interest, margin payments, and similar types of payments.

b. provide that, on the qualifying default of, or non-payment by, the obligor, any monies outstanding on the underlying exposure can be pursued immediately, without the need for legal action to be taken.

Guidance: In these cases, the guarantor may assume the future payment obligations of the obligor covered by the guarantee or may make one lump sum payment.

D1.4 Eligible types of credit derivative

1. A bank using the standardised approach may take account of a **credit derivative** as **credit risk** mitigation for **RWA** calculation purposes only if it is–

a. a **credit default swap** referenced to a single reference entity, that provides credit protection equivalent to a guarantee; or

b. subject to subsection (2), a **total return swap** that provides credit protection equivalent to a guarantee; or

c. a cash-funded credit-linked note.

2. Credit protection will not be recognised if a bank–

a. buys credit protection through a total return swap; and

b. records the net payments received on the swap as net income; and

c. does not record offsetting deterioration in the value of the asset that is protected, either through reductions in fair value or by an addition to reserves.

D1.5 Credit events to be covered under terms of credit derivative

1. To achieve sufficient **credit risk** transfer to enable full recognition of the amount of a **credit derivative**, the credit events under the contractual terms of the **credit derivative** must, as a minimum, cover the following circumstances:

a. a failure to pay an amount due under the terms of the underlying exposure that are in effect at the time of such failure (with a grace period in the **credit derivative** contract that is closely in line with the grace period of the underlying obligation); and

b. the bankruptcy, insolvency, **statutory management**, administration, or receivership of the obligor of the underlying exposure, the inability or failure of the obligor to pay its debts, the obligor's admission in writing that it is unable to pay its debts as those debts become due, or any other analogous event; and

c. the restructuring of the underlying exposure, including forgiveness or postponement of principal, interest, or fees, that results in a credit loss event (that is, charge off, allowance for impairment, or similar debit to the profit and loss account).

2. However, if the terms of a **credit derivative** cover the matters specified in subsection (1)(a) and (b), but do not cover the matters specified in subsection (1)(c)), partial recognition of the **credit derivative** is allowed as follows:

   a. if the amount of the protection provided by the **credit derivative** is less than or equal to the amount of the underlying exposure, 60% of the **credit derivative** protection amount may be recognised:

   b. if the amount of the credit protection provided is larger than the amount of the underlying exposure, a maximum of 60% of the value of the underlying exposure may be recognised as protected.

> Guidance: Sections D1.9 and D1.10 also provide adjustments to the amount of credit protection that is recognised, and section D1.11 sets out the method of recognition when the adjusted amount of credit protection is less than the exposure.

3. If the terms of a **credit derivative** do not meet the conditions in either subsection (1) or subsection (2), it must not be recognised for **RWA** calculation purposes.

> Guidance: This means that a **credit derivative** is not recognised if it does not cover either the credit events set out in subsection (1)(a), or the credit events set out in subsection (1)(b), or both.

D1.6 Cash-settled credit derivatives

A **credit derivative** allowing for cash settlement will be recognised as **credit risk** mitigation for **RWA** calculation purposes only if the bank has implemented–

a. a robust valuation process, which will estimate loss reliably; and

b. a clearly specified period for obtaining a post-credit-event valuation of the underlying exposure.

D1.7 Asset mismatch in relation to credit derivative

1. A **credit derivative** which includes an asset mismatch, as described in subsection (3), must not be recognised as credit mitigation for **RWA** calculation purposes unless the conditions in subsection (2) are met.

2. The conditions referred to in subsection (1) are that–

   a. the reference obligation (as defined in subsection (4)) ranks pari passu with, or junior to, the underlying exposure; and

   b. either the underlying exposure and the reference obligation are each obligations of the same legal entity, or the underlying exposure is an obligation of an entity that is unconditionally and irrevocably guaranteed by the reference entity specified in the **derivative** contract; and

   c. legally enforceable cross-default or cross-acceleration clauses are in place.

3. An asset mismatch occurs when–

   a. a bank has purchased credit protection by way of a **credit derivative**; and

   b. the underlying exposure protected by the **credit derivative** is different from the reference obligation specified in the **derivative** contract.

