Prudential Standard LPS 114

Capital Adequacy: Asset Risk Charge

Objective and key requirements of this Prudential Standard

This Prudential Standard aims to ensure that life companies maintain adequate capital against the asset risks associated with their activities. This Prudential Standard forms part of a comprehensive set of prudential standards that deal with the measurement of the capital adequacy of a life company.

The Asset Risk Charge is the minimum amount of capital required to be held against asset risks. The Asset Risk Charge relates to the risk of adverse movements in the value of a fund's on-balance sheet and off-balance sheet exposures. Asset risk can be derived from a number of sources, including market risk and credit risk.

This Prudential Standard sets out the method for calculating the Asset Risk Charge. This charge is one of the components of the Standard Method for calculating the Prudential Capital Requirement for life company statutory funds and general funds.

Authority

1. This Prudential Standard is made under paragraph 230A(1)(a) of the *Life Insurance Act 1995* (**the Act**).

Application

2. This Prudential Standard applies to all life companies including **friendly societies** (together referred to as **life companies**) registered under the Act[1], except where expressly noted otherwise.

3. A life company must apply this Prudential Standard separately to:

   a) for a life company other than a friendly society, each of its statutory funds and its shareholders fund; and

   b) for a friendly society, each of its benefit funds and its management fund.

4. This Prudential Standard only applies to the business of an Eligible Foreign Life Insurance Company (**EFLIC**) which is carried on through its Australian statutory funds but not otherwise.[2]

5. Subject to any specific transition rules, this Prudential Standard applies to life companies from 1 January 2013 (effective date).

Interpretation

6. Unless otherwise defined in this Prudential Standard, expressions in bold are defined in *Prudential Standard LPS 001 Definitions*.

7. Unless otherwise indicated:

   a) the term **statutory fund** will be used to refer to a statutory fund of a life company other than a friendly society, or a benefit fund of a friendly society, as relevant;

   b) the term **general fund** will be used to refer to the shareholders' fund of a life company other than a friendly society, or the management fund of a friendly society, as relevant; and

   c) the term **fund** will be used to refer to a statutory fund or a general fund, as relevant.

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[1] Refer to subsection 21(1) of the Act.
[2] Refer to section 16ZD of the Act.

Asset Risk Charge

8. This Prudential Standard sets out the method for calculating the **Asset Risk Charge** for each statutory fund of a life company and its general fund.

9. The Asset Risk Charge relates to the risk of an adverse movement in a fund's **capital base** due to credit or market risks. Both assets and liabilities may be affected. Off-balance sheet exposures may also be affected.

Asset Risk Charge Calculation

10. The Asset Risk Charge for a fund is calculated as the **aggregated risk charge components** determined in accordance with paragraph 11.

Aggregated risk charge components

11. A life company must calculate, for each of its funds, the **risk charge components** defined in paragraph 12, by considering the impact on the capital base of the fund of a range of stresses. These risk charge components are then aggregated using the formula set out in paragraphs 73 to 75, which allows for the likelihood of the stress tests occurring simultaneously. The result of applying the formula is defined as aggregated risk charge components.

Risk charge components

12. The risk charge components are calculated by determining the fall in the capital base of the fund of seven stress tests:

    (a) **real interest rates** determined in accordance with paragraphs 30 to 35;

    (b) **expected inflation** determined in accordance with paragraphs 36 to 39;

    (c) **currency** determined in accordance with paragraphs 40 to 43;

    (d) **equity** determined in accordance with paragraphs 44 to 47;

    (e) **property** determined in accordance with paragraphs 48 to 52;

    (f) **credit spreads** determined in accordance with paragraphs 53 to 64; and

    (g) **default** determined in accordance with paragraphs 65 to 72.

    These stresses are applied either directly to asset values or by way of changes to economic variables which in turn affect the value of both assets and liabilities. Some assets and liabilities may be impacted by more than one of the seven stress tests and will need to be considered in each relevant stress test. For the stresses in (a), (b) and (c), the impact on the capital base will be two separate amounts and these need to be included in the aggregation formula.

13. For the purposes of paragraph 12, no risk charge component can be negative, and therefore if there is no fall in the capital base of the fund due to the application of the stresses, the risk charge component is assumed to be zero.

