



Reserve Bank
of New Zealand
Te Pūtea Matua

Internal Models Standard

Guidance Note

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Guidance Note version history

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Use and status of the Guidance

The purpose of this Guidance is to assist licensed deposit takers (or **deposit takers**) to interpret and comply with the Deposit Takers (Internal Models) Standard 2027 (the **Internal Models Standard** or **Standard**). This recognises that the Standard deals with technical subject matter and there may be no case law or other external reference points to assist with its interpretation. Guidance will assist individual deposit takers with their own compliance and support a more consistent approach across the industry.

The Guidance assists by:

- Outlining for the context and purpose of the Standard. Technical content is better understood with awareness of the policy intent at the time it was drafted.
- Outlining our preferred interpretation in relation to some clauses, where we have been made aware of differing interpretations by deposit takers.
- Providing examples of good practice in complying with the Standard.

To assist in using the Guidance:

- The Guidance is designed to be read alongside the Standard. Sections of this Guidance have the same headings as sections of the Standard. Clause numbers are those from the Standard.
- In the event of any conflict between the text of the Standard and this Guidance, the Standard prevails. The Standard is secondary legislation made under the DTA, while the Guidance does not have formal status. The Guidance represents our view and is therefore an authoritative indicator of that view. However, ultimately, it is for a court to determine the correct interpretation of the Standard.
- The Reserve Bank will keep under constant review and update the Guidance. We may change our guidance or our interpretation of the Standard if we consider this appropriate. We do not do this lightly and will endeavour to notify deposit takers in advance if we are considering amending the content of the Guidance.
- This Guidance is not legal advice. We encourage deposit takers to seek their own professional advice, as it is their responsibility to determine their obligations and ensure that they comply with the requirements of the Standard.
- The Guidance relates to the version of the Standard as at [day month year].
- We welcome feedback on the Guidance at any time.

Part A: About this Standard

Overview

1. The Internal Models Standard should be read in association with the Deposit Takers (Capital) Standard 2027 (the Capital Standard). The Internal Models Standard contains the minimum requirements that a deposit taker must meet to use the internal models approach to determine its capital requirements. The methods covered in the Standard are one of the inputs that deposit takers using the internal models approach apply for calculating capital ratios to comply with minimum regulatory capital requirements.

2. The Standard also includes requirements that approved deposit takers must follow when seeking to amend models or utilise aspects of the requirements where the flexibility provided in the Standard can only be used with Reserve Bank approval.
3. The purpose of capital requirements are to promote the maintenance of a sound financial system and, by reducing the probability or extent of deposit taker failures, also protect the wider economy from the costs that can arise from the failure of financial institutions. Capital requirements also help make sure that the deposit-taking system can continue to supply credit to the economy in times of economic stress, reducing the negative feedback loops that can occur between financial losses to banks and the real economy.
4. The Capital Standard sets out minimum capital requirements for each of the Proportionality Framework's three groups of deposit takers. It also covers what constitutes eligible capital and how to calculate the capital ratio by converting exposures into risk weighted assets.
5. The Internal Models Standard applies only to deposit takers that have been approved by the Reserve Bank to use their own internal models to calculate components of credit risk weights.
6. This form of internal modelling is not available for operational risk or market risk. In addition, some categories of credit risk exposures are not eligible for the internal models approach. The Standard requires deposit takers to use the standardised approach for all such exposures. The categories of credit risk that are eligible for the internal models approach are set out in clause 107 in Part 5 of the Capital Standard.
7. This Guidance document is not intended to provide a detailed explanation of every concept in the Internal Models Standard. Instead, the guidance targets specific areas where we consider the use of guidance will provide useful information for deposit takers when implementing the Standard to calculate risk weights.

