January 2013

Prudential Standard APS 113

Capital Adequacy: Internal Ratings-based Approach to Credit Risk

Objective and key requirements of this Prudential Standard

This Prudential Standard sets out the requirements that an authorised deposit-taking institution that has approval to use an internal ratings-based approach to credit risk must meet both at the time of initial implementation and on an ongoing basis for regulatory capital purposes.

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

- quantify certain credit risk components to determine the capital requirement for a given credit exposure; and
- have approval from APRA to use an internal ratings-based approach to credit risk for determining the institution's credit risk capital requirement.

Table of contents

Authority

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

Application

2. This Prudential Standard applies to **authorised deposit-taking institutions** (**ADIs**) that are seeking, or have been given approval, to use an internal ratings-based approach to credit risk for the purpose of determining **Regulatory Capital**.

3. A reference to an ADI in this Prudential Standard, unless otherwise indicated, is 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.

4. If an ADI to which this Prudential Standard applies is:

   (a) the holding company for a group, the ADI must ensure that the requirements in this Prudential Standard are met on a Level 2 basis, where applicable; or

   (b) 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.

Interpretation

5. Terms that are defined in *Prudential Standard APS 001 Definitions* (APS 001) appear in bold the first time they are used in this Prudential Standard.

Scope

6. Subject to paragraphs 7 and 8, this Prudential Standard applies to all on-balance sheet assets held by an ADI and all its off-balance sheet exposures.

7. 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 Capital** or **Tier 2 Capital** under *Prudential Standard APS 111 Capital Adequacy: Measurement of Capital* (APS 111);

   (b) securitisation exposures which are subject to the requirements of *Prudential Standard APS 120 Securitisation* (APS 120); and

   (c) liabilities of a covered bond special purpose vehicle to an issuing ADI as specified in *Prudential Standard APS 121 Covered Bonds* (APS 121).

8. 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

9. The following definitions are used in this Prudential Standard:

   a) central counterparty (CCP) – a clearing house that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer. A CCP becomes counterparty to trades with market participants through novation, an open offer system or another legally binding arrangement. For the purposes of the capital framework, a CCP is a financial institution.

   b) corporate credit exposure - a credit obligation of a corporation, partnership or proprietorship and any other credit exposure that does not meet the criteria of any other defined internal ratings-based (**IRB**) asset class;

   c) credit obligation - a contractual agreement in which a borrower receives something of value now (usually cash) with the agreement to repay the ADI at some stated date;

   d) dilution risk - the possibility that the total amount of purchased receivables is reduced through cash or non-cash credits to the receivables' obligors. Examples include offsets or allowances arising from returns of goods sold, disputes regarding product quality, possible debts of the obligor to obligors of the purchased receivables and any payment or promotional discounts offered by the obligor;

   e) exposure at default (EAD) - the gross exposure under a facility (i.e. the amount that is legally owed to the ADI) upon default of an obligor;

   f) IRB approval - the written approval from APRA for an ADI to adopt the IRB approach;

   g) loss given default (LGD) - the ADI's economic loss upon the default of an obligor;

   h) probability of default (PD) - the risk of obligor default;

   i) purchased receivables - a pool of receivables that have been purchased by an ADI from another entity;

   j) rating system - all of the methods, processes, controls, data collection and technology that support the assessment of credit risk, the assignment of internal credit risk ratings and the quantification of associated default, exposure and loss estimates;

k) specific wrong-way risk - arises when the exposure to a particular counterparty is positively correlated with the probability of default of the counterparty due to the nature of the transactions with the counterparty; and

l) subordinated claim - a facility that is expressly subordinated to another facility.

Key principles

10. An ADI that has received IRB approval from APRA may (subject to the relevant IRB approval) rely on its own internal estimates for some or all of the necessary credit risk components in determining the capital requirement for a given credit exposure. The credit risk components include measures of PD, LGD, EAD and maturity (M) and must satisfy the necessary requirements detailed in Attachment A. An ADI's rating system must play an integral role in the ADI's credit approval, risk management and internal capital allocation functions and meet the requirements detailed in Attachment A, including those relating to the Board of directors (**Board**) and senior management responsibilities.

11. With the exception of the exposures detailed in paragraph 16 of this Prudential Standard, the IRB approach to credit risk is based upon measures of unexpected losses (UL) and expected losses (EL). The IRB risk-weight functions detailed in this Prudential Standard produce the capital requirement for UL. For EL, the ADI must compare the sufficiency of eligible provisions (refer to paragraph 21 of this Prudential Standard) against EL amounts calculated according to paragraph 19 of this Prudential Standard. The comparison must be made in accordance with paragraph 23 of this Prudential Standard. Where a difference exists, paragraphs 24 to 25 of this Prudential Standard apply.