4. In this section, reference obligation means any one of the following in relation to a **credit derivative**:

   a. the deliverable obligation:

   b. in the case of a cash-settled **credit derivative**, the obligation used for the purposes of determining cash settlement:

   c. the obligation used for the purposes of determining whether a credit event has occurred.

D1.8 Treatment of cash-funded credit-linked notes

1. Subsection (2) applies if–

   a. a bank purchases credit protection against an exposure in the banking book; and

   b. that protection is purchased by way of a credit-linked note; and

   c. that note is funded by cash.

2. Where the circumstances described in subsection (1) exist, the bank must–

   a. treat the note as a cash-collateralised transaction; and

   b. apply the treatment and conditions set out in Part B.

D1.9 Currency mismatch adjustment

1. A currency mismatch occurs when a guarantee, or a **credit derivative**, is denominated in a different currency to the underlying exposure.

2. If there is a currency mismatch, the amount of the exposure deemed to be protected must be reduced by an adjustment or haircut in accordance with the following formula:

$$G_A = G \times (100\% - H_{FX})$$

   where—

   G_A is the amount of the exposure deemed to be protected

   G is the nominal amount of the credit protection

   H_{FX} is the haircut for the currency mismatch between the credit protection and the underlying exposure, calculated in accordance with subsection (3).

3. The haircut for a currency mismatch is–

   a. 8%, if the credit protection is marked to market on an daily basis; or

b. if the credit protection is marked to market less frequently than daily, 8% scaled up according to the frequency of revaluation using the following formula:

$$H_{FX} = 8\% \times \sqrt{\frac{N_R + 9}{10}}$$

where N_R is the actual number of working days between revaluations.

Guidance: This formula is based on the formula for adjusting haircuts in the treatment of collateral in section B2.5, but without any adjustment for different holding periods.

D1.10 Maturity mismatch adjustment

If the effective residual maturity of the guarantee or **credit derivative** is less than that of the underlying exposure, the amount of protection provided must be reduced using the approach, and subject to the conditions, set out in Part E.

D1.11 Method of recognition in RWA calculation

1. If, after making all required adjustments, the amount of protection provided by the guarantee or **credit derivative** is greater than, or equal to, the underlying exposure, the exposure may be assigned the risk weight of the protection provider.

Guidance: The required adjustments are those for currency mismatch (see section D1.9), maturity mismatch (see Part E), or, in the case of a **credit derivative**, where credit events are not fully covered (see section D1.5(2)). In line with section D1.1(3), the risk weight of the protection provider refers in all cases to the standardised risk weight.

2. Where the amount of protection provided is less than the underlying exposure, the following provisions apply:

a. if the protected portion of the exposure ranks equal, or senior, to the unprotected portion, the following treatment applies:

i. the protected portion of the exposure may be assigned the risk weight of the protection provider; and

ii. the unprotected portion of the exposure must be assigned the risk weight applicable to the underlying obligor:

Guidance: This covers both the case where the protection provider covers all losses up to the amount of the protection provided, and the case where the bank and the protection provider share losses on the protected portion on a pro-rata basis.

b. however, if the bank takes the first loss on the exposure, the bank may not recognise the credit protection for **RWA** purposes, and the underlying exposure must be assigned the risk weight applicable to the underlying obligor.

Guidance: The bank takes the first loss if, in the case of a guarantee, the bank can only claim on the guarantee if losses exceed the unprotected part of the claim or, in the case of a **credit derivative**, if the protected portion ranks after the unprotected portion.

D2 Treatment of guarantees and credit derivatives under IRB approach

D2.1 Use of guarantees and credit derivatives under IRB approach

1. The **IRB approach** for the recognition of **credit risk** mitigation in the form of guarantees and **credit derivatives** may be used for calculating the **RWA** of any exposure that is part of a portfolio that the Reserve Bank has accredited to be risk-weighted using an **IRB** model, provided that the credit protection provider is also subject to an **IRB** model.