Tax benefits

14. Any tax benefits that would arise as a result of applying the asset risk stresses should be assumed to be realisable for the purpose of determining the Asset Risk Charge. An adjustment must be made to the **prescribed capital amount** when the capital charges are aggregated, if some or all of the tax benefits cannot be offset against deferred tax liabilities. This adjustment is specified in *Prudential Standard LPS 110 Capital Adequacy* (**LPS 110**).

Assets and liabilities to be stressed

15. In determining each risk charge component, a life company must include the effective exposure of the fund's assets and liabilities to each of the risks if the exposure is impacted by the stress test. Some assets and liabilities may have effective exposures to multiple risks.

16. Changes to asset values may affect the valuation of **policy liabilities** where policies include **discretionary participation features**. The amount of other assets and liabilities, such as tax assets and tax liabilities, may also be indirectly affected by the prescribed stresses.

17. The following assets and liabilities must not be stressed:

    a) assets whose value must be deducted from the capital base in *Prudential Standard LPS 112 Capital Adequacy: Measurement of Capital* (**LPS 112**) (e.g. goodwill in subsidiaries); and

    b) any part of assets in excess of the asset concentration limits specified in *Prudential Standard LPS 117 Capital Adequacy: Asset Concentration Risk Charge*.

18. In addition to paragraph 17, a life company that is an employer sponsor of a defined benefit superannuation fund does not need to reassess any deficit in the fund as a result of the seven stress tests, unless the life company has provided a guarantee in relation to the benefits.

Off-balance sheet exposures

19. A fund can be exposed to various asset risks through transactions or dealings other than those reflected on its balance sheet. A life company must use effective exposure for any off-balance sheet exposures of the fund. Detailed information on the treatment of off-balance sheet exposures is set out in Attachment A.

Collateral and guarantees

20. The impact of applying the asset risk stresses may be reduced where the life company holds certain types of collateral against an asset, or where the asset has been guaranteed. Detailed information on the eligibility of collateral and guarantees is set out in Attachment B.

Treatment of specific asset classes

21. Hybrid assets such as convertible notes must be split into their interest-bearing and equity/option exposures. A life company must consider the changes in value of the two exposures separately for each of the asset risk stresses.

22. A security which is the subject of a repurchase or securities lending agreement must be treated as if it were still owned by the lender of the security. Any counterparty risk that arises from the transaction must be recognised in the default stress.

23. Term deposits issued by an **ADI** must be treated in the same way as a corporate bond issued by the ADI. If the ADI guarantees a minimum amount on early redemption, the minimum amount can be recognised as a floor to the stressed value of the asset in each of the real interest rates and expected inflation stresses. In the credit spreads stress the minimum amount can be recognised as a floor to the stressed value, but it must be reduced by multiplying it by (1 – default factor).

Extended Licence Entity

24. In certain circumstances, a life company may choose to hold assets in a **Special Purpose Vehicle** (**SPV**) or other related entity, rather than on its own balance sheet. Detailed information on the treatment of an Extended Licence Entity is set out in Attachment C.

Management Actions

25. When determining the change in liabilities in response to each of the asset stresses, a life company must make allowance for the actions that it could take in response to each of the stresses.

26. These actions may include, but are not limited to:

    - reducing **termination values**;
    - reducing future **discretionary additions** to benefits; and
    - altering the asset exposures of the fund after the stresses have occurred.

27. The allowances for management actions must be appropriate, justifiable and equitable. Any representations made in the relevant product disclosure documents must be taken into account in determining the management actions that would be applied. Management actions must satisfy policy owners' reasonable expectations.

28. It cannot be assumed that termination values will be reduced below **minimum termination values**. It can be assumed that termination values are reduced at the reporting date.

29. The management actions assumed for friendly societies must be in accordance with the existing rules of the benefit fund and not the broader management actions that may be accessed through a process of amending those rules.

Real interest rates stress

30. This stress measures the impact on the capital base of a fund from changes in real interest rates.

31. Real interest rates are the portion of the nominal risk-free interest rates (before addition of any illiquidity premium) that remain after deducting expected CPI inflation.

32. All assets and liabilities whose values are dependent on real or nominal interest rates must be revalued using the stressed real or nominal rates.

