



Prudential Standard APS 112

Capital Adequacy: Standardised Approach to Credit Risk

Objective and key requirements of this Prudential Standard

This Prudential Standard aims to ensure that an authorised deposit-taking institution holds sufficient regulatory capital against credit risk exposures.

The key requirements of this Prudential Standard are that an authorised deposit-taking institution:

- must apply risk-weights to on-balance sheet assets and off-balance sheet exposures for capital adequacy purposes. Risk-weights are based on credit rating grades or fixed weights broadly aligned with the likelihood of counterparty default; and
- may reduce the credit risk capital requirement for on-balance sheet assets and off-balance sheet exposures where the asset or exposure is secured against eligible collateral, where the authorised deposit-taking institution has obtained direct, irrevocable and unconditional credit protection in the form of a guarantee from an eligible guarantor, mortgage insurance from an acceptable lenders mortgage insurer, a credit derivative from a protection provider or where there are eligible netting arrangements in place.

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Authority

1. This Prudential Standard is made under section 11AF of the *Banking Act 1959* (**Banking Act**).

Application

2. This Prudential Standard applies to all authorised deposit-taking institutions (**ADIs**) with the exception of:
 - (a) foreign ADIs within the meaning of subsection 5(1) of the Banking Act; and
 - (b) ADIs that have approval from APRA to use an internal ratings-based approach to credit risk under *Prudential Standard APS 113 Capital Adequacy: Internal Ratings-based Approach to Credit Risk* (**APS 113**).
3. A reference to an ADI in this Prudential Standard shall be taken as a reference to:
 - (a) an ADI on a **Level 1** basis; and
 - (b) a group of which an ADI is a member on a **Level 2** basis.

Level 1 and Level 2 have the meaning in *Prudential Standard APS 110 Capital Adequacy* (**APS 110**).

Where an ADI to which this Prudential Standard applies is a subsidiary of an authorised non-operating holding company (**authorised NOHC**), the authorised NOHC must ensure that the requirements in this Prudential Standard are met on a Level 2 basis, where applicable.

Scope

4. This Prudential Standard, subject to paragraphs 5 and 6, applies to all on-balance sheet assets held by an ADI and all its off-balance sheet exposures.
5. The following items are excluded from the scope of this Prudential Standard:
 - (a) assets or investments that are required to be deducted from Tier 1 and/or Tier 2 capital under *Prudential Standard APS 111 Capital Adequacy: Measurement of Capital* (**APS 111**); and
 - (b) securitisation exposures which are subject to the requirements of *Prudential Standard APS 120 Securitisation* (**APS 120**).
6. Items subject to capital requirements under *Prudential Standard APS 116 Capital Adequacy: Market Risk* (**APS 116**) are excluded for the purpose of calculating risk-weighted assets for credit risk under this Prudential Standard, but not for the purpose of calculating counterparty credit risk capital requirements (refer to Attachment B).

Definitions

7. The following definitions are used in this Prudential Standard:
- (a) **close-out netting** - the process of combining all outstanding transactions and reducing them to a single net payment in the event of default by a counterparty to a netting agreement;
 - (b) **credit-event payment** - the amount that is payable by the credit protection provider to the credit protection buyer under the terms of a credit derivative contract following the occurrence of a credit event. The payment can be in the form of **physical settlement** (payment of par in exchange for physical delivery of a deliverable obligation of the reference entity) or **cash settlement** (either a payment determined on a par-less-recovery basis, i.e. determined using the par value of the reference obligation less that obligation's recovery value, or a fixed amount, or a fixed percentage of the par amount);
 - (c) **credit events** - events affecting the reference entity that trigger a credit-event payment under the terms of a credit derivative contract;
 - (d) **credit protection** - the extent of credit risk transference from the party buying credit protection to the party selling credit protection under the terms of a credit derivative contract;
 - (e) **credit rating grades** - grades of credit ratings to which external credit assessment institution (**ECAI**) ratings are mapped, and that correspond to relevant risk-weights;
 - (f) **deliverable obligation** - any obligation of the reference entity that can be delivered, under the terms of a credit derivative contract, if a credit event occurs. A deliverable obligation is relevant for credit derivatives that are to be physically settled;
 - (g) **eligible bilateral netting agreement** - has the meaning in paragraph 7 of Attachment I;
 - (h) **ECAI** - an entity that assigns credit ratings designed to measure the creditworthiness of a counterparty or certain types of debt obligations of a counterparty;
 - (i) **netting** - the process under a netting agreement of combining all relevant outstanding transactions between two counterparties and reducing them to a single net sum for a party to either pay or receive;
 - (j) **netting by novation** - a netting agreement between two counterparties under which any obligation between the parties to deliver a given currency (or equity, debt instrument or commodity) on a given date is automatically amalgamated with all other obligations under the netting agreement for the same currency (or other instrument or commodity) and value date. The result is to legally substitute a single net amount for the previous gross obligations;

- (k) **normal settlement period** - a contractual settlement period that is equal to or less than the market standard for the instrument underlying the transaction and, in any case, less than five business days;
- (l) **on-balance sheet netting** - a netting agreement covering loans and deposits under which obligations between the parties are determined on a net basis. Loans are to be treated as an exposure and deposits with a lending ADI subject to on-balance sheet netting are to be treated as cash collateral as defined in Attachment G;
- (m) **overseas bank** - for the purposes of this Prudential Standard, a reference to an overseas bank includes a financial institution which:
 - (i) has the power to accept deposits in the ordinary course of business;
 - (ii) is supervised by the supervisor of banks in its home country; and
 - (iii) is subject to substantially the same prudential requirements as ADIs (including capital adequacy);
- (n) **over-the-counter (OTC) derivative transaction** - a customised, privately negotiated, risk-shifting agreement, the value of which is derived from the value of an underlying asset;
- (o) **payments netting** - a process designed to reduce operational costs and risks associated with daily settlement of transactions. Payments netting is not recognised for credit risk mitigation (**CRM**) purposes under this Prudential Standard;
- (p) **positive current exposure amount** - the difference between the agreed settlement price of a transaction and the current market price of the transaction where this would result in a loss to an ADI;
- (q) **reference entity** - the entity or entities whose obligations are used to determine whether a credit event has occurred under the terms of a credit derivative contract;
- (r) **reference obligation** - the obligation used to calculate the amount payable when a credit event occurs under the terms of a credit derivative contract. A reference obligation is relevant for obligations that are to be cash settled (on a par-less-recovery basis);¹
- (s) **roll-off risk** - the risk of a sudden material increase in an exposure(s) when short-term obligations that have been netted against longer term claims either mature, are rescinded or are generally no longer available to offset the obligation;
- (t) **securities financing transactions** - transactions such as repurchase agreements, reverse repurchase agreements, and security lending and borrowing transactions where the value of the transactions depends on the

¹ A reference obligation will typically also be a deliverable obligation unless otherwise excluded.

market valuation of securities and the transactions are typically subject to margin agreements;

- (u) **underlying exposure** - the banking book exposure that is being protected by a credit derivative; and
- (v) **walkaway clause** - a provision that permits a non-defaulting counterparty to make only limited payments, or no payments at all, to a defaulting party, even if the defaulting party is a net creditor.

Key principles

8. An ADI must apply risk-weights to its on-balance sheet assets and off-balance sheet exposures in accordance with the risk classes set out in this Prudential Standard for regulatory capital purposes. Risk-weights are based on credit rating grades or fixed risk-weights as determined by this Prudential Standard and are broadly aligned with the likelihood of counterparty default. An ADI must, where appropriate, use the ratings of ECAIs to determine the credit rating grades of an exposure, as set out in Attachments A and E.
9. An ADI may, subject to meeting the requirements of this Prudential Standard, use certain CRM techniques in determining the capital requirement for a transaction or exposure. The CRM techniques allowed in this Prudential Standard are the recognition of eligible collateral, lenders mortgage insurance, guarantees and the use of credit derivatives and netting.

Risk-weighting approach

10. APRA may, in writing, determine the risk-weighted amount of a particular on-balance sheet asset or off-balance sheet exposure of an ADI if APRA considers that the ADI has not risk-weighted the exposure appropriately.

On-balance sheet assets

11. An ADI's total risk-weighted on-balance sheet assets (for the purpose of assessing its credit risk capital requirement) must equal the sum of the risk-weighted amounts of each on-balance sheet asset.
12. The risk-weighted amount of an on-balance sheet asset is determined by multiplying its current book value (including accrued interest or revaluations, and net of any specific provision or associated depreciation) by the relevant risk-weight in Attachment A. Where the transaction is secured by eligible collateral, or there is an eligible guarantee, lenders mortgage insurance, credit derivative or netting arrangement in place, the CRM techniques detailed in Attachments C, F, G, H and I may be used to reduce the capital requirement of the exposure.

Off-balance sheet exposures²

13. An ADI's total risk-weighted off-balance sheet credit exposure must be calculated as the sum of the risk-weighted amount of all its market-related and non-market-related transactions.
14. The risk-weighted amount of an off-balance sheet transaction that gives rise to credit exposure must be calculated by the following two-step process:
 - (a) first, the notional amount of the transaction must be converted into an on-balance sheet equivalent, i.e. credit equivalent amount (CEA), by multiplying the amount by a specified credit conversion factor (CCF) (refer to Attachment B); and
 - (b) second, the resulting CEA must be multiplied by the risk-weight (refer to Attachment A) applicable to the counterparty or type of exposure. Where the transaction is secured by eligible collateral or there is an eligible guarantee, credit derivative or netting arrangement in place, the CRM techniques detailed in Attachments F, G, H and I may be used to reduce the capital requirement of the exposure.
15. An ADI must include all market-related off-balance sheet transactions (including on-balance sheet unrealised gains on market-related off-balance sheet transactions) held in the banking and trading books in calculating its risk-weighted credit exposures.
16. An ADI is exempt from risk-weighting:
 - (a) foreign exchange contracts that have an original maturity of 14 calendar days or less; and
 - (b) instruments traded on futures and options exchanges that are subject to daily mark-to-market and margin payments.

Use of ratings of external credit assessment institutions

17. An ADI may only use the solicited ratings³ of ECAIs to determine the credit rating grades that correspond to the risk-weights for counterparties and exposures. Ratings must be used consistently for each type of claim.
18. An ADI may not use credit ratings for one entity within a corporate group to determine the risk-weight for other (unrated) entities within the same group. If the rated entity has guaranteed the unrated entity's exposure to the ADI, the

² Off-balance sheet exposures are defined as exposures that must be converted to a credit equivalent amount in order to be risk-weighted. Items that were treated as off-balance sheet exposures prior to the introduction of the Australian equivalent of the International Financial Reporting Standards will continue to be treated as off-balance sheet exposures for the purpose of this Prudential Standard.

³ A solicited rating is a rating that has been initiated and paid for by the issuer or rated counterparty or a commercial associate of the issuer or rated counterparty.

guarantee may be recognised for risk-weighting purposes if the recognition criteria detailed in Attachment F are satisfied.

Credit risk mitigation

19. An ADI may not recognise additional CRM on claims where the risk-weight is mapped from an ECAI issue-specific rating and that rating already reflects CRM.
20. For an ADI to obtain capital relief for use of a CRM technique, all documentation must be binding on all parties and legally enforceable in all relevant jurisdictions. The ADI must have undertaken sufficient legal review to be satisfied with the legal enforceability of the technique and its documentation. The ADI will be expected to undertake periodic reviews to confirm the ongoing enforceability of the technique and its documentation.
21. An ADI must have policies and procedures to manage the risks associated with its CRM techniques.
22. Where multiple CRM techniques cover a single exposure, an ADI will be required to divide the exposure into portions covered by each CRM technique. The risk-weighted assets of each portion must be calculated, and then totalled.