Context and purpose of the Internal Models Standard

8. Capital requirements are set in the Capital Standard as a percentage of risk weighted assets (RWAs) equivalents.
9. The Capital Standard specifies how to calculate RWAs or RWA equivalents across exposures, split into credit risk, operational risk and market risk. In fulfilling the requirements in the Capital Standard, a deposit taker may, if approved by the Reserve Bank, use their own internal models to calculate credit RWAs for some of their credit risk exposures.
10. The Internal Models Standard applies only to those deposit takers that have been approved by the Reserve Bank to use the internal models approach for calculating RWAs on some of their credit exposures. It sets out the methods for calculating RWAs on credit exposures that are subject to the internal models approach, as part of the calculation of total credit risk RWAs. It also sets out the methods to be used for calculating expected losses (EL) on the same credit risk exposures, which is used as part of the definition of Tier 1 and Tier 2 capital in the Capital Standard.
11. Under Part 5 of the Capital Standard, the scope for using internal models covers only a limited set of credit exposures. For all other credit exposures, standardised categories set out in the Capital Standard must be used. The standardised categories cover:
 - Sovereigns
 - Deposit takers

- Multi-lateral Development Banks
 - Public Sector Entities
 - Community Housing Providers
 - Equity exposures
 - Other exposures
12. The use of the internal models approach for credit risk RWAs by approved deposit takers can lead to a difference in the RWA outcomes compared with the Standardised Approach, which must be used by deposit takers without approval to use the internal models approach. However, under clause 104 of the Capital Standard, the credit risk RWA outcomes for deposit takers approved to use internal models are constrained by two mechanisms separate to the individual models and described in the Internal Models Standard.
- Internal models scalar, which applies a scalar of 1.2 to the result they calculate for their credit risk RWA for all modelled exposures.
 - 85% output floor, which applies if the RWA result of the calculation for modelled exposures is less than 85% of the result that would have been achieved by calculating the risk weights for those same exposures using the standardised approach.
13. The combination of the use of internal models, and the constraints described above, results in an internal models approach that aims to improve a deposit taker's understanding and management of the credit risk in their loan portfolios while preventing large divergence from standardised outcomes.

Structure of this Guidance document

14. This document is not intended to be a "how-to" guide for the use of internal models. It provides a general overview of models and then provides specific commentary on selected parts of the Internal Models Standard.

Part B: Guidance on the Internal Models Standard

Part 2: General requirements

15. Subpart 1 of Part 2 sets operational requirements for the use of the internal models approach.

Rating systems and processes (Clause 8 to 15)

16. The concept of rating systems is intended to cover the methods, processes, controls, and data collection and systems that deposit takers approved to use internal models use within their models.
17. Specification requirements and guidance relating to the risk-rating system, such as rating dimensions, rating structure, rating criteria and rating assignment horizons are provided in schedule 1.
18. Clause 12 covers requirements relating to wider use of the internal models approach. A deposit taker might not use exactly the same credit risk estimates in its regulatory capital calculations as for all other internal purposes. However, the Standard requires that the deposit taker be

able to reconcile the internal models estimates with other internal credit risk estimates in a way that demonstrates the reasonableness of the differences.

19. For example, a deposit taker's internal models Probability of Default (PD) estimates for a portfolio are required to represent the long run default probability of a borrower/facility, expressed over a one-year time horizon. A deposit taker's approach to provisioning for that portfolio may use PD or loss estimates based on a different time horizon, and different risk drivers. In complying with clause 12 of the standard, the deposit taker must be able to demonstrate the reasonableness of any differences, such as modelling methodologies, and data sources used.
20. The remainder of subpart 1 covers further documentation and process requirements. Further detail on risk quantification, measurement of default, and validation processes is in schedules 2-4.
21. Subpart 2 describes how to apply to become an internal models deposit taker. For internal models deposit takers, clauses 25 and 26 describe how the remainder of the standard should be used to calculate RWAs in the corporate and retail exposure class.

Part 3: Exposure categories for internal assessment

22. The internal models approach is used by an internal models deposit taker for calculating RWAs for exposures that are either corporate or retail exposures as defined in this part. There are subclasses of corporate or retail with their own provisions (e.g. specialised lending). These are also defined in this part. RWAs for credit exposures that do not fit these criteria (e.g. Sovereign exposures) are calculated using the standardised approach in the Capital Standard. Corporate exposures that do not meet the definitions for the subclasses are calculated in line with the general modelling requirements for corporate exposures.

