BANK OF ENGLAND
PRUDENTIAL REGULATION AUTHORITY

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Statement of Policy 5/15

# The PRA's methodologies for setting Pillar 2 capital

January 2026 (Updating October 2025)

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# Contents

# 1 Introduction

1.1 This Statement of Policy sets out the methodologies that the Prudential Regulation Authority (PRA) uses to inform the setting of Pillar 2 capital for all PRA-regulated banks, building societies, designated investment firms and all PRA-approved or PRA-designated holding companies, except for Small Domestic Deposit Takers (SDDTs) and SDDT consolidation entities.[1] SDDTs should refer to the statement of policy (SoP) 5/25 – The PRA's methodologies for setting Pillar 2 capital for Small Domestic Deposit Takers (SDDTs).[2]

1.2 Section I: Pillar 2A methodologies sets out the methodologies the PRA will use to inform the setting of a firm's Pillar 2A capital requirement for credit risk, market risk, operational risk, counterparty credit risk, credit concentration risk, interest rate risk in the non-trading book (hereafter referred to as interest rate risk in the banking book (IRRBB)), pension obligation risk and group risk, including RFB group risk. In addition, Chapter 8B sets out the PRA's methodology to inform the setting of a firm's Pillar 2A lending adjustments.

1.3 Section II: Pillar 2B provides information on the purpose of the PRA buffer, how it is determined and how it relates to the CRD buffers. Section II also provides details on the PRA's approach to tackling weak governance and risk management under Pillar 2B and group risk, including RFB group risk.

1.4 Firms are required by the Reporting Pillar 2 part of the PRA Rulebook, or may be asked, to submit data to inform the PRA's approach to setting Pillar 2A capital requirements. Data may be requested on an individual, consolidated and/or sub-consolidated basis as applicable.



1 The full definition of an SDDT and an SDDT consolidation entity, including the SDDT and SDDT consolidation entity criteria, are set out in the SDDT Regime – General Application Part of the PRA Rulebook.

2 https://www.bankofengland.co.uk/prudential-regulation/publication/2026/january/the-pras-methodologies-for-setting-pillar-2-capital-for-sddts.

# Section I: Pillar 2A methodologies

## 2 Credit risk

2.1 This chapter sets out the methodology the PRA uses to inform the setting of a firm's Pillar 2A capital requirement for credit risk.

### Definition and scope of application

2.2 Credit risk is the risk of losses arising from a borrower or counterparty failing to meet its obligations as they fall due.

2.3 A firm's capital requirements for credit risk are determined in accordance with Pillar 1 of the Capital Requirements Regulation (CRR). However, the PRA believes that there are asset classes for which the standardised approach (SA) underestimates the risk (eg zero risk-weighted sovereigns). The PRA therefore assesses credit risk as part of its Pillar 2 review of firms' capital adequacy.

2.4 The methodology detailed below is applied to all firms using the SA. It will also be applied to those portfolios capitalised using the SA by firms employing internal ratings--based (IRB) models (the methodology is therefore applied to exposures subject to a partial use exemption). Application of the methodology may be expected to be significant where a firm has higher-risk exposures on the SA and lower-risk exposures on the IRB approach, or where the SA treatment is especially favourable (eg sovereigns).

2.5 Where the underestimation of Pillar 1 capital is due to deficiencies in IRB models, the PRA addresses the capital shortfall by requiring the firm to remediate the shortcomings of the Pillar 1 models rather than setting Pillar 2A capital requirements.

### Methodology for assessing Pillar 2A capital for credit risk

2.6 The methodology used to inform the setting of firms' Pillar 2A capital requirement for credit risk is based on a comparison of firms' SA risk weights at a portfolio level to an IRB risk-weight benchmark. The PRA has created two sets of benchmarks. One is calculated based on both unexpected and expected losses (see Table A1). The other is based on unexpected losses only (see Table A2). The latter applies to firms using International Financial Reporting Standards and for which 12 months' expected credit losses may already be covered by the SA Pillar 1 capital charge. Benchmarks have been calculated for mortgages (distinguished by loan to value (LTV) bands into fourteen categories), credit cards (both domestic and international), corporates, sovereigns and institutions (the latter two mapped to credit quality steps).

2.7 The PRA's use of this methodology does not imply that estimated IRB risk weights are a better reflection of underlying risk than the SA. For that reason the methodology includes scope for the exercise of supervisory judgement where there are acknowledged problems with IRB models (eg inadequate historical data).

2.8 The PRA has not calculated benchmarks for the portfolios:

- for which, whilst material for SA firms, the PRA does not have sufficient data to produce a reliable benchmark;
- that are immaterial for SA firms; and
- where the difference between the IRB and SA risk weight is small.