Guidance: Where the bank intends to recognise a guarantee or credit derivative provided by a credit protection provider that is subject to the standardised approach, the whole **RWA** calculation must be standardised, as required by section C1.2(2)(c) of BPR130.

2. Where there is an asset, currency, or maturity mismatch, the bank must comply with the requirements of section D1.7, section D1.9, and Part E, as applicable.

Guidance: The provisions referred to in this subsection are contained within the provisions applying to banks using the standardised approach. However, they apply equally to banks using the **IRB approach**.

D2.2 Conditions applying to recognition of guarantees and credit derivatives for IRB RWA calculation

1. Subject to subsection (2), there are no in-principle restrictions on the types of credit protection providers that may be recognised under the **IRB approach** for calculating **credit risk RWAs**.

2. However, a guarantee or **credit derivative** issued by a party who is a **connected person** of the bank must not be recognised as **credit risk** mitigation for **RWA** calculation purposes.

Guidance: For the meaning of "**connected person**", see the Reserve Bank document BS8: Connected Exposures Policy.

3. The bank must have clearly documented criteria for the types of credit protection providers it recognises for **RWA** calculation purposes.

4. A guarantee or credit derivative must–

a. be in writing and non-cancellable on the part of the credit protection provider; and

b. remain in force until the obligations of the credit protection provider under the guarantee or **credit derivative** are satisfied in full (to the extent of its amount and tenor); and

c. be legally enforceable against the credit protection provider in a jurisdiction where–

i. the protection provider has sufficient assets to meet its obligations under the credit protection arrangement; and

ii. the bank has a legal ability to access those assets if the protection provider fails to comply with a judgement against it; and

d. in the case of a **credit derivative**, meet the additional requirements set out in section D2.8.

5. Despite subsection (4)(a) to (c), a conditional guarantee (a guarantee prescribing conditions under which the guarantor may not be obliged to perform) may be recognised if the bank can demonstrate that the methodology for adjusting **PD** or **LGD** estimates adequately addresses any potential reduction in the **credit risk** mitigation effect.

D2.3 Guarantees and credit derivatives: reflection in PD or LGD estimates

1. Subject to subsections (2) and (3) and section D2.4, the bank may reflect the risk-mitigating effect of a guarantee or credit derivative in an RWA calculation by adjusting either **PD** or **LGD** estimates, but the adjustments must be made consistently both across types of guarantees or **credit derivatives**, as the case may be, and over time.

Guidance: For retail exposures, this applies whether the credit protection covers an individual obligation or a pool of exposures.

2. If, after making all required adjustments, the amount of protection provided by the guarantee or **credit derivative** is less than the underlying exposure, the following treatment applies:

a. if the protected portion of the exposure ranks equal or senior to the unprotected portion, the bank may calculate the **RWAs** for the protected and unprotected portions using the approach set out in subsections (4) to (8):

Guidance: The protected portion ranking equal or senior to the unprotected portion means that the bank does not take the first loss on the underlying exposure.

b. however, if the bank takes the first loss on the exposure, the bank may not recognise the credit protection for **RWA** purposes, and the underlying exposure must be assigned the risk weight applicable to the underlying obligor.

3. A bank must not adjust an **LGD** estimate for the following exposure classes:

i. farm lending; and

ii. residential mortgage lending.

Guidance: This prohibition reflects the fact that the Reserve Bank has specified regulatory minimum **LGDs** for both farm lending (see sections C3.1(4) and C3.2 of BPR133) and residential mortgage lending (see section D3.2(4) of BPR133).

4. Where a bank adjusts an **LGD** estimate, the bank must use the **PD** estimate and risk-weight function applicable to the underlying obligor for both the protected and unprotected portions of the exposure.

5. Where adjustments are made to **PD** estimates, the bank must use the substitution approach to determine the capital charge for the protected and unprotected portions, in accordance with subsections (6) and (7) respectively.