Specialised lending (Clause 30)

23. Clause 30 describes the features of specialised lending. There are four sub-classes of specialised lending:
 - Project finance – this type of financing is intended to capture large, complex, and expensive installations and may be for either new installations or refinancing existing installations, with or without improvements. In these cases, the borrower is usually an SPE that is not permitted to perform any function other than developing, owning, and operating the installation. Consequently, repayment depends primarily on the project's cash flow and on the collateral value of the project's assets
 - Object Finance – this is intended to capture methods of funding the acquisition of physical assets where the repayment of the exposure is dependent on the cash flows generated by the specific assets. For example, a primary source of these cash flows might be rental or lease contracts with one or more third parties.
 - Commodities Finance – this is intended to cover short-term lending where the exposure will be repaid from the proceeds of the sale of the commodity. This is the case when the borrower has no other activities and no other material assets on its balance sheet. The structured nature of the financing is designed to compensate for the weak credit quality of the borrower. The exposure's rating reflects its self-liquidating nature and the structure of the transaction rather than the credit quality of the borrower. Such lending should be distinguished from exposures financing the reserves,

inventories, or receivables of other more diversified corporate borrowers. Clause 30 is intended to allow deposit takers to rate the credit quality of the latter type of borrowers based on their broader ongoing operations. In such cases, the value of the commodity serves as a risk mitigant rather than as the primary source of repayment.

- Income-Producing Real Estate (IPRE) – the distinguishing characteristic of IPRE, as opposed to other corporate exposures that are collateralised by real estate, is the strong positive correlation in the IPRE case between the prospects for repayment of the exposure and the prospects for recovery in the event of default, with both depending primarily on the cash flows generated by a property.

Farm lending (Clause 31)

24. Clause 31 establishes the farm lending category. Farm lending exposures are a sub-class of the corporate asset class and are defined as exposures to borrowers that are classified within "agriculture" in ANZSIC06. ANZSIC06 is the Australian and New Zealand Standard Industrial Classification 2006, and codes in the range A011 to A019 are classified as agriculture.

Retail exposure class (Clauses 32-34)

25. Clause 32 specifies the coverage of the retail exposure class. The Standard states that a retail exposure must be to an individual or to a small or medium enterprise (SME). The intent of this clause includes that:

- Exposures to individuals are eligible for retail treatment regardless of the size of the exposure.
- A retail exposure is one of a large pool of exposures sharing similar risk characteristics that are managed by the bank on a pooled basis. This is a distinguishing feature of retail exposures but does not prevent a deposit taker from treating exposures individually at some stages in the risk-management process.

26. In clause 34, exposures to SMEs are subject to a limit on the maximum size of exposure to the borrowing enterprise. Small business loans extended through, or guaranteed by, an individual are subject to the same exposure threshold. The intent is that a business loan above this threshold falls within the corporate exposure class, even if it is extended through, or guaranteed by, an individual.

Part 4: Corporate exposure calculations

Corporate RWA calculation (Clause 36)

27. Part 4 sets out the method of calculating the minimum capital requirement (K) for unexpected loss for the corporate exposure class, excluding specialised lending. The section covers the following inputs into internal models risk weight functions for the corporate exposure class:

- Probability of default (PD)
- Loss given default (LGD)
- Adjustments to PD and LGD to reflect the credit risk mitigation provided by any eligible guarantees or credit derivatives
- Exposure at default (EAD)

- Maturity (**M**)
- Correlation (**R**)

28. Clause 36(2)(c) notes that this part includes the adjustments to PD and LGD that are intended to reflect the credit risk mitigation provided by a guarantee or derivatives. In addition to this, other forms of credit risk mitigation may be recognised in the calculation of certain of the components in the ways set out in Part 6 of the Capital Standard.
29. In the formula in clause 39, “ln” denotes the natural logarithm and $N(x)$ denotes the cumulative distribution function for a standard normal random variable (that is, the probability that a normal random variable with mean zero and variance of one is less than or equal to x). $G(z)$ denotes the inverse cumulative distribution function for a standard normal random variable (that is, the value of x such that $N(x) = z$). The normal cumulative distribution function and the inverse of the normal cumulative distribution function are, for example, available in Excel as the functions NORMSDIST and NORMSINV.
30. The calculations in Part 4 of the Standard do not apply in relation to specialised lending (SL) that is subject to the supervisory slotting approach: the method for calculating RWAs in this case is set out separately in subpart 7 of Part 4.