Attachment A

Risk-weights for on-balance sheet assets

Claim	Credit rating grade ⁴	Risk-weight (%)
Class I - Cash items		
1. Notes and coins.		0
2. All Australian dollar balances and other Australian dollar claims on the Reserve Bank of Australia.		0
3. Gold bullion held in the ADI's own vaults or on an allocated basis by another party to the extent that it is backed by gold bullion liabilities. (Gold bullion held on an unallocated basis by another party, though backed by gold liabilities, is weighted as a claim on the counterparty unless a lower risk-weight is approved in writing by APRA.)		0
4. Cash items in the process of collection (e.g. cheques, drafts and other items drawn on other ADIs or overseas banks that are payable immediately upon presentation and that are in the process of collection).		20
Class II - Claims on Australian and foreign governments		
5. All Australian dollar claims on the Australian Government.		0
6. Claims on overseas central governments and state or regional governments, State or Territory Governments in Australia (including State or Territory central borrowing authorities) and foreign currency claims on the Australian Government (refer to Attachment E)).	1	0
	2	20
	3	50
	4,5	100
	6	150
	Unrated ⁵	100

⁴ These credit rating grades map to long-term ratings issued by external credit assessment institutions. Refer to Attachment E and, where relevant, the use of specific short-term ratings for exposures to ADIs, overseas banks and corporate counterparties.

⁵ For the purposes of this Attachment, a credit rating grade that is unrated refers to a claim that must be assessed as unrated for risk-weighting purposes under paragraph 4 of Attachment E.

Claim	Credit rating grade ⁴	Risk- weight (%)
7. Claims on local governments and non-commercial public sector entities in Australia and overseas (refer to Attachment E).	1	20
	2	50
	3,4,5	100
	6	150
	Unrated ⁶	100
Class III - Claims on central banks, international banking agencies, regional development banks, ADIs and overseas banks		
8. Claims on overseas central banks and foreign currency claims on the Reserve Bank of Australia (refer to Attachment E).	1	0
	2	20
	3	50
	4,5	100
	6	150
	Unrated ⁷	100
9. Claims on international banking agencies and multilateral regional development banks (refer to Attachment E). ⁸	1	20
	2,3	50
	4,5	100
	6	150
	Unrated ⁹	50
10. Claims (other than equity) ¹⁰ on ADIs and overseas banks, being claims with an original maturity of three months or less (refer to Attachment E).	1,2,3	20
	4,5	50
	6	150
	Unrated ¹¹	20

⁶ Refer to footnote 5.

⁷ Refer to footnote 5.

⁸ A zero per cent risk-weight may be applied to the following highly rated institutions and banks: the International Monetary Fund, the Bank for International Settlements, the European Central Bank, the International Bank for Reconstruction and Development, the International Finance Corporation, the Asian Development Bank, the African Development Bank, the European Bank for Reconstruction and Development, the Inter-American Development Bank, the European Investment Bank, the Nordic Investment Bank, the Caribbean Development Bank, the Islamic Development Bank, the Council of Europe Development Bank, the European Community and the European Investment Fund.

⁹ Refer to footnote 5.

¹⁰ Refer to items 20 and 21 of this Attachment.

¹¹ Refer to footnote 5. For the purposes of this Attachment, exposures to an unrated ADI or overseas bank cannot receive a risk-weight lower than that applied to exposures to the central government of the country in which the ADI or overseas bank is domiciled.

Claim	Credit rating grade ⁴	Risk- weight (%)
11. Claims (other than equity) ¹² on ADIs and overseas banks with an original maturity of more than three months (refer to Attachment E).	1	20
	2,3	50
	4,5	100
	6	150
	Unrated ¹³	50
Class IV - Claims secured against eligible residential mortgages		
12. Refer to the risk-weighting schedule in Attachment C.		
Class V - Unsettled and failed transactions		
13. Refer to Attachment D.		
Class VI - Past due claims		
14. The unsecured portion of any claim ¹⁴ (other than a loan or claim secured against eligible residential mortgages in paragraph 15 of this Attachment) that is past due for more than 90 days and/or impaired: ¹⁵		
(a) where specific provisions are less than 20 per cent of the outstanding amount of the past due claim or impaired asset; or		150
(b) where specific provisions are no less than 20 per cent of the outstanding amount of the past due claim or impaired asset.		100
15. Refer to the risk-weighting schedule in Attachment C for loans and claims secured against eligible residential mortgages that are past due for more than 90 days and/or impaired.		
Class VII – Other assets and claims		
16. Claims (other than equity) ¹⁶ on Australian and international corporate counterparties (including insurance and securities companies) and commercial public sector entities (refer to Attachment E). Alternatively, if an ADI has obtained approval in	1	20
	2	50
	3,4	100
	5,6	150

¹² Refer to footnote 10.

¹³ Refer to footnote 5.

¹⁴ For the purpose of defining the secured portion of past due claims, eligible collateral, guarantees and credit derivatives will be the same as those recognised for CRM purposes as set out in Attachments F, G and H.

¹⁵ Refer to *Prudential Standard APS 220 Credit Quality* for the definition of '90 days past due' and 'impaired' for the purposes of this Prudential Standard.

¹⁶ Refer to footnote 10.

Claim	Credit rating grade⁴	Risk-weight (%)
writing from APRA, it may risk-weight all claims (other than equity) held on the banking book on Australian and international corporate counterparties (including insurance and securities companies) and commercial public sector entities at 100 per cent. ¹⁷ If an ADI has obtained approval in writing to use a 100 per cent risk-weight for these claims, it must do so in a consistent manner and not use any credit ratings for any of these claims.	Unrated ¹⁸	100
17. All claims (other than equity) ¹⁹ on private sector counterparties (other than ADIs, overseas banks and corporate counterparties).		100
18. Investments in premises, plant and equipment and all other fixed assets.		100
19. Claims on all fixed assets under operating leases.		100
20. Equity exposures (as defined in paragraphs 47 to 50 of APS 113) that are not deducted from capital ²⁰ and that are listed on a recognised exchange.		300
21. Equity exposures (as defined in paragraphs 47 to 50 of APS 113) that are not deducted from capital ²¹ and that are not listed on a recognised exchange.		400
22. Margin lending against listed instruments ²² on recognised exchanges.		20
23. All other assets and claims not specified elsewhere.		100

¹⁷ In order to obtain approval, an ADI will be required to satisfy APRA that the capital requirement resulting from a 100 per cent risk-weight for these claims is not materially less than the capital requirement which would apply if credit ratings were used or the cost of using credit ratings for these exposures outweighs the benefits.

¹⁸ Refer to footnote 5.

¹⁹ Refer to footnote 10.

²⁰ Refer to APS 111.

²¹ Refer to footnote 20.

²² Where the underlying instruments are unlisted, the ADI must treat the exposure as a secured loan.

Attachment B

Credit equivalent amounts for off-balance sheet exposures

Market-related off-balance sheet transactions

1. For the purposes of calculating counterparty credit risk capital requirements, an ADI must calculate the CEA of its market-related contracts. Where these contracts are not covered by an eligible bilateral netting agreement as set out in Attachment I, the ADI must calculate the CEA by using the current exposure method; this method is the sum of current credit exposure and potential future credit exposure (the **add-on**) of these contracts. Current credit exposure is defined as the sum of the positive mark-to-market value (or **replacement cost**) of these contracts.
2. An ADI must, for the purpose of calculating its potential future credit exposure for each transaction, multiply the notional principal amount of each of these transactions by the relevant CCF specified in Table 1.

Table 1: Current exposure method - market-related credit conversion factors

Residual maturity	Interest rate contracts (%)	Foreign exchange and gold contracts (%)	Equity contracts (%)	Precious metal contracts (other than gold) (%)	Other commodity contracts (other than precious metals) (%)
1 year or less	0.0	1.0	6.0	7.0	10.0
> 1 year to 5 years	0.5	5.0	8.0	7.0	12.0
> 5 years	1.5	7.5	10.0	8.0	15.0

3. The notional or nominal principal amount, or value, of a contract must be the reference amount used to calculate payment streams between counterparties to a contract.
4. Potential future credit exposure must be based on effective rather than apparent notional amounts. In the event that the stated notional amount of a contract is leveraged or enhanced by the structure of the transaction, an ADI must use the effective notional amount when calculating potential future credit exposure.

5. No potential future credit exposure is calculated for single currency floating/floating interest rate swaps as the credit exposure on these contracts must be evaluated solely on the basis of their mark-to-market values.
6. For contracts that are structured to settle outstanding exposures following specified payment dates where the terms are reset such that the mark-to-market value of the contract is zero on these specified dates, the residual maturity must be set equal to the time until the next reset date. In the case of interest rate contracts with these features and a remaining maturity of more than one year, the CCF to be applied is subject to a floor of 0.5 per cent even if there are reset dates of a shorter maturity.
7. For contracts with multiple exchanges of principal, the CCFs must be multiplied by the number of remaining payments (i.e. exchanges of principal) still to be made under the contract.
8. Contracts that do not fall within one of the specific categories listed in Table 1 must be treated as 'other commodities contracts'.
9. An ADI may use all instruments included in its trading book as eligible collateral for securities financing transactions included in the trading book. Instruments that would otherwise not be treated as eligible collateral for the purposes of this Prudential Standard are subject to a haircut at the level applicable to non-main index equities listed on recognised exchanges. Where an ADI uses the own-estimates approach to haircutting, haircuts must be calculated for each individual security that counts as eligible collateral in the trading book but not the banking book.
10. An ADI must calculate the counterparty credit risk capital requirement for single name credit default swaps and single name total-rate-of-return swaps in the trading book using the potential future exposure CCFs in Table 2.²³

²³ There may be no difference depending on residual maturity.

Table 2: Potential future exposure credit conversion factors

Type of swap	Protection buyer	Protection seller ²⁴
Credit default swap		
Qualifying ²⁵ reference obligation	5%	5%
Non-qualifying reference obligation	10%	10%
Total-rate-of-return-swap		
Qualifying ²⁶ reference obligation	5%	5%
Non-qualifying reference obligation	10%	10%

11. An ADI, in calculating the counterparty credit risk capital requirement for an nth-to-default credit derivative transaction (such as a first-to-default transaction), must use the add-on determined by the nth-lowest credit quality underlying asset in the basket.

Pricing market-related contracts

12. An ADI must not enter into contracts at off-market prices other than historical rate rollovers on foreign exchange contracts. An ADI must have a policy framework in place agreed to by APRA that sets out its systems and controls for approving and monitoring these rollovers and adequately restrict the ADI's capacity to enter into such contracts. Transactions outside of the agreed framework must be discussed with APRA to determine their appropriate treatment.

Non-market-related off-balance sheet transactions

13. The CEA for a non-market-related off-balance sheet transaction is calculated by multiplying the contracted amount of the transaction by the relevant CCF specified in Table 3.

²⁴ The protection seller of a credit default swap would only be subject to the add-on factor where it is subject to closeout upon the insolvency of the protection buyer while the underlying asset is still solvent. The add-on should be capped to the amount of unpaid premiums.

²⁵ The definition of qualifying is the same as for the qualifying category for the treatment of specific risk under the standardised measurement method in APS 116.

²⁶ Refer to footnote 25.

Table 3: Credit conversion factors for non-market-related off-balance sheet transactions

Nature of transaction	Credit conversion factor (%)
1. Direct credit substitutes	100
2. Performance-related contingencies	50
3. Trade-related contingencies	20
4. Lending of securities or posting of securities as collateral ²⁷	100
5. Assets sold with recourse	100
6. Forward asset purchases	100
7. Partly paid shares and securities	100
8. Placements of forward deposits	100
9. Note issuance and underwriting facilities	50
10. Other commitments	
(a) Commitments with certain drawdown	100
(b) Commitments (e.g. undrawn formal standby facilities and credit lines) with an original maturity of:	
(i) one year or less; or	20
(ii) over one year	50
(c) Commitments that can be unconditionally cancelled at any time without notice (e.g. undrawn overdraft and credit card facilities providing that any outstanding unused balance is subject to review at least annually) or effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness	0
11. Irrevocable standby commitments provided under APRA-approved industry support arrangements	0

²⁷ These exposures may be treated as collateralised transactions as detailed in Attachment G. Where an ADI, acting as an agent, arranges a repurchase/reverse repurchase or securities lending/borrowing transaction between a customer and a third party and provides a guarantee to the customer that the third party will perform on its obligations, the risk to the ADI is the same as if the ADI had entered into the transaction as the principal. In such circumstances, the ADI will be required to calculate regulatory capital as if it was the principal.