33. The stress adjustments to real interest rates are determined by multiplying the nominal risk-free interest rates (before addition of any illiquidity premium) by 0.25 (upward stress) or by -0.20 (downward stress). The stress adjustments must be added to the nominal risk-free interest rates. The stress adjustments must also be added to real yields if these are used explicitly in the valuation of an asset or liability (e.g. inflation indexed bonds).

34. The maximum stress adjustment is 200 basis points in either direction.

35. A life company must calculate the impact on the capital base of a fund of an upward movement and a downward movement in real interest rates. The impact of each calculation cannot be less than zero. Both impact calculations must be used for the purposes of the aggregation formula in paragraph 73.

Expected inflation stress

36. This stress measures the impact on the capital base of changes to expected Consumer Price Index (CPI) inflation rates. The expected inflation stress also affects nominal interest rates.

37. In each scenario, assets and liabilities whose values are dependent on expected inflation or nominal interest rates must be revalued using the stressed expected inflation and stressed nominal interest rates.

38. The stress adjustments to expected inflation rates are an increase of 125 basis points and a decrease of 100 basis points. The stress adjustments must be added to the nominal risk-free interest rates. The stress adjustments must also be added to any explicit expected inflation rates used in the valuation of assets or liabilities.

39. A life company must calculate the impact on the capital base of a fund of an upward movement and a downward movement in expected inflation or nominal interest rates. The impact of each calculation cannot be less than zero. Both impact calculations must be used for the purposes of the aggregation formula in paragraph 73.

Currency stress

40. This stress measures the impact on the capital base of changes in foreign currency exchange rates.

41. A life company must calculate the impact on the capital base of a fund of both an increase and a decrease of 25 per cent in the value of the Australian dollar against all foreign currencies. In each of these scenarios, the Australian dollar must be assumed to move in the same direction against all foreign currencies. The impact of each calculation cannot be less than zero. Both impact calculations must be used for the purposes of the aggregation formula in paragraph 73.

42. An increase in the capital base arising from a movement of the Australian dollar against one foreign currency cannot be used as an offset to reductions in the capital base arising from the movement of the Australian dollar against other foreign currencies.

43. For statutory funds whose liabilities are only denominated in foreign currencies, the predominant currency of the liabilities may be used as the reference point for the stresses instead of the Australian dollar.

Equity stress

44. This stress measures the impact on the capital base of a fall in equity and other asset values. This stress applies to both listed and unlisted equity assets and to any other assets that are not considered in any of the other asset risk stresses. This stress also includes an increase to equity volatility. The volatility stress will affect assets whose value is affected by movements in equity volatility (e.g. equity derivatives) and will also affect policy liabilities if they include any financial options or guarantees whose value depends on equity volatility.

45. For listed equities the fall in value is to be determined by increasing the dividend yield on the ASX 200 index at the reporting date by 2.5 per cent. The same proportionate fall in value must be applied to both Australian and overseas listed equities.

46. For unlisted equities and other assets, the fall in value is to be determined by increasing the dividend yield on the ASX 200 index at the reporting date by three per cent. The same proportionate fall in value must be applied to all unlisted equities and other assets.

47. An addition of 15 per cent must be made to the forward-looking equity volatility parameter for all durations.

Property stress

48. This stress measures the impact on the capital base of changes in property and infrastructure asset values.

49. The fall in value of the assets must be determined by increasing the rental yield for property assets or earnings yield for infrastructure assets by 2.75 per cent.

50. For property assets, the rental yields are to be based on the most recent leases in force and are determined net of expenses.

51. For infrastructure assets, the yields to be used are the earnings yields before tax.

52. The rental yields and fall in value can be determined separately for each asset, or on a portfolio basis.

Credit spreads stress

53. This stress measures the impact on the capital base of an increase in credit spreads and the risk of default.

54. This stress applies to interest bearing assets, including cash deposits and floating rate assets. Credit derivatives and zero-coupon instruments such as bank bills must also be included.