12. For the corporate, sovereign and bank IRB asset classes (defined in paragraphs 42 to 45 of this Prudential Standard), there are two IRB approaches to credit risk: the foundation IRB (FIRB) approach and the advanced IRB (AIRB) approach. Under the FIRB approach, an ADI must (subject to the relevant IRB approval) provide its own estimates of PD and M and rely on supervisory estimates for LGD and EAD. Under the AIRB approach, an ADI must (subject to the relevant IRB approval) provide its own estimates of all the credit risk components. Under both approaches, an ADI must use the relevant IRB risk-weight function, as detailed in Attachment B, for the purpose of deriving the capital requirement for UL for those IRB asset classes.

13. An IRB approval may provide that the FIRB or AIRB approach applies to an ADI's corporate IRB asset class except in relation to one or more of the specialised lending (SL) sub-asset classes detailed in paragraph 43 of this Prudential Standard. In that event, specific risk-weights associated with slotting categories must be used (refer to Attachment B) for the purpose of deriving Regulatory Capital for UL for the relevant exposures.

14. For the retail IRB asset class (defined in paragraphs 46 to 48 of this Prudential Standard), an ADI that has IRB approval must (subject to the relevant IRB

approval) provide its own estimates of PD, LGD and EAD. There is no explicit maturity adjustment for the retail IRB asset class nor is there a distinction between a FIRB approach and an AIRB approach. The ADI must use the risk-weight function for each retail sub-asset class as detailed in Attachment C for the purpose of deriving the capital requirement for UL for the retail IRB asset class.

15. The treatment of purchased receivables straddles two IRB asset classes: corporate and retail (refer to Attachment D). For both corporate and retail purchased receivables, an ADI will be required to hold Regulatory Capital for default risk and, where material, dilution risk.

16. The residual IRB asset class includes an ADI's cash items, fixed assets, certain unsettled and failed transactions and related-party exposures, margin lending and all other claims not otherwise defined in this Prudential Standard. For the residual IRB asset class and the equity IRB asset class (refer to paragraphs 49 to 52 of this Prudential Standard), the capital requirement is based on assigned risk-weights that reflect APRA's broad judgement about the credit risk associated with those exposures (refer to Attachment E). The risk-weights for these exposures are assumed to represent UL as EL is assumed to be zero.

17. For the purpose of this Prudential Standard, the risk-weighted asset amounts that are derived from the IRB risk-weight functions (refer to Attachments B and C) must be multiplied by a factor of 1.06. The ADI must sum the risk-weighted amounts for UL for all IRB asset classes (including the residual IRB asset class) to determine the total risk-weighted asset amount under the IRB approach.

18. An ADI that has IRB approval must consult APRA where there is doubt about how to determine the risk-weighted amount of an on-balance sheet or off-balance sheet asset or exposure.

Expected loss and eligible provisions

19. Other than for that portion of exposures covered by eligible guarantees or credit derivatives subject to the double default approach, an ADI that has IRB approval must separately calculate, for non-defaulted and defaulted exposures, total EL aggregated across the corporate, sovereign, bank and retail IRB asset classes.[1] Other than for SL exposures subject to the slotting approach, EL is calculated as follows:

    (a) for non-defaulted exposures, the product of PD, LGD and EAD;

    (b) for defaulted exposures under the AIRB approach and the IRB approach for retail exposures, the ADI's best estimate of EL given current economic circumstances and the facility's status (refer to paragraph 98 of Attachment A); and

[1] EL and relevant provisions associated with other IRB asset classes are excluded from the calculation of total EL and eligible provisions respectively.

(c) for defaulted corporate, sovereign and bank exposures under the FIRB approach, the product of the relevant supervisory estimates of LGD and EAD.

20. EL for SL exposures subject to the slotting approach must be calculated as eight per cent of the risk-weighted asset amount.[2] The risk-weight to be used in this calculation is determined by the relevant slotting category to which the exposure has been mapped (refer to Table 1).