14. Where a non-market-related off-balance sheet transaction is an undrawn or partially undrawn facility, in calculating the CEA, the ADI must use the amount of undrawn commitment or the maximum unused portion of the commitment available to be drawn during the remaining period to maturity.
15. In the case of irrevocable commitments to provide off-balance sheet facilities, the original maturity must be measured from the commencement of the commitment up until the time the associated facility expires.
16. Irrevocable commitments to provide off-balance sheet facilities may be assigned the lower of the two applicable CCFs.
17. For capital adequacy purposes, an ADI must include all commitments in its capital calculation regardless of whether or not they contain material adverse change clauses or any other provisions that are intended to relieve the ADI of its obligations under certain conditions.

Attachment C

Residential mortgages

Lending criteria

1. An ADI must at all times have unequivocal enforcement rights over a mortgaged residential property (including a power of sale and a right to possession) in the event of default by the borrower.
2. An ADI that outsources any part of its credit assessment process to a third party (such as a mortgage originator or broker) must ensure that the arrangement complies with *Prudential Standard APS 231 Outsourcing*.²⁸
3. Loans covered by security provided by third parties, where the relevant mortgage is unenforceable under the *Consumer Credit Code*, are risk-weighted at 100 per cent in the absence of any eligible collateral and guarantees.
4. Subject to satisfying other criteria set out in this Attachment, loans for purposes other than housing must be secured against mortgages over existing residential property to receive a risk-weight of less than 100 per cent. Loans, for whatever purpose, secured against speculative residential construction or property development do not qualify for a risk-weight of less than 100 per cent.

Risk-weights for residential mortgages

5. In order to determine the appropriate risk-weight for a residential mortgage, an ADI must classify the loan as either a standard or non-standard eligible mortgage (refer to paragraphs 6 and 7 of this Attachment) and determine the ratio of the **outstanding amount** (refer to paragraphs 8 and 9 of this Attachment) of the loan to the value of the residential property or properties that secure the exposure (**loan-to-valuation ratio, LVR**). For this purpose, the valuation may be based on the valuation at origination or, where relevant, on a subsequent formal revaluation by an independent accredited valuer. The determination of the appropriate risk-weight is also dependent upon mortgage insurance provided by an acceptable lenders mortgage insurer (**LMI**) (refer to paragraph 14 of this Attachment). For this purpose, lenders mortgage insurance must provide cover for all losses up to at least 40 per cent of the higher of the original loan amount and outstanding loan amount (if higher than the original loan amount). Risk-weights are as detailed in Table 4.

²⁸ Where an ADI uses a third party for loan administration functions only, and does not outsource any part of the credit assessment process to the third party, the responsibility for ensuring that the lending criteria are met remains with the ADI.

Table 4: Risk-weights for residential mortgages

LVR (%)	Standard eligible mortgages		Non-standard eligible mortgages	
	Risk-weight (no mortgage insurance) %	Risk-weight (with at least 40% of the mortgage insured by an acceptable LMI) %	Risk-weight (no mortgage insurance) %	Risk-weight (with at least 40% of the mortgage insured by an acceptable LMI) %
0 – 60	35	35	50	35
60.01 – 80	35	35	75	50
80.01 – 90	50	35	100	75
90.01 – 100	75	50	100	75
> 100.01	100	75	100	100

6. A standard eligible mortgage is defined as a residential mortgage where the ADI has:
- prior to loan approval and as part of the loan origination and approval process, documented, assessed and verified the ability of the borrowers to meet their repayment obligation;
 - valued any residential property offered as security; and
 - established that any property offered as security for the loan is readily marketable.

The ADI must also revalue any property offered as security for such loans when it becomes aware of a material change in the market value of property in an area or region.

7. Loans that are secured by residential properties but fail to meet the criteria detailed in paragraph 6 of this Attachment must be classified as non-standard eligible mortgages. Such loans may be reclassified as standard loans where the borrowers have substantially met their contractual loan repayments to the ADI continuously over the previous 36 months. Criteria defining when contractual loan repayments are substantially met must be set out in the ADI's lending/credit policy and procedures manual.
8. For the purposes of paragraph 5 of this Attachment, the outstanding amount of a loan must be calculated as the balance of all claims on the borrower that are secured against the mortgaged residential property. This includes accrued interest and fees, as well as the gross value of any undrawn limits on commitments that cannot be cancelled at any time without notice. The

outstanding amount under an ‘all moneys mortgage’ should include all loans and other exposures to the borrower that are effectively secured against the mortgage.

9. If a loan is also secured against a second mortgage, the outstanding amount of the loan must be calculated as the sum of all claims on the borrower secured by both the first and second mortgages over the same residential property for the purpose of assessing the LVR.
10. If a loan is secured by more than one property, the LVR must be determined on the basis of the outstanding amount of all claims on the borrower that are secured against the mortgaged residential properties to the aggregate value of the mortgaged residential properties.
11. An ADI may, in risk-weighting a loan secured by a residential mortgage, make allowance for eligible collateral and guarantees. The recognition of eligible collateral and guarantees is detailed in Attachments F and G. A mortgage offset or other similar account may only be netted off against the outstanding amount of the loan where the arrangement meets the requirements for eligible cash collateral as set out in Attachment G.

Past due claims

12. Risk-weights for loans and claims secured against eligible residential mortgages that are past due for more than 90 days and/or impaired are detailed in Table 5.

Table 5: Risk-weights for past due eligible residential mortgages

Eligible residential mortgages	Risk-weight (%)
Where the claim is not mortgage insured with an acceptable LMI. ²⁹	100
Where the claim is mortgage insured with an acceptable LMI ³⁰ to the extent that the total of loans and claims covered by a single insurer that are past due for more than 90 days and/or impaired do not exceed the ADI’s large exposure limit. ³¹	Original risk-weights
Where the claim is mortgage insured with an acceptable LMI ³² to the extent that the total of loans and claims covered by a single insurer that are past due for more than 90 days and/or impaired exceed the ADI’s large exposure limit. ³³	100

²⁹ For this purpose, acceptable lenders mortgage insurer has the same meaning as in paragraph 14 of this Attachment.

³⁰ Refer to footnote 29.

³¹ Refer to *Prudential Standard APS 221 Large Exposures*.

³² Refer to footnote 29.

³³ Refer to footnote 31.

Second mortgages

13. To qualify for a risk-weight of less than 100 per cent, any loans secured by a second mortgage over residential property must, in addition to the requirements in this Attachment, satisfy the following conditions:
 - (a) the first mortgage must not be extended without being subordinated to the second mortgage;
 - (b) an ADI must obtain written consent of the first mortgagee for the second mortgage and confirm the maximum outstanding amount of the loan secured by the first mortgage (including maximum drawdown or limit of facility) for LVR purposes; and
 - (c) an ADI must ensure that its interest as second mortgagee is noted on the title.

Mortgage insurance

14. To qualify as a mortgage insured by an acceptable LMI:
 - (a) for the purposes of the Level 1 regulatory capital, the LMI must be regulated by APRA; and
 - (b) for the purposes of the Level 2 regulatory capital, in the case of overseas subsidiaries of Australian ADIs, APRA will accept the host supervisors' requirements on what constitutes an acceptable LMI in those jurisdictions.

Attachment D

Unsettled and failed transactions

1. The risk-weights for delivery-versus-payment (**DvP**)^{34, 35} transactions with a normal settlement period that remain unsettled after their due delivery dates are detailed in Table 6.³⁶ The amount that must be multiplied by the relevant risk-weight is the positive current exposure amount.

Table 6: Risk-weights: delivery-versus-payment transactions

Number of business days after due settlement date	Risk-weight (%)
5 to 15	100
16 to 30	625
31 to 45	937.5
46 or more	1,250

2. An ADI must hold regulatory capital against a non-DvP transaction³⁷ with a normal settlement period where:
 - (a) it has paid for debt instruments, equities, foreign currencies or commodities before receiving them or it has delivered debt instruments, equities, foreign currencies or commodities before receiving payment for them; and
 - (b) in the case of a cross-border transaction, one day or more has elapsed since it made that payment or delivery.
3. The capital requirement for a non-DvP transaction referred to in paragraph 2 of this Attachment is calculated as follows:
 - (a) from the business day after the ADI has made its payment or delivery for up to and including four business days after the counterparty payment or delivery is due, the ADI must treat the transaction as an exposure; and
 - (b) from five business days after the ADI has made its payment or delivery until extinction of the transaction, the ADI must deduct 50 per cent from

³⁴ This would include payment-versus-payment transactions, i.e. foreign exchange transactions in which each counterparty is obligated to make a final transfer of one or more currencies only where the other counterparty has made a final transfer of one or more currencies.

³⁵ Transactions settled through a DvP system provide for the simultaneous exchange of securities or commodities for cash and expose an ADI to the risk of loss on the difference between the transaction valued at the agreed settlement price and the transaction valued at current market price.

³⁶ This excludes all securities financing transactions.

³⁷ A non-DvP transaction exposes the ADI to the risk of loss on the full amount of cash paid or deliverables delivered.

Tier 1 capital and 50 per cent from Tier 2 capital (refer to APS 111) of the value transferred plus the positive current exposure.

4. Where a non-DvP transaction is required to be treated as an exposure (refer to paragraph 3(a) of this Attachment) an ADI may apply the relevant risk-weight as detailed in Attachment A. Alternatively, where exposures are not material, the ADI may apply a 100 per cent risk-weight provided that all such exposures are risk-weighted consistently.

Attachment E

Short-term and long-term credit ratings

1. For capital adequacy purposes, an ADI may only use an ECAI rating that takes into account all amounts, both principal and interest, owed to it.

Multiple assessments

2. Where a counterparty has multiple ECAI general issuer ratings or where an issue has multiple ECAI issue-specific ratings, and these ratings correspond to multiple credit rating grades, an ADI must apply the following principles for capital requirement purposes:
 - (a) where there are two ratings that correspond to different credit rating grades, the credit rating grade that corresponds to the higher risk-weight must be used; or
 - (b) where there are three or more ratings that correspond to different credit rating grades, the credit rating grades corresponding to the two lowest risk-weights must be applied and the higher of those two risk-weights must be used.

Domestic and foreign currency claims

3. An ADI must not use an ECAI rating that refers to a claim denominated in a particular currency to derive the credit rating grade for another claim on the same counterparty if that claim is denominated in another currency.

Claims that cannot be rated

4. An ADI's claim must be assessed as unrated for risk-weighting purposes if:
 - (a) the ADI's claim does not have an ECAI issue-specific rating;
 - (b) a credit rating grade for the ADI's claim cannot be inferred from an ECAI issue-specific rating of an issued debt of the counterparty; and
 - (c) the counterparty does not have a general ECAI issuer rating from which a credit rating grade for the ADI's claim can be inferred.

Short-term ratings

5. Short-term ratings by ECAs must only be used for short-term claims against ADIs, overseas banks and corporate counterparties.
6. If there is an ECAI issue-specific short-term rating in respect of a claim, an ADI must use this rating to determine the credit rating grade of the claim. However,

this ECAI issue-specific short-term rating cannot be used to risk-weight any other claim.