55. The stressed value of an asset must be determined by adding the spread specified in the table below to the current yield on the asset and then multiplying the reduced value of the asset by (1 – default factor). The credit spreads and default factors depend on the **counterparty grade** and the nature of the asset:

Counterparty grade	**Default (%)**	**Bonds[3] spread (%)**	**Structured/ securitised spread (%)**	**Re-securitised spread (%)**
1 (government)	0.0	0.0	0.0	0.0
1 (other)	0.2	0.6	1.0	1.8
2	0.6	0.8	1.4	2.4
3	1.2	1.2	2.0	3.2
4	3.0	1.6	2.5	4.0
5	6.0	2.0	3.0	5.0
6	10.0	2.5	3.5	6.0
7	16.0	3.0	4.5	7.5

[3] and other non-securitised assets.

56. A securitised/structured asset is an asset that provides an exposure to a pool or portfolio of assets or risks. This is typically in the form of a tranched exposure and includes credit related securitisation exposures and insurance linked securities. Examples of these include Residential Mortgage Backed Securities (RMBS), Asset-backed Securities (ABS) and Catastrophe Bonds.

57. Exposures to untranched pools of multiple reference entities, assets or risks must be treated on a 'look through' basis. A life company may apply to APRA to treat these exposures as a securitised asset using the external rating of the untranched pool or the weighted average rating of the constituents.

58. Credit wrapped bonds must be treated as a securitised asset if the external rating of the bond makes some allowance for the structural protection offered by the credit wrap. Otherwise the bond should be treated as a bond with no credit wrap.

59. A re-securitisation exposure is a securitisation exposure in which the risk associated with an underlying pool of exposures is tranched and at least one of the underlying exposures is a securitisation exposure. In addition, an exposure to one or more re-securitisation exposures is a re-securitisation exposure.

60. For floating rate assets, the increase in yield must be assumed to apply for the period until a life company has the contractual right to redeem the asset at face value. For at-call floating rate assets, only the default factor must be applied. For floating rate assets that are not immediately redeemable both the credit spread and default factors must be applied.

61. For fixed rate assets where the life company has a contractual right to early redemption of the asset, the stressed value of the asset is subject to a minimum of the guaranteed redemption value multiplied by (1 – default factor).

62. Unsecured loans that have a 100 per cent charge applied in the default stress in accordance with paragraph 70 must be assumed to be unaffected by the credit spreads stress.

63. The 'government' category applies to assets guaranteed by the Commonwealth Government and assets guaranteed by foreign governments that have a counterparty grade of 1 and are denominated in the official or national currency of the guarantor.

64. Assets guaranteed by an Australian state or territory government may be rated up one grade. Assets with counterparty grade 1 can be treated as grade 1 (government) and assets with counterparty grade 2 can be treated as grade 1 (other).

Default stress

65. This stress applies to reinsurance assets, over the counter derivatives, unpaid premiums, and all other credit or counterparty exposures that have not been affected by the credit spreads stress.

66. This stress includes the risk of counterparty default. A life company must determine risk charges for the default stress for the risk of counterparty default on exposures that include (but are not limited to) reinsurance assets, unpaid premiums, futures and options, swaps, hedges, warrants, forward rate and repurchase agreements.

67. The default factors are specified in the following table. These factors apply to all assets affected by this stress, with the exception of certain types of assets specified in later paragraphs in this section.

Counterparty grade	**Default factor (%)**
1 (government)	0
1 (other)	2
2	2
3	4
4	6
5	8
6	12
7	20

68. For the purpose of the default stress, the value of reinsurance assets must be determined by calculating the adjusted policy liabilities gross of reinsurance, and deducting the corresponding net of reinsurance values. For other assets, the default factor must be applied to the amount of loss that would be incurred if the counterparty defaulted and no recovery was made.

69. For unpaid premiums the factors are four per cent for premiums due less than six months previously and eight per cent for other premiums. These factors only apply if the unpaid premiums cannot be recovered by reducing the termination value of the policy.

70. The following types of unsecured loans have a 100 per cent default factor applied:

- Loans to directors of the life company, or their spouses;
- Loans to directors of related bodies corporate, or their spouses;
- Loans to a parent or related company that are not on commercial terms; and
- Loans to employees exceeding $1,000.

71. Assets that are exempt from being deducted from the capital base under paragraph 41 of LPS 112 must have a 100% default factor applied to them.