Clause 52: Guarantees and credit derivatives

31. The intent of clause 52 is to allow a deposit taker to reflect the risk-mitigating effect of a guarantee or credit derivative through an adjustment to either PD or LGD, provided that the credit protection provider is also subject to an internal model. Conversely, the intent is that a deposit taker uses a fully standardised RWA calculation for an exposure where the deposit taker intends to recognise a guarantee or credit derivative provided by a credit protection provider that is subject to the standardised approach, it must use.

On-balance sheet credit exposures (Clause 56)

32. Clause 56 sets out minimum amounts that apply to a deposit taker’s EAD estimate on an on-balance sheet exposure. The intent is that the EAD estimate is not less than either the contractual amount owed by the borrower at the time of default or the sum of the amount by which Tier 1 capital would be reduced if the exposure were fully written off and any associated allowance for impairment and partial write-offs (or both).
33. When the difference between the EAD estimate and the calculation described in clause 56(1) is positive, this amount is termed a “discount”. The intent is that this discount is not taken into account when calculating RWAs and the full value of EAD will be used. However, in calculating the capital requirement, clause 56 of the Internal Models Standard is intended to cover how the discount can be included in the measurement of total eligible allowances for impairment, for the purpose of offsetting expected losses.
34. The following is a worked example of the EAD measurement specified in this section:
- A bank acquires a bond of an issuer that has suffered a significant credit rating downgrade. Assume face value and contractual amount owed (CAO) = 1000, but because of the downgrades, the purchase price is 600. The bank raises an initial impairment allowance (**IMP**) of 20, based on lifetime expected losses.
 - So the full capital write-off amount (**FWO**) is $600 - 20 = 580$.

- Assume that so far there is no partial write-off (PWO).
- Applying clause 56(1) means that estimated EAD \geq Max [CAO, (FWO + IMP + PWO)]. In this example, EAD must be at least max (1000, 580+20+0), that is, 1000.
- Applying clause 56(2) means that Discount = [CAO – (FWO + IMP + PWO)]. In this example, the discount is (1000-(580+20+0)), that is, 400.
- Eligible allowances (EA) = Discount + IMP + PWO, as defined in clause 120. In this example, EA = 400+20+0, that is, 420.
- So in this example, the bank must use EAD of at least 1000 for its RWA calculation but can take account of eligible allowances of 420 to offset expected losses (EL) under Part 8.

Contingent liabilities (Clause 58)

35. In clause 6 the meaning of contingent liability is set out as “a potential obligation that becomes an actual obligation only upon the occurrence of a specified future event.” This is intended to cover exposures that are not a confirmed liability yet, but it could become one. The intent of clause 58 is for total RWAs to reflect the credit exposure arising from a range of transactions for the purposes of covering contingent liabilities. In some specified cases the RWA calculation is based on the type of asset, or issuer of security, rather than the transaction counterparty. In other cases, the EAD for the transaction is covered in the EAD of the counterparty.
36. In the specific case of a commitment to purchase equity, a deposit taker is expected to align the treatment of the commitment with the treatment for the equity holding if the purchase goes ahead, namely the standardised treatment in the Capital Standard.
37. Clause 58 is not intended to apply in situations where a borrower has drawn down any part of a commitment, in which case the amount would be treated as an on-balance sheet exposure and risk weighted accordingly.

Calculation of M (Clauses 59-65)

38. Clauses 59 to 65 cover requirements and formulas for calculating the effective maturity, for the purposes of calculating the risk weight on a credit exposure. Effective maturity is a duration-type measure of the remaining life of an exposure, reflecting when principal, interest, and fee cash flows are actually due.

Corporate exposures with cashflow schedules (Clause 61)

39. In clause 61, the formula that calculates effective maturity (M) includes a measure of variable t, expressed in years. For example, where a payment is due to be received in 18 months, t = 1.5.
40. In the Internal Models Standard, capital requirements for credit risk depend partly on effective maturity (M). This is a measure of how long the exposure lasts. Clause 61(3) is intended to establish a minimum maturity ‘floor’ of one year, meaning that even if the underlying capital-market transaction has a maturity shorter than one year the deposit taker must still use a minimum maturity of 1 year in the relevant formulas.
41. This increases the calculated RWAs, and therefore capital requirements, compared to using the actual very short tenor. The policy intent is to ensure that capital requirements do not fall too low for short-dated market instruments.