7. The risk-weights in Table 7 apply to ECAI issue-specific short-term ratings:

Table 7: Risk-weights for short-term claims

Credit rating grade (short-term claims on corporates, ADIs and overseas banks)	1	2	3	4
Risk-weight (%)	20	50	100	150

8. Notwithstanding paragraph 6 of this Attachment, where the counterparty has a short-term claim that attracts a 50 per cent risk-weight, unrated short-term claims on the same counterparty cannot be risk-weighted at less than 100 per cent.
9. Notwithstanding paragraph 6 of this Attachment, where the counterparty has a short-term claim that attracts a risk-weight of 150 per cent, all unrated claims (short-term and long-term) on the same counterparty must be risk-weighted at not less than 150 per cent.

Short-term claims on ADIs and overseas banks

10. Where there is no ECAI issue-specific short-term rating, the general preferential treatment for short-term claims detailed in item 10 of Attachment A may apply to all claims on ADIs and overseas banks that have an original maturity of up to three months.
11. Where there is an ECAI issue-specific short-term rating on a claim held by an ADI, and that rating corresponds to a credit rating grade that is lower than or identical to that derived from the general treatment detailed in item 10 of Attachment A, the ECAI issue-specific short-term rating may be used for the specific claim.
12. Where there is an ECAI issue-specific rating for a short-term claim on an ADI or overseas bank and that rating corresponds to a higher credit rating grade than that which would be applied by item 10 of Attachment A, the general short-term preferential treatment cannot be used for any short-term claim on the counterparty. All unrated short-term claims on that counterparty would be assigned the same credit rating grade as that implied by the ECAI issue-specific short-term rating.

Attachment F

Guarantees

1. Where a claim on a counterparty is secured by a guarantee from an eligible guarantor (refer to paragraph 3 of this Attachment), the portion of the claim that is supported by the guarantee may be weighted according to the risk-weight appropriate to the guarantor. The unsecured portion of the claim must be weighted according to the risk-weight applicable to the original counterparty (refer to Attachment A).³⁸
2. A guarantee must represent a direct claim on the guarantor with the extent of the cover being clearly defined and incontrovertible. A guarantee must be irrevocable such that there must be no clause in the guarantee that would allow the guarantor to cancel unilaterally the cover of the guarantee or that would increase the effective cost of cover as a result of deteriorating credit quality in the guaranteed exposure.³⁹ A guarantee must also be unconditional; there should be no clause in the guarantee outside the direct control of an ADI that could prevent the guarantor from being obliged to pay out in a timely manner in the event that the original counterparty fails to make the due payment(s).
3. Subject to the conditions in this Prudential Standard, the following entities are recognised as eligible guarantors:
 - (a) Commonwealth, State, Territory and local governments in Australia (including State and Territory central borrowing authorities); central, state, regional and local governments in other countries; public sector entities in Australia and overseas; the Reserve Bank of Australia; central banks in other countries; ADIs and overseas banks; international banking agencies and multilateral regional development banks; and
 - (b) other entities with a credit rating grade of two or better. This would include guarantees provided by parent, subsidiary and affiliate companies where they have a lower risk-weight than the obligor.
4. A claim that is indirectly guaranteed by the Australian Government (i.e. guarantee of guarantee, such as the Commonwealth's guarantee of the entity that provides the guarantee) may be treated as guaranteed by the Australian Government provided that:
 - (a) the indirect guarantee covers all credit risk elements of the claim;

³⁸ Guarantees that provide partial coverage whereby the ADI and guarantor share losses on a *pro rata* basis are eligible for the same recognition.

³⁹ The irrevocability condition does not require that the guarantee and the exposure be maturity matched. However, it does require that the maturity agreed *ex ante* may not be reduced *ex post* by the guarantor.

- (b) both the original guarantee and the indirect guarantee meet all the operational requirements for guarantees except that the indirect guarantee need not be direct and explicit to the original claim; and
 - (c) the ADI is satisfied that the cover of the indirect guarantee is robust and there is no historical evidence to suggest that the coverage of the indirect guarantee is not equivalent to that of a direct guarantee of the Australian Government.
5. Letters of comfort do not qualify as eligible guarantees for CRM purposes.

Operational requirements

6. In addition to the requirements detailed in paragraph 20 of the Prudential Standard and paragraph 2 of this Attachment, in order for a guarantee to be recognised the following conditions must be satisfied:
- (a) on the qualifying default/non-payment of the counterparty, the ADI has the capacity to pursue, in a timely manner, the guarantor for any monies outstanding under the documentation governing the transaction. The ADI must have the right to receive payment from the guarantor without first having to take legal action in order to pursue the counterparty for payment;
 - (b) the guarantee is an explicitly documented obligation assumed by the guarantor; and
 - (c) except as noted in this paragraph, the guarantee covers all types of payments the underlying obligor is expected to make under the documentation governing the transaction. Where a guarantee covers payment of principal only, interest and other amounts not covered by the guarantee must be treated as uncovered.

Materiality thresholds

7. Where a guarantee provides for a materiality threshold on payments below which no payment will be made in the event of loss, this is equivalent to a retained first loss position and must be deducted 50 per cent from Tier 1 capital and 50 per cent from Tier 2 capital (refer to APS 111). This deduction will be capped at the amount of capital the ADI would be required to hold against the full value of the exposure.

Proportional cover

8. Where there is partial coverage of an exposure by a guarantee and the covered and uncovered portions are of equal seniority (i.e. the ADI and the guarantor share losses on a *pro rata* basis), capital relief will be afforded on a proportional basis. This means that the covered portion of the exposure will receive the treatment applicable to eligible guarantees with the remainder treated as uncovered.

Tranched cover

9. Where there is partial coverage of an exposure by a guarantee and there is a difference in seniority between the covered and uncovered portions of the exposure, then the arrangement is considered to be a synthetic securitisation and is subject to APS 120.

Currency mismatch

10. A currency mismatch exists where a guarantee is denominated in a different currency from that in which the exposure is denominated. In this case the amount of the exposure deemed to be protected (G_a) must be reduced by the application of a haircut (H_{fx}) as follows:

$$G_a = G \times (1 - H_{fx})$$

where:

G = nominal amount of the guarantee

H_{fx} = haircut appropriate for the currency mismatch between the guarantee and the underlying exposure

11. The H_{fx} haircut detailed in paragraph 10 of this Attachment is the same as that applied to collateral in the comprehensive approach (refer to Attachment G). If an ADI uses the comprehensive approach and it uses the standard haircuts, the haircut to be applied for a currency mismatch will be eight per cent (assuming daily mark-to-market). If the ADI uses its own-estimate haircuts, the estimates for a currency mismatch must be based on a 10-business day holding period. Where the ADI uses the simple approach it may use the standard haircut of eight per cent for the currency mismatch (assuming daily mark-to-market) or own-estimate haircuts based on a 10-business day holding period.
12. Using the formula detailed in paragraph 37 of Attachment G, haircuts must be adjusted depending on the actual frequency of revaluation of the currency mismatch.

Maturity mismatch

13. A maturity mismatch exists where the residual maturity of a guarantee is less than the maturity of the exposure covered by the guarantee.
14. Where there is a maturity mismatch, a guarantee may only be recognised for CRM purposes where the original maturity of the guarantee is greater than or equal to 12 months. Guarantees with an original maturity of less than 12 months will not be eligible unless the maturity of the guarantee matches the maturity of the underlying exposure. In all cases where there is a maturity mismatch, a guarantee will not be eligible where it has a residual maturity of three months or less.

15. Where credit protection provided by a single guarantor has different maturities, an ADI must divide the exposure into separate covered portions for risk-weighting purposes.

Measurement of maturity

16. For capital adequacy purposes, an ADI must take the effective maturity of the underlying exposure to be the longest possible remaining time before the counterparty is scheduled to fulfil its obligation.
17. In the case of a guarantee, an ADI must take into account any clause within the documentation supporting the transaction that may reduce its maturity so that the shortest possible effective maturity is used. For this purpose, the ADI must consider clauses that give the guarantor the capacity to reduce the effective maturity of the guarantee and those that give the ADI, at origination of the guarantee, a discretion and positive incentive to reduce its effective maturity.

Adjustment for maturity mismatch

18. Where there is a maturity mismatch between a guarantee and the covered exposure, for capital adequacy purposes an ADI must apply the following adjustment:

$$P_a = P \times \left(\frac{t - 0.25}{T - 0.25} \right)$$

where:

P_a = value of the guarantee adjusted for maturity mismatch

P = guarantee amount adjusted for any haircuts (in which case, $P = G_a$ as determined in paragraph 10 of this Attachment)

t = min (T , residual maturity of the guarantee) expressed in years

T = min (5, residual maturity of the exposure) expressed in years

Attachment G

Simple and comprehensive approaches to the recognition of collateral

General principles

1. A capital requirement will be applied to an ADI on both sides of a collateralised transaction.
2. An ADI must select either the simple or the comprehensive approach and apply that approach to all its on-balance sheet assets and off-balance sheet exposures on the banking book that are secured by eligible collateral.
3. For trading book exposures, an ADI must use the comprehensive approach to the recognition of eligible collateral where collateral is pledged against counterparty credit risk exposure.

Eligible collateral

4. Subject to the conditions set out in this Attachment, the following forms of collateral may be recognised as eligible collateral:
 - (a) cash collateral (cash, certificates of deposit and bank bills issued by the lending ADI) on deposit with the ADI incurring the exposure;⁴⁰
 - (b) gold bullion;
 - (c) subject to paragraph 9 of this Attachment, debt securities rated by an ECAI where these debt securities have a credit rating grade of either:
 - (i) four (or better) for long-term securities issued by: Commonwealth, State and Territory governments in Australia (including State and Territory central borrowing authorities); central, state and regional governments in other countries; the Reserve Bank of Australia; central banks in other countries; and the international banking agencies and multilateral regional development banks that qualify for a zero per cent risk-weight as detailed in Attachment A; or

⁴⁰ Cash-funded credit-linked notes issued by the ADI against exposures in the banking book that fulfil the criteria for credit derivatives (refer to Attachment H) may be treated as cash collateralised transactions. Where cash on deposit, certificates of deposit and bank bills issued by the lending ADI are held as collateral at a third-party ADI or overseas bank in a non-custodial arrangement, if they are pledged or assigned to the lending ADI and the pledge or assignment is unconditional and irrevocable, the exposure amount covered by the collateral may be assigned the risk-weight of the third-party ADI or overseas bank as set out in Attachment A.

- (ii) three (or better) for short-term or long-term securities issued by ADIs, overseas banks, Australian and international local governments and corporates;
 - (d) subject to paragraph 9 of this Attachment, debt securities not rated by an ECAI where these securities are issued by an ADI or overseas bank as senior debt and are listed on a recognised exchange. This is subject to the condition that all rated issues of the same seniority by the issuing ADI or overseas bank have a long-term or short-term credit rating grade of at least three and the ADI holding the security has no information suggesting that the security justifies a rating below this level; and
 - (e) subject to paragraph 9 of this Attachment, units in a listed trust where the unit price of the trust is publicly quoted on a daily basis and the listed trust is limited to investing in the instruments detailed in paragraphs 4(a) to 4(d) of this Attachment.⁴¹
5. Claims secured or collateralised in other ways (e.g. by insurance contracts, put options, forward sales contracts or agreements) are not considered to be covered by eligible collateral.

Minimum conditions for collateralised transactions

6. There must be a formal written contractual agreement between the lender (or party holding the claim) and the party lodging the collateral which establishes the lender's direct, explicit, irrevocable and unconditional recourse to the collateral. In the case of cash collateral, this may include a contractual right of set-off on credit balances, but a common law right of set-off is insufficient on its own to satisfy this condition.
7. The legal mechanism by which collateral is pledged or transferred must allow the ADI the right to liquidate or take legal possession of the collateral in a timely manner. The ADI must take all steps necessary to satisfy the legal requirements applicable to the ADI's interest in the collateral. This would include clear and robust procedures for the timely liquidation of collateral to ensure that any legal conditions required for declaring the default of the counterparty and liquidating the collateral are observed and that the collateral can be liquidated promptly.
8. In the event of default, any requirement on the lender to serve notice on the party lodging the collateral must not unnecessarily impede the lender's recourse to the collateral.
9. Collateral in the form of securities issued by the counterparty to the credit exposure (or by any person or entity related or associated with the counterparty) is considered to have a material positive correlation with the credit quality of the original counterparty and is therefore not eligible collateral.