72. Assets guaranteed by an Australian state or territory government may be rated up one grade. Assets with counterparty grade 1 can be treated as grade 1 (government) and assets with counterparty grade 2 can be treated as grade 1 (other).

Aggregation formula

73. The aggregated risk charge component is calculated as:

$$A_{default} + \sqrt{\sum_{x,y} Max(0, Corr_{x,y} . A_x . A_y . sign(x) . sign(y))}$$

where

(a) A_x is the risk charge component for asset risk stress x

(b) A_y is the risk charge component for asset risk stress y

(c) $\sum_{x,y}$ is the sum over all combinations of asset risk stresses, excluding the default stress

(d) $Corr_{x,y}$ is the correlation between asset risk stresses x and y

(e) $sign(x)$ is 1 for the equity, property and credit spreads stresses. For the real interest rates and expected inflation stresses, $sign(x)$ is 1 if the stress is a decrease in rates, otherwise it is -1. For the currency stress, $sign(x)$ is 1 if the stress is a depreciation of the Australian dollar against foreign currencies, otherwise it is -1; and

(f) $sign(y)$ is defined in the same way as $sign(x)$.

74. The correlation matrix is:

	RIR	**INF**	**CUR**	**EQY**	**PROP**	**CSP**
RIR	1	0.2	0.2	0.2	0.2	0.2
INF	0.2	1	0.2	0.4	0.4	0.2
CUR	0.2	0.2	1	0.6	0.2	0.4
EQY	0.2	0.4	0.6	1	0.4	0.8
PROP	0.2	0.4	0.2	0.4	1	0.4
CSP	0.2	0.2	0.4	0.8	0.4	1

75. The real interest rates, expected inflation and currency stresses apply in two directions. The aggregation needs to be performed twice for each of these stresses if both stresses produce a non-zero risk charge component, with the larger of the aggregates chosen. If two of the bidirectional stresses have a non-zero risk charge component for stresses in both directions, the aggregation will need to be performed four times – once for each combination of stresses. If all three of the bidirectional stresses have a non-zero risk charge component for stresses in both directions, the aggregation will need to be performed eight times.

Adjustments and exclusions

76. APRA may, by notice in writing to a life company, adjust or exclude a specific prudential requirement in this Prudential Standard in relation to that life company.

Transition

77. On application by a life company, APRA may grant transitional relief from the obligation for the life company to comply with any requirement in this Prudential Standard up until 31 December 2014.

Attachment A

Off-balance sheet exposures

1. A fund can be exposed to various asset risks through transactions or dealings other than those reflected on its balance sheet.

2. The principle of considering the effective exposure of the fund to asset risks must be applied to any off-balance sheet exposures of the fund. Changes to the capital base arising from off-balance sheet exposures must be recognised in each of the asset risk stresses.

3. As a general rule, a life company must not be exposed to a counterparty for an unlimited amount and any exposure must be for a finite period. An exception to this rule is where a potential credit exposure results from reinsurance of an insurance contract that is required by law to be unlimited. Before a life company does enter into an arrangement with a counterparty that does not have appropriate limits, it must:

   (a) notify APRA;

   (b) explain how this arrangement complies with its Risk Management Strategy; and

   (c) explain how it will be valued for the purposes of capital adequacy calculations.

   Such an exposure may cause APRA to review the life company's prescribed capital amount and adjust this in accordance with paragraph 39 of LPS 110.

Direct credit substitutes

4. To the extent that a life company has issued instruments of the following kind:

   a) guarantees (including written put options serving as guarantees);

   b) letters of credit; or

   c) any other credit substitute (other than insurance) in favour of another party,

   the life company is exposed to the risk of having to make payment on these instruments should a default event occur which requires the life company to pay an amount under the instrument. The risk of such events occurring must be considered in the default stress. The default factors must be applied to the face value of each exposure. Where the credit substitute is supported by collateral or a guarantee, the provisions of relevant paragraphs from Attachment B may be applied.

Derivatives

5. Derivatives include forwards, futures, swaps, options and other similar contracts. Derivatives expose life companies to the full range of investment risks, even though in many cases there may be no, or only a very small, initial outlay.

6. Changes to the capital base that would arise from changes in the value of derivatives (and other hedging instruments) must be included in the capital charges arising from each of the asset risk stresses.