Table 1: Risk-weights for EL under the slotting approach

	Strong	**Good**	**Satisfactory**	**Weak**	**Default**
Specialised lending	5%	10%	35%	100%	625%

21. For exposures in the IRB asset classes detailed in paragraph 19 of this Prudential Standard (including, in all cases, SL), total eligible provisions associated with those exposures are:

(a) credit related provisions (e.g. specific provisions and General Reserves for Credit Losses without deducting any deferred tax assets associated with those reserves (refer to *Prudential Standard APS 220 Credit Quality* (**APS 220**));[3]

(b) partial write-offs; and

(c) discounts on defaulted assets (refer to paragraph 24 of Attachment B and paragraph 7 of Attachment C).

22. Where an ADI that has IRB approval uses the standardised approach to credit risk (refer to *Prudential Standard APS 112 Capital Adequacy: Standardised Approach to Credit Risk* (**APS 112**)) for a portion of its exposures, it must attribute total General Reserves for Credit Losses on a *pro rata* basis according to the proportion of risk-weighted assets subject to the standardised and IRB approaches. However, when the standardised approach to credit risk is used exclusively by an entity within the ADI consolidated banking group, all of the General Reserves for Credit Losses booked within that entity must be attributed to the standardised approach. Similarly, General Reserves for Credit Losses booked by entities within the Level 2 group that exclusively use an IRB approach to credit risk qualify as eligible provisions in terms of paragraph 21 of this Prudential Standard.

23. An ADI that has IRB approval must compare the total EL amount for:

---

2 The risk-weighted asset amount consists of the total of the on-balance sheet component and the off-balance sheet equivalent multiplied by the relevant risk-weight in Table 1. For the on-balance sheet component, the amount that is multiplied by the relevant risk-weight is the book value of the exposure gross of any eligible provisions (refer paragraph 21 of APS 113). Off-balance sheet exposures are converted to on-balance sheet equivalents using the FIRB credit conversion factors detailed in Attachment B.

3 Any amount included in an ADI's General Reserve for Credit Losses may only be used as an eligible provision to offset EL for non-defaulted exposures.

(a) defaulted IRB exposures; and

(b) non-defaulted exposures

to total eligible provisions (refer to paragraph 21 of this Prudential Standard) associated with the relevant exposures.

24. In all cases detailed in paragraph 23 of this Prudential Standard, where the total EL amount is higher than total eligible provisions for the relevant exposures, the difference must be deducted from **Common Equity Tier 1 Capital** (refer to APS 111).

25. For non-defaulted exposures, where the total EL amount associated with such exposures is lower than eligible provisions associated with these exposures, that amount of the difference made up of the General Reserve for Credit Losses may be included in Tier 2 Capital up to a maximum of 0.6 per cent of total credit risk-weighted assets (refer to paragraph 17 of this Prudential Standard).

Approval process

26. An ADI may apply for written approval from APRA to use an IRB approach for capital adequacy purposes.

27. In its application, the ADI must, unless exempted in writing by APRA, seek approval to use:

(a) an advanced measurement approach to operational risk for the purpose of determining the ADI's Regulatory Capital for operational risk (refer to *Prudential Standard APS 115 Capital Adequacy: Advanced Measurement Approaches to Operational Risk*); and

(b) an internal risk measurement model for the purpose of determining the ADI's Regulatory Capital for interest rate risk in the banking book (refer to *Prudential Standard APS 117 Capital Adequacy: Interest Rate Risk in the Banking Book*)

unless APRA has previously approved the ADI's use of the approach or model.

28. APRA may, in writing, approve the use of an IRB approach by an ADI. The IRB approval may specify how the IRB approach is to apply in relation to the ADI, including approvals under other paragraphs of this Prudential Standard. Subsequent to obtaining IRB approval, an ADI must notify APRA if it intends to make changes to its rating systems that will result in a material change in the ADI's risk-weighted asset amount for a given type of exposure or if the ADI intends to make a significant change to its modelling assumptions. APRA may impose conditions on the IRB approval.

29. In order to obtain IRB approval, an ADI must demonstrate to APRA that it has been using, for the relevant IRB asset or sub-asset classes, rating systems that are broadly in line with the requirements of this Prudential Standard for at least three years prior to an IRB approval being given. In the case of the AIRB approach and the IRB approach for retail exposures, the ADI must demonstrate

to APRA that it has estimated and used LGD and EAD estimates in a manner that is broadly consistent with the relevant requirements of this Prudential Standard for at least three years prior to the IRB approval being given. Improvements to an ADI's rating system will not render it non-compliant with this three-year requirement.

30. Once an ADI has obtained IRB approval, it must continue to employ that IRB approach on an ongoing basis unless, or except to the extent that, the IRB approval is revoked or suspended for some or all of the ADI's operations. A return, at the ADI's request, to the standardised approach to credit risk (refer to APS 112) or the use of the FIRB approach where the ADI has approval to use the AIRB approach, will generally only be permitted in exceptional circumstances.