⁴¹ The use of derivative instruments by a listed unit trust to hedge investments listed in paragraphs 4(a) to 4(d) of this Attachment would not prevent the listed unit trust from being recognised as eligible collateral.

10. With the exception of cash collateral,⁴² collateral must be held by an independent custodian, or an equally independent third party, or by the ADI. Where the collateral is held by an independent custodian or an independent third party, the ADI must take reasonable steps to ensure that the custodian or third party segregates the collateral from its own assets.
11. Where collateral is lodged with an overseas branch of the ADI, the branch holding the collateral must be bound to act in accordance with the agreement between the ADI and the party lodging the collateral.
12. Where collateral is lodged by a third party, that third party must indemnify or guarantee the borrower's obligations (or those of the party on which a claim is held) to the lender. The lender must ensure that the arrangement will not fail for lack of consideration.

Additional conditions specific to cash collateral

13. Cash collateral must not be lodged with an entity other than the ADI, except where:
 - (a) the ADI and the entity holding the collateral belong to the same consolidated group; and
 - (b) the entity holding the collateral is bound to act in accordance with the agreement between the ADI and the party lodging the collateral.
14. Where cash collateral lodged is in the form of a certificate of deposit or bank bill issued by the lending ADI or any eligible entity described in paragraph 13 of this Attachment, the ADI must retain physical possession of the instrument until the collateral obligations are extinguished.

Simple approach

15. Under the simple approach, the secured portion of a claim may be weighted according to the risk-weight appropriate to the collateral. The risk-weight on the collateralised portion will be subject to a floor of 20 per cent except under the conditions specified in paragraphs 17 to 20 of this Attachment. The unsecured portion of the claim must be weighted according to the risk-weight applicable to the original counterparty (refer to Attachment A).
16. For collateral to be eligible collateral in the simple approach, it must be pledged for at least the life of the exposure and be marked to market with a minimum frequency of six months. The release of collateral by the lending ADI must be conditional upon the repayment of the exposure. Collateral may be reduced in proportion to the amount of the reduction in the exposure amount.

⁴² For the lodgement of cash collateral, refer to paragraph 13 of this Attachment.

Exceptions to the 20 per cent risk-weight floor

17. A zero per cent risk-weight may be applied to collateralised transactions where the exposure and the collateral are denominated in the same currency and either:
 - (a) the collateral is cash on deposit;⁴³ or
 - (b) the collateral is in the form of sovereign or public sector entity securities eligible for a zero per cent risk-weight as detailed in Attachment A and the market value of the collateral has been discounted by 20 per cent.
18. Securities financing transactions that fulfil the criteria in paragraph 38 of this Attachment may receive risk-weights of zero per cent. If the counterparty to the transaction is not a core market participant as defined in paragraph 39 of this Attachment, the transaction may be risk-weighted at 10 per cent.
19. OTC derivative transactions may be risk-weighted at zero per cent where:
 - (a) they are subject to daily marking to market;
 - (b) they are fully collateralised by cash; and
 - (c) there is no currency mismatch.
20. OTC derivative transactions collateralised by sovereign or public sector entity securities that qualify for a zero per cent risk-weight as detailed in Attachment A may be risk-weighted at 10 per cent.

Comprehensive approach

21. Under the comprehensive approach an ADI must calculate the **adjusted exposure amount** to a counterparty to take into account the effects of any eligible collateral (as defined in paragraph 23 of this Attachment) the ADI has taken. Using haircuts, the ADI must adjust both the amount of the exposure (**volatility-adjusted exposure amount**) and the value of the collateral (**volatility-adjusted collateral amount**) in order to take into account possible future price fluctuations of the exposure or collateral.⁴⁴ The difference between the volatility-adjusted exposure amount and the volatility-adjusted collateral amount is the adjusted exposure amount. The adjusted exposure amount must be weighted according to the risk-weight of the original counterparty (refer to Attachment A) to obtain the risk-weighted asset amount for the collateralised transaction.
22. An ADI may use standard haircuts or, subject to meeting the requirements in paragraphs 29 to 35 of this Attachment, its own-estimate haircuts using internal estimates of market price volatility. Where the use of own-estimate haircuts is approved, the estimates must cover the full range of relevant instruments used by the ADI excluding portfolios that APRA has determined in writing are immaterial. The ADI may use standard haircuts for those immaterial portfolios.

⁴³ As defined in paragraph 4(a) of this Attachment.

⁴⁴ Exposure amounts may vary where, for example, securities are lent.

Eligible collateral for the comprehensive approach

23. In addition to the items listed in paragraph 4 of this Attachment and subject to the conditions set out in this Attachment, the following forms of collateral are eligible collateral under the comprehensive approach:
- (a) equities (including convertible bonds) that are included in a main index or listed on a recognised exchange; and
 - (b) units in listed trusts that invest in equities as set out in paragraph 23(a) of this Attachment.

Calculation of regulatory capital for collateralised transactions

24. For a collateralised transaction under the comprehensive approach, the adjusted exposure amount is calculated as follows:

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

where:

E^* = the adjusted exposure amount

E = current value of the exposure

H_e = haircut appropriate to the exposure

C = the current value of the collateral

H_c = haircut appropriate to the collateral

H_{fx} = haircut appropriate for currency mismatch between the collateral and exposure

25. In the case of OTC derivatives, $E \times (1 + H_e)$ is replaced by the CEA of the OTC derivative calculated using the current exposure (mark-to-market) method, i.e. replacement cost and potential future exposure.⁴⁵
26. Where the collateral is a basket of assets, the haircut on the basket will be:

$$H = \sum_i a_i H_i$$

where a_i is the weight of the asset in the basket (as measured by units of currency) and H_i is the haircut applicable to that asset.

⁴⁵ Refer to Attachment B.

Standard haircuts

27. The standard exposure and collateral haircuts (**H**), expressed as percentages, are detailed in Table 8. These standard haircuts assume daily mark-to-market, daily remargining and a 10-business day holding period.

Table 8: Standard haircuts

Credit rating grade for debt securities	Residual maturity	Sovereigns⁴⁶	Other issuers⁴⁷
1 (long- and short-term)	≤ 1 year	0.5	1
	>1 year, ≤ 5 years	2	4
	> 5 years	4	8
2-3 (long- and short-term) and unrated bank securities in paragraph 4(d) of this Attachment	≤ 1 year	1	2
	>1 year, ≤ 5 years	3	6
	> 5 years	6	12
4 (long-term)	All	15	N/A
Main index equities (including convertible bonds) and gold		15	
Other equities (including convertible bonds) listed on a recognised exchange		25	
Units in listed trusts		Highest haircut applicable to any security in which the trust can invest	
Cash in the same currency ⁴⁸		0	
Currency mismatch		8	

28. For transactions in which an ADI lends non-eligible instruments, the haircut to be applied on the exposure is 25 per cent.

Own-estimate haircuts

29. If approved in writing by APRA, an ADI may calculate its own exposure and collateral haircuts (**H**) based on internal estimates of market price and foreign exchange volatilities. Approval to calculate own haircuts will be conditional

⁴⁶ Sovereigns include the Commonwealth, State and Territory governments in Australia (including State and Territory central borrowing authorities), central, state and regional governments of other countries, the Reserve Bank of Australia and central banks of other countries, and the international banking agencies and multilateral regional development banks qualifying for a zero per cent risk-weight as set out in Attachment A.

⁴⁷ This includes ADIs, overseas banks, local governments in Australia and other countries, and corporates.

⁴⁸ Eligible cash collateral as defined in this Attachment.

upon APRA being satisfied that the ADI meets the conditions set out in paragraphs 30 to 35 of this Attachment.

Own-estimate haircut categories

30. For debt securities with a credit rating grade below three and eligible equities, haircuts must be calculated for each individual security.
31. For debt securities with a long-term or short-term credit rating grade of three or better, an ADI may calculate a volatility estimate for a group (or category) of securities. In determining relevant categories, the ADI must take into account the type of issuer of the securities, the relevant rating, residual maturity and modified duration. Volatility estimates must be representative of the securities actually included in each of the ADI's categories.
32. An ADI must estimate separately the volatility of the collateral instrument and any foreign exchange mismatch. That is, estimated volatilities must not include estimation of the correlation between unsecured exposures, collateral and exchange rates.
33. An ADI that calculates its own-estimate haircuts must follow the requirements for maturity mismatches as detailed in paragraphs 40 to 44 of this Attachment.

Criteria for calculating own-estimate haircuts

34. In order to be approved by APRA, the model used by the ADI to estimate own-estimate haircuts must capture all material risks and satisfy the following quantitative criteria:
 - (a) a 99 per cent confidence level;
 - (b) minimum holding periods as detailed in paragraph 36 of this Attachment. The ADI may use haircut numbers calculated according to shorter holding periods provided these estimates are adjusted by the formula in paragraph 37 of this Attachment;
 - (c) the ADI must take into account the illiquid nature of lower-quality assets. Holding periods will be required to be adjusted upward in cases where the minimum holding period is inappropriate given the illiquid nature of the collateral. The ADI must also identify where historical data may understate potential volatility (e.g. pegged currencies). Such cases must be dealt with by subjecting the data to stress testing;
 - (d) the ADI must use a minimum of one year of historical observations for calculating haircuts. Where the ADI uses a weighting scheme or other methods for the historical observation period, the effective observation period must be at least one year (i.e. the weighted average time lag of the individual observations cannot be less than six months); and
 - (e) data sets upon which own-estimate haircuts are based must be updated no less frequently than once every three months and reassessed whenever

market prices are subject to material change. Accordingly, haircuts must be calculated at least every three months. APRA may also require the ADI to calculate its haircuts using a shorter observation period where there is a significant upsurge in price volatility.

35. In addition to the quantitative criteria detailed in paragraph 34 of this Attachment, an ADI must satisfy the following qualitative criteria in order to obtain approval to use own-estimate haircuts:
- (a) the ADI must have robust processes in place for ensuring compliance with a documented set of internal policies, controls and procedures concerning the operation of the risk measurement system;
 - (b) the estimated volatility data (and holding period) must be used in the day-to-day risk management process of the ADI;
 - (c) the risk measurement system must be used in conjunction with internal exposure limits; and
 - (d) an independent review of the risk measurement system and risk management process must be carried out at least annually by an independent function.

Adjustments to standard and own-estimate haircuts for different holding periods and non-daily mark-to-market or remargining

36. The minimum conditions and holding periods for securities financing transactions, other capital-market-driven transactions (i.e. OTC derivative transactions) and secured lending are detailed in Table 9.

Table 9: Minimum conditions and holding periods

Transaction type	Minimum holding period (business days)	Condition
Securities financing transactions	Five	Daily remargining
Other capital market transactions	Ten	Daily remargining
Secured lending	Twenty	Daily revaluing

37. When remargining or revaluation is undertaken less frequently than the minimum specified in paragraph 36 of this Attachment, haircuts must be adjusted depending on the actual number of business days between remargining or revaluation using the formula detailed below. This adjustment is required for both standard and own-estimate haircuts.

$$H = H_m \sqrt{\frac{N_r + (T_m - 1)}{T_m}}$$

where:

H = haircut

H_m = haircut under the minimum holding period

T_m = minimum holding period for the type of transaction

N_r = actual number of business days between remargining or revaluation

Where a haircut is based on a holding period that is different to that detailed in paragraph 36 of this Attachment, the haircut must be adjusted using the formula detailed below. This adjustment is required for both standard and own-estimate haircuts.

$$H_m = H_n \sqrt{\frac{T_m}{T_n}}$$

where:

T_n = holding period of the transaction

H_n = haircut based on the holding period T_n

Conditions for a zero haircut

38. For securities financing transactions, where the counterparty is a core market participant (as defined in paragraph 39 of this Attachment), an ADI may apply a haircut of zero, where the following conditions are satisfied:
- (a) both the exposure and the collateral are cash, a sovereign security or public sector entity security, qualifying for a zero per cent risk-weight as set out in Attachment A;
 - (b) both the exposure and the collateral are denominated in the same currency;
 - (c) either the transaction is overnight, or both the exposure and the collateral are marked-to-market daily and are subject to daily remargining;
 - (d) following a counterparty's failure to remargin, the time between the last mark-to-market before the failure to remargin and the liquidation of the collateral is no more than four business days;⁴⁹
 - (e) the transaction is settled across an established settlement system for that type of transaction;
 - (f) the documentation for the transaction is standard market documentation;

⁴⁹ This does not require the ADI always to liquidate the collateral but rather to have the capability to do so within the given time frame.