Subpart 6: Calculation of R (Clauses 66 to 70)

42. Subpart 6 describes a correlation measure (R) to be used in the risk weight calculation for a corporate counterparty. This represents how closely the credit quality of a borrower moves with systemic (economy-wide) risk.

Adjustment for asset value correlation multiplier (Clause 69)

43. In addition to the standard formula for calculating R for a corporate counterparty, clause 69 includes an asset value correlation multiplier (AVCM) of 1.25, which applies to an exposure to certain financial institution, as defined in clause 69(1).

Adjustment for firm size (Clause 70)

44. Clause 70 sets out a firm size adjustment to the formula for R and the range of circumstances in which the adjustment applies. After including the firm size adjustment, the modified formula for R includes a size indicator, expressed as a multiple of \$1 million. For example, if a counterparty’s group sales total \$12,782,000 and are a meaningful indicator of group size, then $S = 12.782$

Subpart 7: Slotting approach for corporate specialised lending exposures

Slotting categories (Clause 71)

45. Subpart 7 covers the calculation of credit risk RWAs for specialised lending (SL) exposures when an SL exposure is not covered by an internal model. In these cases, which are set out in clause 71(1)), the ‘supervisory slotting’ approach applies.

46. The intent of clause 71 is that, where applicable, a deposit taker uses the criteria set out in Schedule 5 to map its internal borrower grades for each such exposure to one of five supervisory slotting categories that correspond broadly to external credit assessments using the Standard & Poor’s rating scale, as shown below:

Supervisory Category	External rating equivalent
Strong	BBB- or better
Good	BB+ or BB
Satisfactory	BB- to B+
Weak	B to C-
Default	N/A

Expected losses (Clause 74)

47. Clause 74 describes how expected losses (EL) must be calculated for specialised lending exposures using the slotting methodology. The formula for this calculation is:

- $EL = 8\% \times \{EL\ risk\ weight\} \times \{exposure\ amount\}$.

48. EL for other exposure categories is calculated differently. For the calculation of expected losses (EL) for other exposure classes, and the requirements for adjusting regulatory capital to take account of EL across all exposures, see part 8.

Part 5 Retail exposure categories

49. Part 5 sets out the method of calculating the minimum capital requirement for unexpected loss (UL), and the corresponding credit risk RWAs, for the retail internal model exposure class.

Estimation of LGD

Calculation of loan-to-value ratio (LVR) (Clause 78)

50. This clause describes how to calculate the LVR for residential mortgage loans by identifying which loan components form part of the secured exposure.
51. Lending facilities that are not tied to, nor managed as part of, the residential mortgage loan, and that are not normally treated as secured over the residential property (such as credit cards or personal loans), do not need to be included in the LVR calculation.
52. Note that under clause 106 of the Capital Standard, a reverse residential mortgage loan, as defined in clause 149 of the Capital Standard, is risk-weighted using the standardised approach specified in clause 157 of that standard.
53. Deposit takers can treat RML leading to a housing cooperative, as RML, so long as they are satisfied it meets the RML definitions in the Capital Standard. Deposit takers will need to determine whether such loans are suitable for internal models, in line with the specifications of their own models. As allowed for in clause 33(2)(a) of the Internal Models Standard, if the deposit takers determines that the RML is not eligible for risk weight calculation in their internal model, they should continue to treat the loan as RML and calculate the risk weight using the standardised approach in the Capital Standard. For clarity, this means that if RML lending to a housing cooperative does not fit the criteria for modelling, it should be classified as RML and risk weighted in line with the standardised approach.
54. Please note that the calculation of LVR in clause 78 might be impacted by clause 51 which covers how deposit takers may recognise the credit risk mitigation benefit of the collateral in its own estimation approach to LGD. The intent of that clause is that, if a residential mortgage loan has credit risk mitigation in place that has the effect of adding additional property to the loan security eligible for inclusion in the LVR calculation, LVR will be reduced which may lead to a lower minimum value of LGD.