7. A capital charge must be applied to the fair value of over the counter derivatives in the default stress to allow for the risk of counterparty default. This is in addition to any charges that would arise from other asset risk stresses.

8. A life company must consult with APRA prior to entering into derivative contracts other than those over:

   (a) equities;

   (b) interest rates; and

   (c) foreign exchange.

   Such an exposure may cause APRA to review the life company's prescribed capital amount and adjust this in accordance with paragraph 39 of LPS 110.

Attachment B

Treatment of collateral and guarantees as risk mitigants

1. The impact of applying the asset risk stresses may be reduced where the fund holds certain types of collateral against an asset, or where the asset has been guaranteed, as a means of reducing risk.

Collateral

2. Collateral held against an asset may be considered in place of the asset if this would reduce the asset risk charge. Where the fair value of the collateral does not cover the full value of the asset, the collateral can only replace that part of the asset that is covered by the collateral.

3. Collateral can be recognised in place of an asset only to the extent that it takes the form of a registered charge, registered mortgage or other legally enforceable security interest in, or over, an Eligible Collateral Item. Eligible Collateral Items are cash, government securities, or debt obligations (i.e. loans, deposits, placements, interest rate securities and other receivables) where the counterparty has a counterparty grade of 1, 2 or 3. The Eligible Collateral Item must also be held for a period not less than that for which the asset is held.

Guarantees

4. The stresses applied in the credit spreads and default stresses may be determined using the counterparty grade of a third-party guarantor if the guarantee is explicit, unconditional, irrevocable and legally enforceable for the remaining term to maturity of the related asset. The guarantor must have a counterparty grade (or for governments, a long-term foreign currency credit rating) of 1, 2 or 3. Guarantees provided by the life company's parent or related entities are not eligible for this treatment.

Attachment C

Extended Licensed Entity (ELE)

1. In certain circumstances, a life company may choose to hold assets in an SPV or other related entity, rather than on its own balance sheet. Where a life company receives approval under paragraph 2 of this attachment, the life company will be able to determine its Asset Risk Charge based on the individual assets and liabilities of the related entity, rather than simply on the life company's direct exposure to that entity. This treats the activities of the life company and the related entity as comprising an Extended Licensed Entity (ELE).

2. The extent to which the risk of a life company's exposure to a related entity is commensurate with the underlying holdings of that entity, depends on the extent to which the life company has control over, or is integrated with the entity, as well as on the existence of material third party liabilities of the entity. The life company must consider any potential complications under a scenario where underlying asset holdings must be liquidated during financial stress.

3. Subject to the specific requirements set out in paragraph 4 of this attachment, a life company may apply to APRA to have one or more related entities approved as part of its ELE. Once approved, APRA will allow the life company to 'look through' the legal structures involved, and to 'consolidate' the balance sheet of the related entity with its own, for the purpose of determining the Asset Risk Charge. In effect, this allows the life company to treat its own balance sheet and that of the approved related entity as a single entity for the purpose of calculating that charge.

4. In deciding whether to approve an entity as part of a life company's ELE, APRA will have regard to the following criteria in respect of the relationship between the life company and the related entity:

   (a) the related entity must be wholly owned and controlled by the life company, with a Board of directors/trustees that is comprised entirely of members of the life company's Board or senior management;

   (b) the life company must demonstrate to APRA that there are no legal or regulatory barriers (e.g. restrictions imposed by law or a regulator in a foreign jurisdiction) to the transfer of the assets back to the life company;

   (c) the life company's risk management systems and controls must apply fully to the operations of the related entity. The senior management of the life company must be in a position to monitor the operations of the related entity to the same extent as the operations of the life company itself. Systems for monitoring and maintaining control over the related entity must be included within the internal and external audit programs of the life company;

   (d) the life company must be able to furnish stand-alone accounting records for the related entity, and provide APRA with full and unfettered access to this information at any time (including during on-site visits);

(e) where the related entity holds or invests in assets on behalf of the life company, the related entity must have no material third party liabilities, other than exempt tax liabilities and employee entitlements;

(f) where the related entity borrows on behalf of the life company, all funds must be on-lent directly to the life company; and

(g) the related entity must not conduct any business that the life company would otherwise be prevented from conducting under the Act.