- (g) the documentation for the transaction specifies that if the counterparty fails to satisfy an obligation to deliver cash or securities or to deliver a margin call or otherwise defaults, the transaction is immediately terminable; and
 - (h) upon any default event, regardless of whether the counterparty is insolvent or bankrupt, the ADI has an unequivocal, legally enforceable right to immediately seize and liquidate the collateral.
39. For the purpose of applying a zero haircut, the following entities are considered core market participants:
- (a) the Australian Government and the Reserve Bank of Australia;
 - (b) governments and entities detailed in items 6 and 8 of Attachment A that qualify for a zero per cent risk-weight;
 - (c) ADIs and overseas banks;
 - (d) other financial companies (including insurance companies) eligible for a 20 per cent risk-weight as set out in Attachment A; and
 - (e) recognised clearing organisations.

Maturity mismatch

40. A maturity mismatch exists where the residual maturity of the term of lodgement of the collateral is less than the maturity of the exposure covered by the collateral.
41. Where there is a maturity mismatch, the collateral may only be recognised for capital adequacy purposes where the original maturity of the term of lodgement of the collateral is greater than or equal to 12 months. If the original maturity of the term of lodgement of the collateral is less than 12 months, the collateral will not be eligible unless the term of lodgement matches the maturity of the underlying exposure. In all cases where there is a maturity mismatch, the collateral will not be eligible where it has a residual maturity of three months or less.

Measurement of maturity

42. For capital adequacy purposes, an ADI must take the effective maturity of the underlying exposure to be the longest possible remaining time before the counterparty is scheduled to fulfil its obligation.
43. In the case of collateral, an ADI must take into account any clause within the documentation supporting the transaction that may reduce its term of lodgement so that the shortest possible effective maturity is used. For this purpose, the ADI must consider clauses that give the protection provider the capacity to reduce the term of lodgement of the collateral and those that give the ADI at origination of the lodgement of collateral a discretion and positive incentive to reduce the term of lodgement.

Adjustment for maturity mismatch

44. Where there is a maturity mismatch between collateral and the underlying exposure, for capital adequacy purposes an ADI must apply the following adjustment:

$$P_a = P \times \left(\frac{t - 0.25}{T - 0.25} \right)$$

where:

P_a = value of the collateral adjusted for maturity mismatch

P = collateral amount adjusted for any haircuts

t = min (T, residual maturity of the term of lodgement of the collateral)
expressed in years

T = min (5, residual maturity of the exposure) expressed in years

Attachment H

Credit derivatives in the banking book

1. For the purposes of this Prudential Standard, APRA recognises the following credit derivatives:
 - (a) single-name credit-default and certain total-rate-of-return swaps;
 - (b) cash-funded credit-linked notes; and
 - (c) first and second-to-default credit derivative basket products.

An ADI that transacts more complex credit derivatives that fall outside the scope of this Attachment must, prior to execution of the relevant credit derivative contract, undertake a written assessment of the appropriate regulatory capital treatment for the transaction. The ADI must provide its written assessment to APRA upon request. The ADI must apply the treatment set out in its written assessment unless APRA determines in writing an alternative methodology for calculating the regulatory capital treatment.

2. Where an ADI **buys credit protection** through a credit derivative that forms part of a **synthetic securitisation**, this Attachment must be read in conjunction with APS 120.
3. Where credit derivatives are used for the purpose of acquiring credit risk exposure (or **selling credit protection**), this Attachment must be read in conjunction with Attachments A to E.
4. An ADI must include in its trading book total-rate-of-return swaps except those that have been transacted to hedge a banking book credit exposure in accordance with the requirements of this Attachment.
5. An ADI must include open short positions in credit derivatives in its trading book. APRA may grant an exception to this requirement in writing, on a one-off approval basis.

Determining the amount of credit protection purchased or sold

6. In order for a credit derivative contract to be recognised for CRM purposes, it must not contain terms or conditions that terminate or increase the ADI's cost of the credit protection purchased if the credit quality of the underlying exposure deteriorates.

Required credit events

7. An ADI must ensure that, for CRM purposes, there is sufficient credit risk transfer under each credit derivative contract. At a minimum, sufficient credit

risk transfer requires that credit events under the terms of the credit derivative contract cover:

- (a) failure to pay an amount due under the terms of the underlying exposure that is in effect at the time of such failure;⁵⁰
 - (b) the bankruptcy, insolvency or inability of the obligor of the underlying exposure to pay its debts, or its failure or admission in writing of its inability generally to pay its debts as those debts become due, or analogous events; and
 - (c) subject to paragraph 8 of this Attachment, the restructuring of the underlying exposure. For this purpose, restructuring involves any forgiveness or postponement of principal, interest or fees that results in the charge-off, specific provision or other similar debit to the profit and loss account of the ADI and restructured items where facilities are rendered non-commercial because of concessional contractual changes related to financial difficulties of the customer as defined in *Prudential Standard APS 220 Credit Quality*.
8. When restructuring of the underlying exposure is not included within the terms of the credit derivative contract but the requirements of paragraphs 7(a) and 7(b) of this Attachment are met, an ADI may recognise, for capital adequacy purposes, 60 per cent of the amount of the credit protection purchased (refer to paragraph 15 of this Attachment) where the amount of credit protection purchased is less than or equal to the amount of the underlying exposure. If the amount of credit protection purchased exceeds that of the underlying exposure, the amount of eligible credit protection is capped at 60 per cent of the amount of the underlying exposure.
9. An **asset mismatch** exists where an ADI has purchased credit protection using a credit derivative and the underlying exposure that is protected by the credit derivative is different to either:
- (a) the deliverable obligation or the reference obligation (as the case may be); or
 - (b) the obligation specified in the credit derivative contract for the purpose of determining whether a credit event has occurred.
10. An asset mismatch for CRM purposes is allowed provided:
- (a) the deliverable obligation, the reference obligation or the obligation specified in the credit derivative contract for the purpose of determining whether a credit event has occurred (as the case may be) ranks *pari passu* or more junior, in seniority of claim, relative to the underlying exposure; and
 - (b) the underlying exposure and the deliverable obligation, reference

⁵⁰ The grace period of the credit derivative contract must align closely with the grace period of the underlying exposure.

obligation or the obligation specified in the credit derivative contract for the purpose of determining whether a credit event has occurred are 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 to the credit derivative contract, and legally enforceable cross-default or cross-acceleration clauses are in place.

11. An ADI that has sold credit protection using a credit derivative must, for capital adequacy purposes, assume that 100 per cent of the credit risk is purchased irrespective of the range of specified credit events.

Materiality thresholds

12. In order to be recognised for CRM purposes, a credit derivative contract must not contain significant materiality thresholds below which credit protection is deemed not to be provided even if a credit event occurs.
13. Subject to paragraph 12 of this Attachment, when determining the amount of credit protection purchased using a credit derivative, an ADI must have regard to any materiality threshold specified in the credit derivative contract as equivalent to a retained first loss position and deduct this amount 50 per cent from Tier 1 capital and 50 per cent from Tier 2 capital (refer to APS 111). This deduction will be capped at the amount of capital the ADI would be required to hold against the full value of the underlying exposure.
14. When determining the amount of credit protection sold, an ADI must assume that any materiality thresholds included in the credit derivative contract do not reduce the acquired credit risk.

Credit-event payments

15. Where the credit-event payment specified in the credit derivative contract is on the basis of cash settlement or physical settlement, the amount of credit protection purchased or sold must be set equal to the par value of the reference or deliverable obligation respectively. Where the credit-event payment is defined as a fixed amount or a percentage of the par amount, the amount of credit protection purchased or sold must be set equal to that fixed amount or as the defined percentage multiplied by the notional principal of the contract amount.

Measurement of maturity

16. For capital adequacy purposes, an ADI must take the effective maturity of the underlying exposure to be the longest possible remaining time before the counterparty is scheduled to fulfil its obligation.
17. In the case of a credit derivative, an ADI that purchases credit protection must take into account any clause within the credit derivative contract that may reduce its maturity so that the shortest possible effective maturity is used. For this purpose, the ADI must consider clauses that give the protection seller the

capacity to reduce the effective maturity of the credit derivative and those that give the ADI at origination of the credit derivative contract a discretion and positive incentive to reduce its effective maturity. Where a credit derivative is not prevented from terminating prior to expiration of any grace period required for a default on the underlying obligation to occur as a result of a failure to pay, the effective maturity of the credit derivative must be reduced by the amount of the grace period.

18. An ADI that sells credit protection using a credit derivative containing an embedded option to extend the term of the credit derivative must assume the longest possible effective maturity of the credit derivative. This is regardless of any contractual arrangements that may give either the protection buyer or the protection seller the incentive to reduce the contract term.

Credit derivatives used for credit risk mitigation purposes

19. Subject to the requirements of this Prudential Standard, credit default swaps, credit-linked notes and first and second-to-default credit derivative basket products will be eligible for CRM purposes. Total-rate-of-return swaps may be recognised for CRM purposes where an ADI records any deterioration in the value of the underlying exposure (such as by an addition to reserves) in addition to recording the net payments received on the swap as net income.
20. With the exception of cash-funded credit-linked notes (refer to paragraph 26 of this Attachment), where an underlying exposure is protected by a credit derivative from an eligible protection seller (as defined in paragraph 21 of this Attachment), the portion of the claim that is protected by the credit derivative (or the amount of credit protection purchased as detailed in paragraph 15 of this Attachment) may be weighted according to the risk-weight appropriate to the protection seller. The unprotected portion of the underlying exposure must be weighted according to the risk-weight applicable to the original counterparty (refer to Attachment A).⁵¹

Eligible credit protection sellers

21. In the case of credit default swaps, total-rate-of-return swaps and first- and second-to-default credit derivative basket products, an ADI may recognise the credit protection provided by the entities detailed in paragraph 3 of Attachment F.

Operational requirements

22. In addition to the requirements in paragraph 20 of the Prudential Standard, in order for a credit derivative to be recognised the following conditions must be satisfied:
 - (a) it must represent a direct claim on the protection seller with the extent of

⁵¹ Credit derivatives that provide partial coverage whereby the ADI and the credit protection seller share losses on a *pro rata* basis are eligible for the same recognition.

the credit protection being clearly defined and incontrovertible. It must be irrevocable; there must be no clause in the credit derivative contract that would allow the protection seller to cancel unilaterally the protection of the credit derivative.⁵² A credit derivative must also be unconditional; there must be no clause in the credit derivative contract outside the direct control of the ADI and the credit events specified in the contract that could prevent the protection seller from being obliged to pay out in a timely manner in the event that the obligor to the underlying exposure fails to make the due payment(s);

- (b) where the credit derivative is based on cash settlement, eligibility for capital relief requires that the ADI has in place a robust valuation process in order to estimate reliably credit losses on the reference obligation specified in the credit derivative contract, including a defined period for obtaining post-credit event valuations of the reference obligation;
- (c) where an ADI purchases credit protection and an existing credit exposure of the ADI is the deliverable obligation under the credit derivative contract, eligibility for capital relief requires that the terms of the underlying exposure must allow for its transfer to the protection seller.⁵³ If the protection purchaser's right and ability to transfer the underlying obligation to the protection provider is required for settlement, the terms of the underlying obligation must provide that any required consent to such transfer may not be unreasonably withheld; and
- (d) it must identify clearly those parties responsible for determining whether a credit event has occurred. This determination must not be the sole responsibility of the protection seller. An ADI buying the credit protection must have the right to inform the protection seller of the occurrence of a credit event.