Requirements for residential property valuation policies (Clause 79)

55. Clause 79 sets minimum standards for a deposit taker's valuation policy when using LVRs under the internal models approach.
56. The requirements set out in this clause are the same as the requirements applying to residential property valuation policies for standardised credit risk RWAs, except that under the standardised approach, a further condition specific to reverse mortgage loans is included (see part 5 of the Capital Standard).

Estimation of EAD

Contingent liabilities (Clause 85)

57. Clause 85 covers the calculation of EAD for off-balance sheet contingent liabilities.
58. The contingent liabilities covered here are intended to include any of the transaction types listed in part 4, subpart 5 of the Internal Models Standard that the deposit taker undertakes with a counterparty in the retail exposure class.
59. Clause 85(5) covers the treatment exposure products where future utilisation is uncertain. A credit card facility is an example of a product with uncertain future drawdown.

RWAs for retail exposure class

60. Clauses 86-89 describe how RWAs are calculated for retail exposures.

Residential mortgage exposures (Clause 87)

61. In the formula in clause 87, $N(x)$ denotes the cumulative distribution function for a standard normal random variable (that is, the probability that a normal random variable with mean zero and variance of one is less than or equal to x). $G(z)$ denotes the inverse cumulative distribution function for a standard normal random variable (that is, the value of x such that $N(x) = z$). The normal cumulative distribution function and the inverse of the normal cumulative distribution function are, for example, available in Excel as the functions NORMSDIST and NORMSINV. The residential mortgage risk-weight function applies to both the secured and unsecured portion of such residential mortgages.

Defaulted exposures (Clause 89)

62. Clause 89 sets out the rule for calculating the RWA for unexpected losses on defaulted exposures.
63. Expressed as a formula, the capital requirement for a defaulted exposure defined in clause 89(2) is:
- $K(\text{defaulted}) = \text{Max}[(\text{LGD} - (\text{EL} / \text{EAD})), 0]$.

64. For an explanation of expected losses (EL) and the required calculation method, see part 8.

Part 6: Purchased receivables

65. Part 6 provides the approach to modelling purchased receivables, which vary depending on whether the receivables are retail or corporate exposures.

Subpart 2: Top-down approach for corporate receivables

66. Clauses 96-98 cover requirements for using the top-down approach for corporate exposures. This includes requirements for approval by the Reserve Bank (clause 97). Where the top-down approach is not available, the general internal models approach for corporate exposures should be used (clause 98).
67. The intent of the clause is that inter-company accounts receivable are ineligible, as are receivables subject to contra-accounts between firms that buy and sell amongst each other. Contra-accounts involve a customer buying from and selling to the same firm. The risk is that debts may be settled through payments in kind rather than cash. Invoices between the

companies may be offset against each other instead of being paid. This practice may defeat a security interest when challenged in court.

Estimation of PD and LGD (Clause 100)

68. Clause 100 covers the process for PD and LGD is estimated in internal models for purchased corporate receivables when using the top-down approach.
69. In the case of homogeneous segmented pools of purchased corporate receivables, the deposit taker may use both internal and external data to estimate PD and LGD.
70. Clause 100(2) covers how loss-rate data is to be treated if only one parameter can be reliably estimated. In this context, a stand-alone basis means not assuming recourse to, or guarantees from, the seller or other parties.

Estimation of EAD (Clause 101)

71. Clause 101 describes how EAD for purchased corporate receivables must be calculated under the top-down approach, including the deduction of dilution-risk RWAs.
72. As set out in the Standard, EAD is therefore
 - the gross exposure amount defined in clause 101,
 - multiplied by $(100\% - [12.5 \times K_{\text{dilution}}])$, where K_{dilution} is the dilution capital requirement for the pool calculated under Subpart 3, discussed further below.
73. The dilution risk deduction is the amount before taking account of any risk mitigation applied to the dilution risk.

Subpart 3: Dilution risk

Meaning of dilution risk (Clause 104)

74. Examples of dilution risk include offsets or allowances arising from returns of goods sold, disputes regarding product quality, possible debts of the borrower to a receivables borrower, and any payment or promotional discounts offered by the borrower (for example, a credit for cash payments within 30 days).