31. APRA may, at any time in writing to the ADI, vary or revoke an IRB approval, or impose additional conditions on the IRB approval if it determines that:

    (a) the ADI does not comply with this Prudential Standard; or

    (b) it is appropriate, having regard to the particular circumstances of the ADI to impose the additional conditions or make the variation or revocation.

32. Where an IRB approval for an ADI has been varied or revoked, APRA may, in writing, require the ADI to revert to the standardised approach to credit risk for some or all of its operations, until it meets the conditions specified by APRA for returning to the IRB approach.

33. An ADI that has received IRB approval may become aware that it is not complying with a requirement of this Prudential Standard. Where this is the case, the ADI must notify APRA and provide the ADI's plan for the timely return to compliance. Failure to notify APRA, produce an acceptable plan, satisfactorily implement the plan or demonstrate that the non-compliance is immaterial will result in reconsideration by APRA of the ADI's eligibility to use the IRB approach. Furthermore, for the duration of any non-compliance, APRA may require the ADI to hold additional Regulatory Capital or take other supervisory action, as appropriate.

34. APRA may, in writing, require an ADI to reduce its level of credit risk or increase its capital if APRA considers that the ADI's capital for credit risk under the IRB approach is not commensurate with its credit risk profile.

Adoption of the IRB approach

35. APRA will generally require an ADI that has IRB approval to apply the IRB approach across all asset classes of the ADI, except to the ADI's exposures to central counterparties, for which an ADI must use the standardised approach to credit risk (refer to Attachment C of APS 112). APRA recognises, however, that for many ADIs it may not be practical to implement the IRB approach across all material IRB asset classes and business units at the same time. This may be the case, for instance, where an ADI moves from the standardised approach to credit risk (refer to APS 112) to the IRB approach, undertakes a new business

activity, has acquired a new business through merger or acquisition or has certain immaterial business activities (refer to paragraph 40 of this Prudential Standard). In such circumstances, APRA's approval of the IRB approach may permit the ADI to use a combination of the IRB approach and the standardised approach to credit risk. This approach is referred to as 'partial use'.

36. An ADI must provide APRA with appropriate written information, both at the time of the ADI's initial application for the IRB approach and subsequent to the ADI obtaining IRB approval, on any business activities for which the ADI proposes to use the standardised approach to credit risk.

37. Subject to approval by APRA, an ADI may adopt a phased roll-out of the IRB approach across the Level 2 group. Notwithstanding, when an ADI adopts the IRB approach for an IRB asset or sub-asset class within a particular business unit, it will be required to apply that IRB approach to all exposures in that IRB asset or sub-asset class within that business unit.

38. APRA's approval of a phased roll-out may provide for the ADI to use the slotting approach for one or more of the SL sub-asset classes and move to the FIRB or AIRB approach for other SL sub-asset classes.

39. An ADI that has received approval to adopt a phased roll-out of the IRB approach must have a written APRA-approved implementation plan in place that specifies the extent and timing of roll-out of the IRB approach across all significant asset or sub-asset classes and business units. During the roll-out period, no capital relief will be granted for intra-group transactions that reduce the ADI's aggregate capital requirement by transferring credit risk among entities on the standardised approach to credit risk, FIRB approach and AIRB approach. This includes, but is not limited to, asset sales and cross-guarantees.

40. Permanent partial use of the IRB approach will be approved only in exceptional circumstances and where the ADI is able to demonstrate that those business activities to which the IRB approach does not apply are immaterial in terms of size and perceived risk profile. The calculated credit risk capital requirement for such business activities, if considered necessary by APRA, may be subject to additional Regulatory Capital.

IRB asset classes

41. Under the IRB approach to credit risk, an ADI must categorise banking book exposures into six broad IRB asset classes and several sub-asset classes: corporate (which includes four sub-asset classes of SL), sovereign, bank, retail (which consists of three separate sub-asset classes), equity and a residual IRB asset class (refer to paragraph 16 of this Prudential Standard). The ADI may adopt a different system of classification in its internal risk management and measurement systems; however, it must apply the appropriate treatment (under this Prudential Standard and the terms of its IRB approval) to each credit exposure for the purpose of deriving its minimum capital requirement. The ADI must ensure that its methodology for assigning credit exposures to different IRB asset classes complies with this Prudential Standard and its IRB approval and is consistent over time.