Proportional cover

23. Where there is partial coverage of an underlying exposure by a credit derivative and the protected and unprotected portions are of equal seniority (i.e. the ADI buying credit protection and the protection seller share losses on a *pro rata* basis), capital relief will be afforded on a proportional basis. This means that the protected portion of the underlying exposure will receive the capital treatment applicable to eligible credit derivatives with the remainder treated as unprotected.

⁵² The irrevocability condition does not require that the credit derivative and the exposure be maturity matched. However, it requires that the maturity agreed *ex ante* may not be reduced *ex post* by the protection provider.

⁵³ An exception applies where there is a restriction on the transfer of the existing credit exposure and this restriction only applies in the event of restructuring. In this case the limit described in paragraph 8 of this Attachment applies as if restructuring of the underlying exposure was not included within the terms of the credit derivatives contract.

Tranched cover

24. Where there is partial coverage of an underlying exposure by a credit derivative and there is a difference in seniority between the protected and unprotected portions of the underlying exposure, then the arrangement is considered to be a synthetic securitisation and is subject to APS 120.

Credit-default and total-rate-of-return swaps

25. Where credit protection is purchased using a credit-default swap referenced to a single reference entity or a total-rate-of-return swap, that portion of the underlying exposure protected by the credit derivative (or the amount of credit protection purchased as detailed in paragraph 15 of this Attachment) may be weighted according to the risk-weight of the protection seller.

Cash-funded credit-linked notes

26. Where credit protection is purchased using a credit-linked note that is funded by cash, the note issued by an ADI must be treated for capital adequacy purposes as a cash-collateralised transaction, subject to the ADI satisfying the requirements for cash collateral as set out in Attachment G.

First-to-default basket credit derivatives

27. Where an ADI has purchased credit protection using a credit derivative that is referenced to more than one reference entity and that protection terminates after a credit event occurs on one of those entities (i.e. a first-to-default basket product), protection must only be recognised against the reference entity with the lowest risk-weighted amount. In this case, that portion of the relevant exposure protected by the credit derivative (or the amount of credit protection purchased as detailed in paragraph 15 of this Attachment) may be weighted according to the risk-weight of the protection seller.

Second-to-default basket credit derivatives

28. Where an ADI has purchased credit protection using a credit derivative that is referenced to more than one reference entity and that protection is triggered after a second credit event occurs on one of those entities (i.e. a second-to-default basket product), protection must only be recognised if the ADI has also purchased first-to-default credit protection or after a first-to-default credit event has occurred on one of the entities in the basket. In this case, the treatment is the same as for first-to-default credit derivatives detailed in paragraph 27 of this Attachment.

Maturity mismatch

29. A maturity mismatch exists where the residual maturity of a credit derivative is less than the maturity of the underlying exposure.

30. Where there is a maturity mismatch, a credit derivative may only be recognised for CRM purposes where the original maturity of the credit derivative is greater than or equal to 12 months. Credit derivatives with an original maturity of less than 12 months will not be eligible unless the maturity of the credit derivative matches the maturity of the underlying exposure. In all cases where there is a maturity mismatch, a credit derivative will not be eligible where it has a residual maturity of three months or less.
31. Where credit protection provided by a single protection seller has different maturities, an ADI must divide the exposure into separate covered portions for risk-weighting purposes.

Adjustment for maturity mismatch

32. Where there is a maturity mismatch between a credit derivative and the covered exposure, for capital adequacy purposes an ADI must apply the following adjustment:

$$P_a = P \times \left(\frac{t - 0.25}{T - 0.25} \right)$$

where:

P_a = value of the amount of credit protection adjusted for maturity mismatch

P = the amount of credit protection adjusted for any haircuts (in which case, $P = G_a$ as determined in paragraph 33 of this Attachment)

t = min (T , residual maturity of the credit derivative) expressed in years

T = min (5, residual maturity of the underlying exposure) expressed in years

Currency mismatches

33. A currency mismatch exists where an ADI has purchased credit protection using a credit derivative and the credit derivative is denominated in a different currency from that in which the underlying exposure is denominated. In this case the amount of the exposure deemed to be protected (G_a) must be reduced by the application of an adjustment or haircut (H_{fx}) as follows:

$$G_a = G \times (1 - H_{fx})$$

where:

G = nominal amount of the credit derivative

H_{fx} = haircut appropriate for the currency mismatch between the credit derivative and the underlying exposure

34. The H_{fx} haircut detailed in paragraph 33 of this Attachment is the same as that applied to collateral in the comprehensive approach (refer to Attachment G). If an ADI uses the comprehensive approach and it uses the standard haircuts, the haircut to be applied for a currency mismatch will be eight per cent (assuming daily mark-to-market). If the ADI uses its own-estimate haircuts, the estimates for a currency mismatch must be based on a 10-business day holding period. Where the ADI uses the simple approach it may use the standard haircut of eight per cent for the currency mismatch (assuming daily mark-to-market) or own-estimate haircuts based on a 10-business day holding period.
35. Using the formula detailed in paragraph 37 of Attachment G, haircuts must be adjusted depending on the actual frequency of revaluation of the currency mismatch.

Credit derivatives used for acquiring credit risk exposure

36. An ADI that sells credit protection that is not detailed in paragraphs 37 to 41 of this Attachment must obtain APRA's written approval regarding the appropriate regulatory capital treatment for the transaction.

Credit-default swaps

37. Where credit protection is sold via a credit-default swap referenced to a single reference entity, the ADI acquires an exposure to the credit risk of that entity. The risk-weight that must be applied to the exposure is the risk-weight that would otherwise apply to the reference entity. The amount of the exposure is the maximum possible amount payable under the terms of the credit derivative contract if a credit event were to occur.

Total-rate-of-return swaps

38. Credit protection sold via a total-rate-of-return swap must be included in an ADI's trading book.

Cash-funded credit-linked notes

39. Where credit protection is sold via a cash-funded credit-linked note, the ADI acquires an exposure to both the protection buyer and the entity where the cash collateral is held, with the amount of the exposure being the face value of the note. Where the credit-linked note is structured such that the protection seller receives some percentage of the note's face value if the credit derivative is triggered, the amount of exposure to the reference entity is the difference between the face value and this percentage amount. To account for this exposure, the higher of the risk-weights applicable to the protection buyer and the entity where the cash collateral is held must be applied to the exposure.

First-to-default basket credit derivatives

40. Where an ADI has sold credit protection using a first-to-default basket product, capital must be held against all the reference entities in the basket. The risk-weighted exposure arising from the credit derivative must be calculated as

the sum of the individual risk-weighted exposures in the basket, with the amount of capital held capped at the nominal amount of the credit protection provided by the credit derivative. The exception to this requirement is where the first-to-default basket product has a credit rating grade from an ECAI. In this case, the risk-weight applied will be that applicable to an equivalently rated securitisation tranche (as detailed in APS 120).

Second-to-default basket credit derivatives

41. Where an ADI has sold credit protection using a second-to-default basket product, capital must be held against all the reference entities in the basket except for the entity that has the lowest corresponding risk-weighted exposure. The risk-weighted exposure arising from the credit derivative will be the sum of the individual risk-weighted exposures in the basket, excluding the lowest risk-weighted exposure amount, with the amount of capital held capped at the nominal amount of the protection provided by the credit derivative.

Attachment I

Netting

Use of netting

1. An ADI may, for capital adequacy purposes, net (i.e. through close-out netting or netting by novation) the following types of transactions, subject to the requirements of this Attachment:
 - (a) on-balance sheet loans and deposits where:
 - (i) the ADI is able to determine, at all times, the assets and liabilities of the counterparty that are subject to the netting agreement; and
 - (ii) deposits meet the criteria for eligible financial collateral as set out in Attachment G;
 - (b) OTC derivative transactions (across both the banking and trading books) with a single counterparty. This may include netting across different market-related product types, such as credit derivatives, to the extent that they are recognised as market-related transactions for capital adequacy purposes;⁵⁴ and
 - (c) securities financing transactions.

An ADI may not, however, recognise payments netting.
2. At Level 1, an ADI may only net transactions with related entities for CRM purposes if the transactions comply with the requirements in this Attachment.
3. At Level 2, an ADI may only net transactions undertaken by an individual member of a consolidated group for CRM purposes if the netting transactions comply with the requirements for netting as set out in this Attachment.
4. An ADI that chooses to net transactions must continue to do so and must apply netting to all transactions in both the banking and trading book covered by a netting agreement.
5. An ADI may only net positions across the banking and trading book if the netted transactions:
 - (a) are marked-to-market daily, where applicable; and
 - (b) any collateralised instruments used in the transactions comply with the criteria for eligible collateral in the banking book.

⁵⁴ For the purposes of this Attachment, securities financing transactions are not included as part of market-related transactions.

6. An ADI that uses the close-out netting method must apply the two stages to this process:
 - (a) fixing of obligations on the occurrence of an event; and
 - (b) calculating the cost to each party in closing out transactions according to a prescribed formula.

The amounts due to both counterparties may be calculated in a single currency, or converted to a single currency, and then netted to a single payment due by one party to the other.

Eligible bilateral netting agreements

7. An ADI may only net, for capital adequacy purposes, claims and obligations with a counterparty that are covered by a legally binding eligible bilateral netting agreement (including a master agreement) (**netting agreement**), if the netting agreement:
 - (a) is in writing;
 - (b) creates a single legal obligation covering all transactions and collateral included in the netting agreement, such that the ADI would have the right to:
 - (i) terminate and close-out, in a timely manner, all transactions under the netting agreement;
 - (ii) net gains and losses on transactions, including the value of any collateral, terminated and closed out under the netting agreement so that the ADI would have either a claim to receive or an obligation to pay only the net sum of the close-out values of individual transaction. For forwards, swaps, options and similar derivative contracts, this will include the positive and negative mark-to-market values of individual transactions; and
 - (iii) liquidate or set-off collateral

in the event that either party fails to perform due to default, liquidation or bankruptcy or other similar circumstances;⁵⁵
 - (c) is supported by a written and reasoned legal opinion that concludes that in the event of default, liquidation, bankruptcy or other similar circumstances of a party to a netting agreement, the relevant courts and authorities would find the ADI's claims and obligations are limited to the

⁵⁵ In some countries, there are provisions for the authorities to appoint an administrator to a troubled bank. Under statutory provisions applying in those countries, the appointment of an administrator may not constitute grounds for the triggering of netting agreements. Such provisions do not prevent the recognition of affected netting agreements for the purposes of these guidelines provided that a netting agreement can still take effect in the event the bank under administration does not meet its obligations under transactions as they fall due.

single net sum determined in the netting agreement under:

- (i) the law of the jurisdiction in which the counterparty is incorporated or formed (or, in the case of a natural person, resides), and if a foreign branch of the counterparty is involved, the law of the jurisdiction in which the branch is located;
- (ii) the law that governs the individual transactions involved;
- (iii) the law that governs any contract or agreement necessary to give effect to the netting;

and, in particular, in the insolvency or external administration of the counterparty, the netting will be recognised under those laws, so that it will not be possible for the liquidator or other external administrator of the counterparty to claim a gross amount due from the ADI while only being liable to pay a dividend in insolvency to the ADI (as separate money flows); and

- (d) is not subject to a walkaway clause.