Calculation of K for dilution risk (K_{dilution}) (Clause 106)

75. This section describes how to calculate dilution-risk capital requirements using the internal models corporate formula. The intent is that the deposit taker must not assume recourse to, or guarantees from, the seller or other parties.

Estimation of EAD and RWAs for dilution risk (Clause 107)

76. This section sets out EAD rules for dilution risk and the formula for calculating RWA.
77. Dilution risk RWAs are intended to represent the expected reduction of the exposure amount of a pool through dilution. The credit risk capital requirement for a pool is calculated on the basis of the exposure amount remaining after the expected dilution. Hence, the EAD for the top-down approach (see section E3.6) is the amount after deducting dilution risk RWAs.

Part 7: Adjustments

Subpart 1: Credit risk mitigation

Measuring counterparty credit risk for corporate exposures (Clause 110)

78. In the Capital Standard, a Credit Equivalent Amount (**CEA**) is the measure used to convert an off-balance sheet exposure into an on-balance-sheet-equivalent credit exposure for the purposes of calculating RWAs.
79. In clause 110(5) of the Internal Models Standard, with reference to security financing transactions, the CEA calculation methodology in Part 5 subpart 7 (Counterparty credit risk) of the Capital Standard includes recognition of a bilateral netting agreement across a number of derivatives with a given counterparty, subject to specified conditions.
80. The CEA calculation methodology also allows the deposit taker to recognise the credit risk mitigation benefit of collateral that it holds against the counterparty exposure arising from individual or bilaterally netted derivatives. The conditions and the methodology for recognising collateral are the standardised approach set out in Part 5 subpart 7 (Counterparty credit risk) of the Capital Standard.
81. The Capital Standard covers the methodology, and minimum requirements, for the calculation of the CEA on a Security Financing Transaction (SFT). The SFT approach is a particular case of the general collateral treatment in the Capital Standard. The Capital Standard also includes minimum conditions and the required calculation for the recognition of a master netting agreement across a number of SFTs with a given counterparty. Exposures arising from trades settled on central counterparties are dealt with in Part 5 subpart 9 (Central counterparties) of the Capital Standard and are generally subject to a standardised RWA treatment. In certain cases, specified in the Capital Standard, a trade must be treated as a bilateral exposure to the counterparty, and in that case the CEA of the trade must be added to total EAD for the counterparty, and risk-weighted accordingly.

Subpart 2: Guarantees

Recognition of guarantees and credit derivatives in PD or LGD: retail exposures (Clause 115)

82. The intent of this clause is to clarify when deposit takers approved to use internal models may recognise guarantees or credit derivatives in determining PD or LGD.
83. One condition is that the provider of the credit protection also uses the internal models approach to measure its credit risk. Where the deposit taker intends to recognise a guarantee or credit derivative provided by a credit protection provider that is subject to the standardised approach, it must use a fully standardised RWA calculation for the exposure, in accordance with Part 6 subpart 6 (Treatment of guarantees and credit derivatives: standardised approach) of the Capital Standard.

Part 8: Expected loss and eligible allowances

84. Part 8 of the Standard outlines the purpose of the EL and allowance framework for internally modelled exposures.
85. Part 8 also clarifies the treatment of purchased receivables under the EL rules. Purchased receivables fall within either the corporate or retail exposure classes and hence are subject to the EL treatment set out in this Part.

Eligible allowances for impairment (Clause 120)

86. This clause defines eligible impairment allowances, including discounts on defaulted exposures. For the meaning of “discount”, see clause 56 and refer to the worked example in the discussion of clause 56 above.

Adjustments to regulatory capital (Clause 122)

87. This clause specifies how EL and eligible allowances affect Tier 1 and Tier 2 regulatory capital.

88. If any part of a bank’s collective credit impairment allowance does not apply definitively to either non-defaulted or defaulted exposures, we would expect that the deposit taker, for the purpose of this section, allocate the unallocated part in proportion to the respective dollar values of its non-defaulted and defaulted exposures.