6. For the protected portion of the exposure, the bank must calculate the risk weight as follows:

   a. the bank must calculate the capital charge using the risk-weight function appropriate to the credit protection provider; and

   b. the bank may, subject to the requirements specified in section C2.2 of BPR133, use a value of **PD** that is either–

      i. the **PD** associated with the bank's internal obligor grade for the credit protection provider; or

      ii. if the bank deems that full substitution is not warranted, the **PD** associated with a grade between that of the underlying obligor and the credit protection provider; and

   c. the bank may replace the **LGD** of the underlying exposure with the **LGD** applicable to the guarantee or **credit derivative**, taking into account its seniority and any eligible collateral.

7. For the unprotected portion of the exposure, the bank must calculate the risk weight in the same manner as for a direct exposure to the underlying obligor.

8. Whichever risk-weight functions the bank uses in applying the methodology in subsections (4) to (7), the value for maturity (**M**) that the bank uses in the formula must be the same **M** that it would use for calculating the **RWA** for the underlying exposure without a guarantee or **credit derivative**.

D2.4 Ratings of obligor and credit protection provider

1. In any adjustment referred to in section D2.3, both the obligor and all recognised credit protection providers must be assigned an obligor rating at all times, beginning with the initiation of the bank's relationship with those parties and on a continuing basis.

2. All minimum requirements for assigning and maintaining obligor ratings set out in BPR134 must be complied with, including the regular monitoring of the credit protection provider's condition and ability and willingness to honour its obligations.

D2.5 Guarantees and credit derivatives: retention of information

1. A bank must retain all relevant information regarding the obligor, and that information must be retained in the same way as it would be if the credit protection was not in place.

Guidance: For further document and information requirements, see, for example subpart C4 of BPR134.

2. In the case of retail exposures, these requirements also apply to the assignment of an exposure to a pool, and the estimation of **PD**.

D2.6 Guarantees and credit derivatives: limits on adjustments of PD or LGD

1. An exposure covered by a guarantee or **credit derivative** must not be assigned an adjusted **PD** or **LGD** that would result in the adjusted risk weight being lower than that of a comparable, direct, exposure to the credit protection provider.

2. When assigning ratings and estimating PDs for **RWA** calculation purposes, the bank must not take into account the possibility of risk being reduced by imperfect expected correlation between **default** events for the obligor and credit protection provider.

Guidance: The purpose of this subsection is to ensure that the adjusted risk weight does not reflect the risk mitigation of "double default".

D2.7 Criteria for adjusting PD/LGD

1. To reflect the impact of guarantees and **credit derivatives** under the substitution approaches, a bank must have clearly specified and documented criteria–

   a. for adjusting **PD** or **LGD** estimates; and

   b. in the case of retail exposures or eligible purchased receivables, for the process of allocating exposures to pools.

2. The criteria must, as a minimum, contain the detail required under subpart B4 of BPR134 for assigning exposures to grades, and must follow all minimum requirements for assigning borrower or facility ratings under BPR134.

3. The adjustment criteria must–

   a. be plausible and intuitive and address the credit protection provider's ability and willingness to perform under the guarantee or **credit derivative**; and

   b. address the likely timing of any payments and the degree to which the credit protection provider's ability to perform under the guarantee or **credit derivative** is correlated with the obligor's ability to repay; and

   c. consider the extent to which residual risk to the obligor remains.

4. In adjusting **PD** and **LGD** estimates all relevant material information must be taken into account.

D2.8 Criteria for adjusting PD/LGD: further requirements applying to credit derivatives

The criteria used for assigning adjusted **PD** or **LGD** estimates for exposures covered by **credit derivatives** must–

a. require that the exposure on which the protection is based (the reference obligation: see section D1.7(4)) cannot be different from the underlying exposure unless the conditions detailed in section D1.7 are met; and

b. address the payout structure of the **credit derivative**, and conservatively assess the impact this has on the level and timing of recoveries; and

c. consider the extent to which other forms of residual **credit risk** remain; and

d. require that the terms of the **credit derivative** cover all of the credit events specified in section D1.5(1), unless the restructuring of the underlying exposure is not covered, in which case the adjustment criteria may provide for partial recognition as detailed in section D1.5(2).