Legal opinion

- 8. An ADI that has obtained a positive legal opinion about the enforceability of a netting agreement must:
 - (a) ensure that the legal opinion is not subject to assumptions or qualifications that are unduly restrictive;
 - (b) review assumptions regarding the enforceability of the netting agreement and ensure they are specific, factual and adequately explained in the opinion; and
 - (c) review and assess all assumptions, qualifications and omissions in a legal opinion on the netting agreement to determine whether they give rise to any doubt about the enforceability of the netting agreement.
- 9. A legal opinion may be obtained on a group basis, and an individual member of the consolidated banking group may rely on the opinion for the purposes of this Attachment. This is provided the ADI and the individual group member have satisfied themselves as to the application of the legal opinion to a netting agreement to which the group member is a counterparty.
- 10. An ADI must not recognise a netting agreement, for capital adequacy purposes, if there is any doubt as to the enforceability of the netting agreement.
- 11. An ADI may rely on a general legal opinion about the enforceability of a netting agreement in a particular jurisdiction if the ADI has determined that the type of netting agreement involved is encompassed by the general legal opinion.

12. An ADI must satisfy itself that a netting agreement and supporting general legal opinion are applicable to each counterparty, transaction and product type undertaken with the counterparty and in all jurisdictions where transactions are originated.

Policies, systems and controls

13. An ADI that applies netting for capital adequacy purposes must have a netting policy, approved by the Board of directors, that sets out its approach to netting and, as a minimum, addresses the requirements of this Attachment.
14. An ADI's netting policy must include systems and controls for monitoring netting agreements, including monitoring and managing:
 - (a) roll-off risk;
 - (b) relevant exposures on a net basis; and
 - (c) termination riskfor all transactions subject to netting.
15. An ADI must have appropriate systems and controls to be able to monitor and report netted transactions on a gross and net basis.
16. An ADI must have internal procedures to verify that a transaction that is netted is covered by an appropriate legal opinion which satisfies the requirements of this Attachment.
17. An ADI must be able to demonstrate to APRA, if required, the satisfactory application of its netting policy, including netting systems and controls, and must provide details of the policy to APRA if requested to do so.

Monitoring and reporting of netting agreements

18. An ADI that nets transactions for capital adequacy purposes must maintain adequate records to support the application of the netting agreement.
19. An ADI must exclude netted transactions for which it has not obtained a satisfactory legal opinion in a specific jurisdiction, when determining the net sum due to/from the counterparty involved. Excluded transactions must be reported on a gross basis. The ADI may, however, continue to net other transactions that originate in jurisdictions where it has obtained a positive legal opinion about the enforceability of a netting agreement.
20. An ADI that becomes aware that a regulator or supervisor of a counterparty has given notice that it is not satisfied that netting is enforceable under the laws of the regulator's or supervisor's home country must not recognise the netting agreement for capital adequacy purposes regardless of any legal opinion obtained by the ADI.

21. An ADI must have procedures in place to monitor legal developments to ensure that netting agreements continue to be legally enforceable. The ADI must update its legal opinion covering netting agreements, as necessary, to ensure the continued enforceability of a netting agreement.
22. An ADI must report transactions on a gross basis, including for the purposes of measuring capital adequacy, if legal developments affect the enforceability of a netting agreement.

Collateral and guarantees

23. An ADI may take into account collateral and guarantees when calculating the risk-weight to be applied to the net sum calculated under a netting agreement. An ADI may only assign a risk-weight based on collateral and guarantees if the collateral or guarantees have been posted or are otherwise subject to a legally enforceable agreement and are legally available for all individual transactions making up the net sum of exposures involved.
24. An ADI that has a netting agreement with a counterparty that contains provisions for applying collateral or guarantees to netted exposures outstanding between the ADI and the counterparty, must ensure that the provisions comply with the requirements set out in Attachments F and G with respect to eligible collateral and guarantees.

Calculation of exposure: On-balance sheet netting transactions

25. An ADI that satisfies the requirements of this Attachment for on-balance sheet netting must use the formula in paragraph 24 of Attachment G to calculate its net on-balance sheet exposure for capital adequacy purposes. The ADI must use a zero haircut in this formula except when a currency mismatch exists. The ADI must also apply a 10-business day holding period when daily mark-to-market is conducted and satisfy paragraphs 27 and 40 to 44 of Attachment G.

Calculation of exposure: Over-the-counter derivatives

26. An ADI that satisfies the requirements in this Attachment for netting may report, for capital adequacy purposes OTC derivative transactions (in both the banking and trading book) on a net basis and calculate the CEA of these transactions in accordance with the methodology outlined below.

Credit equivalent amount

27. An ADI must use the current exposure method to calculate the exposure for OTC derivative transactions that fall under netting agreements for capital adequacy purposes.
28. The CEA of transactions subject to a netting agreement must be calculated as the sum of the net current credit exposure (**NCCE**) (i.e. net mark-to-market replacement cost) of all transactions covered by the netting agreement, if positive, plus an add-on (**PFCE_{adj}**) for potential future credit exposure based on

the notional principal of all the individual underlying contracts (i.e. the gross potential future credit exposure) adjusted to reflect the effects of the netting agreement. Thus:

$$\text{CEA} = \text{NCCE (if positive)} + \text{PFCE}_{\text{adj}}$$

Net current credit exposure

29. NCCE is the sum of all positive and negative mark-to-market values of all individual contracts covered by a netting agreement (i.e. positive mark-to-market values of transactions may be offset against negative mark-to-market values on other transactions covered by the netting agreement). If the net sum of individual mark-to-market values is positive, the NCCE is equal to that sum. If the sum of mark-to-market values is zero or negative, the NCCE is set equal to zero.

Potential future credit exposure

30. An ADI must recognise the effects of netting agreements on its potential future credit exposure by applying the formula below to produce an adjusted add-on amount for potential future credit exposure on all contracts subject to the netting agreement. Thus:

$$\text{PFCE}_{\text{adj}} = 0.4(\text{PFCE}_{\text{gross}}) + 0.6 (\text{NGR} \times \text{PFCE}_{\text{gross}})$$

31. The potential future credit exposure (**PFCE_{gross}**) is calculated as the sum of an ADI's potential future credit exposure for each individual transaction covered by a netting agreement with a counterparty as if no netting would occur (with the exception of transactions covered by paragraph 29 of this Attachment). Potential future credit exposure for each transaction is calculated by multiplying the notional principal amount of the transaction by the appropriate CCF for that transaction as set out in Attachment B.
32. For the purpose of calculating **PFCE_{gross}**, an ADI may treat matching transactions included in a netting agreement as a single transaction with a notional principal equivalent to the net receipts on those transactions. For this purpose, matching transactions are defined as forward foreign exchange and other similar market-related transactions in which the notional principal is equivalent to cash flows, where the cash flows fall due on the same value date and are in the same currency.
33. The net to gross ratio (**NGR**) is the ratio of the net current exposure of all transactions included in a netting agreement to the gross current credit exposure (**GCCE**) of these same transactions. GCCE is the sum of the mark-to-market values of all transactions covered by a netting agreement with a positive mark-to-market value with no offsetting against contracts with a negative mark-to-market value (with the exception of transactions covered by paragraph 29 of this Attachment). The NGR reflects the risk reducing portfolio effects of netted transactions with respect to current credit exposure. Thus:

$$\text{NGR} = \text{NCCE}/\text{GCCE}$$

34. The NGR may be calculated using one of the following approaches:
- (a) **counterparty-by-counterparty approach** – under this approach a unique NGR is applied to each counterparty in calculating the CEA of transactions with that counterparty. NGR is defined as the NCCE of all transactions with an individual counterparty covered by a netting agreement (i.e. $NCCE_{\text{individual}}$) divided by the GCCE of all the transactions with that counterparty covered by the netting agreement (i.e. $GCCE_{\text{individual}}$). In calculating $GCCE_{\text{individual}}$, negative mark-to-market values for individual transactions with the same counterparty may not be used to offset positive mark-to-market values for other transactions with the same counterparty; or
 - (b) **aggregate approach** – under this approach a single NGR is calculated and applied to all counterparties in calculating the CEA for transactions with each of those counterparties. The NGR is the ratio of the sum of all NCCEs of all transactions with all counterparties subject to any netting agreement (i.e. $NCCE_{\text{aggregate}}$) to the sum of all of the GCCEs for all transactions of all counterparties subject to any netting agreement (i.e. $GCCE_{\text{aggregate}}$). In calculating $GCCE_{\text{aggregate}}$, negative mark-to-market values of transactions with one counterparty cannot be used to offset positive mark-to-market values of transactions with that counterparty or any other counterparty included in the aggregate calculations.
35. An ADI must consistently use either the counterparty-by-counterparty approach or the aggregate approach to calculate the NGR and must inform APRA of which approach it intends to use.

Other criteria

36. An ADI may at Level 1 and Level 2, with APRA's written approval, elect to include foreign exchange contracts with an original maturity of fourteen calendar days or less with other transactions in calculating netted exposures. Where an ADI chooses to include such contracts, it must do so for all counterparties for whom it calculates net exposures. An ADI cannot selectively include such contracts in calculating net exposures. All such foreign exchange contracts must be included in calculating current credit exposures and potential future credit exposures (with a CCF of one per cent).
37. An ADI must exclude from netting market-related instruments traded on recognised exchanges, where they are subject to daily margining requirements.

Risk-weighted amount

38. With respect to the netted exposures determined in paragraphs 26 to 37 of this Attachment, an ADI must assign the relevant risk-weight applicable to a counterparty, or if eligible, the risk-weight of a guarantor or collateral to the CEA.
39. For the purposes of paragraph 25 of Attachment G, potential future exposure is $PFCE_{\text{adj}}$ as determined in paragraph 30 of this Attachment.

Calculation of exposure: Securities financing transactions

Comprehensive approach

40. An ADI, that uses the comprehensive approach to eligible collateral (refer to Attachment G) must apply the following formula for the purposes of calculating the ADI's adjusted exposure (**E***) amount after netting for securities financing transactions, unless it chooses to use a value-at-risk (**VaR**) models approach in accordance with paragraph 42 of this Attachment.

$$E^* = \max\left\{0, \left[\sum E - \sum C + \sum (E_s \times H_s) + \sum (E_{fx} \times H_{fx}) \right] \right\}$$

where:

E^* = the exposure value after risk mitigation

E = current value of the exposure

C = the value of the collateral received

E_s = absolute value of the net position in a given security

H_s = haircut appropriate to E_s

E_{fx} = absolute value of the net position in a currency different from the settlement currency

H_{fx} = haircut appropriate for currency mismatch

41. An ADI must multiply the net long or short position of each security included in the netting agreement by the appropriate haircut. The ADI must also apply the rules in paragraphs 21 and 24 to 44 of Attachment G regarding the calculation of haircuts.

VaR models approach

42. An ADI that wishes to use a VaR model to determine its net securities financing transaction exposure for capital adequacy purposes must seek explicit approval to do so from APRA. If approved, the VaR model may be used for securities financing transactions covered by netting agreements on a counterparty-by-counterparty basis.
43. An ADI's VaR model used to determine the ADI's net securities financing transaction exposure for capital adequacy purposes must provide daily estimates of the 99 per cent, one-tailed confidence interval of the potential change in value of the unsecured exposure amount ($\sum E - \sum C$), and satisfy the General Criteria, Qualitative Standards and Quantitative Standards for recognition of internal models in APS 116, other than the requirement for a 10-day holding period listed therein. The minimum holding period is five days, and the ADI must adjust upwards the minimum holding periods for market instruments where

such a holding period would be inappropriate given the liquidity of the instrument concerned.

44. An ADI using the VaR model approach to determine its net securities financing transaction exposure for capital adequacy purposes must use the formula below to calculate its exposure (E^*):

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

where symbols are as defined in paragraph 40 of this Attachment. An ADI using the VaR models approach must use the previous business day's model output when calculating its capital requirement.