Schedule 1 – Rating system design and operations

Rating dimensions

General requirements for retail exposures (Clause 8)

89. When assigning exposures to a pool, subclause 3(b) requires deposit takers to consider borrower risk characteristics and transaction risk characteristics. In the case of borrower risk characteristics, indicators of a borrower’s risk characteristics might include, for example, a measure of the borrower’s debt servicing burden and demographic information regarding factors such as age or occupation. Indicators of transaction risk characteristics might include, for example, LVR measures, seasoning, guarantees, and seniority.

90. In addition, as set out in the Standard, all relevant and material information must be considered when borrower and facility ratings are assigned, and that information must be up to date. An external rating can be the primary factor determining an internal rating assignment. However, the bank must ensure that it considers other relevant information.

Rating criteria

Meaningful and consistent rating criteria (Clause 14)

91. Subclause (2) states that rating-grade descriptions and criteria must enable obligors or facilities that pose similar risk to be consistently assigned to the same rating grade. This consistency should exist across lines of business, departments, and geographic locations within a bank.

Consideration of information (Clause 17)

92. While an external rating can be the primary factor determining an internal rating assignment, the bank must ensure that it considers other relevant information.

Clause 18: Supervisory rating categories (Clause 17)

93. If a deposit taker has exposures in the SL sub-class for which it uses the supervisory slotting approach, it must assign those exposures to its internal rating grades based on its own criteria and systems. Internal borrower grades must be mapped into the five supervisory rating categories identified in part 4, subpart 7 of the Standard. Tables 1 to 4 in Schedule 5 provide, for each sub-class of SL exposures, the general assessment factors and characteristics exhibited by the exposures that fall under each of the supervisory categories. Each lending activity has a unique table describing the assessment factors and characteristics.

Rating assignment horizon

94. For the purposes of rating assignment horizons, a deposit taker might base rating assignments on specific stress scenarios. Alternatively, a deposit taker might take into account borrower characteristics that are reflective of the borrower's vulnerability to adverse economic conditions or unexpected events, without explicitly specifying a stress scenario.
95. In addition, for the borrower ratings for highly leveraged financial institutions (for example, hedge funds) or borrowers whose assets are mainly traded assets, we would expect these to reflect the performance of the underlying assets based on periods of stressed market volatilities. Typical characteristics of highly leveraged financial institutions include, but are not limited to, investment strategies intended to generate returns with low correlation to equity and bond indices, the use of complex investment structures, the use of high leverage to increase returns, the use of derivatives for speculative purposes, the use of short-selling, and fees that are materially based on investment performance.

Design of models

Control of model overrides (Clause 22)

96. Clause 22 requires a deposit taker to clearly document the situations in which an officer may override an output of the rating process based on their expert judgement. Our expectation is that overrides should be infrequent. When overrides to models become frequent, we would expect the deposit taker to have adequate controls and processes to monitor this and prioritise remediation.

Treatment of entities (Clause 25)

97. This section covers requirements to rate separately each separate legal entity to which the deposit taker is exposed. As part of this, a deposit taker is exposed to "specific wrong-way risk" if the potential future exposure to a specific counterparty is highly correlated with the counterparty's probability of default due to the nature of the transactions with the counterparty.

Data maintenance

Data maintenance related to facilities (Clause 31)

98. Clause 31(4) Schedule 1 of the Standard includes a range of requirements in relation to data standards and maintenance. Examples of information that a bank must retain include amounts recovered, the source of recovery (for example, collateral, liquidation proceeds, and guarantees), the time period required for recovery, and the administrative costs incurred by the bank as a result.
99. In addition, regarding SL, the deposit taker must retain data used in the process of allocating retail exposures to pools. Such data may include data on borrower and transaction risk characteristics used either directly or through use of a model, as well as data on delinquency.

Data maintenance for retail exposures (Clause 33)

100. Clause 33 imposes a number of data retention requirements. Such data may include data on borrower and transaction risk characteristics used either directly or through use of a model, as well as data on delinquency.

Stress testing processes

101. Examples of scenarios that could be used to meet prudential requirements are

- economic or industry downturns.
- market-risk events
- adverse liquidity conditions

102. The deposit taker must consider the sources of information described in clause 35 in undertaking each stress test, as set out in the Standard. To use evidence from the migration of external ratings in assessing its capital adequacy, a bank would need to broadly map its internal risk buckets to external rating categories.