D2.9 Effect of adjustments on EL calculation

In calculating the expected loss (**EL**) for an exposure that is wholly or partly protected by a guarantee or **credit derivative**, the bank must use the same estimates of **PD**, **LGD**, and **EAD** as those used in calculating the **RWA** for unexpected loss (**UL**), after taking account of any adjustments provided for in section D2.3.

Guidance: The **EL** methodology is set out in Part F of BPR133. Where **PD** or **LGD** differs between protected and unprotected portions of an exposure, the **EL** must be calculated separately for the two portions.

Part E: Maturity mismatch

E1 Meaning and adjustments

E1.1 Meaning of maturity mismatch

1. This Part sets out the method for adjusting the amount of the **credit risk** mitigants provided for in Parts B to D where there is a maturity mismatch between the underlying credit exposure and relevant **credit risk** mitigant.

2. A maturity mismatch exists where the effective residual maturity of the **credit risk** mitigant is less than the effective residual maturity of the underlying exposure.

E1.2 Effective residual maturity

1. For the purposes of calculating the maturity mismatch adjustment, the bank must determine the effective residual maturity of both the underlying exposure and the **credit risk** mitigant conservatively.

2. The effective residual maturity of the underlying exposure is, taking the most conservative view, the longest possible remaining time before the obligor is required to fulfil its obligation.

> Guidance: In calculating the longest possible remaining time, account must be taken of any available grace period. The grace period refers to the time allowed between a default on the underlying obligation to pay and the time when payment is required.

3. The effective residual maturity of the mitigant is the shortest possible time remaining on the term of that mitigant, taking into account any clause in the transaction agreement that may reduce that term.

> Guidance: In calculating the shortest possible time remaining until the term of a mitigant expires, account must be taken of any clause in the documentation supporting the transaction that may reduce that term. If the counterparty has the capacity to reduce the term, the maturity will always be the first date on which the counterparty can exercise its discretion. If the bank has the discretion to reduce the term of that mitigant, and the terms of the mitigant contain a positive incentive for it to exercise its discretion before the agreed maturity, the remaining time to the first date when the discretion can be exercised will be deemed to be the effective maturity.

E1.3 Limitations on recognition of credit risk mitigants with maturity mismatch

1. For **RWA** calculation purposes, a bank must not recognise a **credit risk** mitigant that has–

   a. an effective original maturity of less than 12 months; and

   b. a maturity mismatch with the underlying exposure.

> Guidance: This means that a **credit risk** mitigant with an effective original maturity of less than 12 months can only be recognised for capital adequacy

purposes if its effective original maturity matches that of the underlying exposure.

2. In this Part, effective original maturity means the length of the period–

   a. beginning on the day on which the **credit risk** mitigant was first put in place; and

   b. ending on the day that was specified, when the mitigant was first put in place, as that mitigant's date of maturity.

Guidance: If a bank uses the simple approach to collateral (see subpart B3), collateral with a maturity mismatch must not be recognised. This means that the adjustment approach provided for in this Part does not apply in those circumstances.

E1.4 Maturity mismatch adjustment

If the effective original maturity of the **credit risk** mitigant is 12 months or more, **credit risk** mitigation with a maturity mismatch may be recognised for **RWA** calculation purposes, but the value of the mitigant must be adjusted using the following formula:

$$P_A = P \times \text{Max}\,[0, (t - 0.25) / (T - 0.25)]$$

where—

P_A is the amount of credit protection adjusted for maturity mismatch

P is the amount of credit protection that may be recognised after making the relevant adjustments required by Parts B to D, but before taking into account the maturity mismatch

Guidance: These adjustments include, for example, haircuts (see sections B2.3 to B2.7) and currency mismatches (see section D1.9).

t is the lesser of T and the effective residual maturity of the mitigant, expressed in years

T is the lesser of 5 and the effective residual maturity of the underlying exposure expressed in years.

Guidance: The application of this formula means that no recognition may be given to **credit risk** mitigation with a maturity mismatch if its residual maturity is 0.25 years (ie 3 months) or less.