2.9 The PRA is going to collect data, as they become available, on a wider range of credit risk portfolios than in Table A1 and Table A2. When the PRA has sufficient data, the PRA may develop more formal benchmarks for those portfolios.

2.10 The PRA uses data collected via regulatory returns, stress testing, hypothetical portfolio exercises, data on retail exposures under the IRB approach as required by Reporting Pillar 2, 2.5 and firm-specific data requests. Each portfolio average risk weight is weighted by exposure amount. While average risk weighting gives a greater degree of importance to larger portfolios, this also reflects the fact that the associated models have been subject to a greater degree of scrutiny by the PRA.

2.11 The method used to inform judgement as to whether a firm should hold additional capital for credit risk under Pillar 2A involves a calculation on an aggregate basis. If the IRB benchmark implies that the SA for calculating the Pillar 1 capital charge overestimates the overall level of capital required for a given portfolio when compared to IRB data, the calculated excess can be offset against shortfalls in those portfolios for which the benchmark implies that the SA Pillar 1 capital charge is lower than the IRB capital charge.

2.12 Supervisory judgement is then used to determine the credit risk add-on, taking into account considerations such as firms' own assessments, the IRB benchmark range, the PRA's confidence in the benchmarks and supervisory knowledge of the credit risk portfolios acquired via continuous assessment.

2.12A Evidence indicates that IRB firms' commercial real estate (CRE) portfolios are not always comparable to SA firms' portfolios. In addition, there is significant heterogeneity between SA firms, in terms of the nature and riskiness of their CRE activities.

2.12B For the purpose of calculating a benchmark that reflects an appropriate level of risk sensitivity, the PRA encourages firms with material CRE exposures, and which use the SA in relation to these exposures to assign, as part of their ICAAP, risk weights to these exposures in accordance with Table 1 of CRR Article 153(5) and the draft EBA technical standards for specialised lending. The PRA's assessment of risk weights for CRE exposures will be informed by the outcome of the firm's assignation of risk weights and the quality of its assessment. The PRA will take a proportionate approach where firms' CRE portfolios are not material.

2.13 Initial analysis of the data indicates that relatively few firms would be subject to an add-on using the PRA's Pillar 2A credit risk methodology. Therefore, the PRA applies it on an exceptions only basis. Firms that are likely to be subject to it include, but are not limited to, those with significant exposures to sovereigns, high LTV mortgages, credit cards and CRE.

2.13A The PRA will monitor changes in IRB risk weights at least annually. Where significant changes are observed, the PRA will consider updating the IRB benchmark. This may include a partial update if this is only relevant for selected asset classes. In considering updates to the benchmark, the PRA will look to: minimise the lag between the data used to calculate the benchmark and its application to firms; and limit excessive volatility by smoothing out changes (for example, using multi-year averages).

## Table A1 Credit risk IRB benchmark[3]

| | SA RW | Exposure weighted average risk weight | Lower range RW[4] | Upper range RW[3] |
|---|---|---|---|---|
| **Mortgages** | | | | |
| Prime | | 5.3% | | 6.1% |
| 0% <= LTV <50% | 35.0% | | 4.5% | |
| 50% <= LTV <60% | 35.0% | 9.1% | 7.7% | 10.5% |
| 60% <= LTV <70% | 35.0% | 11.6% | 9.8% | 13.3% |
| 70% <= LTV <80% | 35.0% | 16.6% | 14.1% | 19.1% |
| 80% <= LTV < 90% | 36.0% | 22.4% | 19.1% | 25.8% |
| 90% < = LTV < 100% | 43.0% | 33.3% | 28.3% | 38.3% |
| >=100% | | 55.6% | 47.2% | 63.9% |
| **Buy to let** | | | | |
| 0% <= LTV <50% | 35.0% | 7.8% | 6.6% | 9.0% |
| 50% <= LTV <60% | 35.0% | 11.3% | 9.6% | 13.0% |
| 60% <= LTV <70% | 35.0% | 15.1% | 12.8% | 17.3% |
| 70% <= LTV <80% | 35.0% | 19.2% | 16.3% | 22.1% |
| 80% <= LTV < 90% | 36.0% | 39.0% | 33.2% | 44.9% |
| 90% < = LTV < 100% | 43.0% | 64.8% | 55.1% | 74.5% |
| **Personal loans** | 75.0% | 103.6% | 88.0% | 119.1% |
| **Credit cards – revolving retail exposures** | | | | |
| UK credit cards | 75.0% | 120.7% | 102.6% | 138.8% |
| International credit cards | 75.0% | 175.8% | 149.4% | 202.2% |
| **Corporate** | | 49.4% | 42.0% | 56.8% |
| Large corporates | | | | |
| Mid corporates | | 79.3% | 67.4% | 91.2% |
| SME | | 68.5% | 58.2% | 78.7% |
| **Sovereign** | 0.0%[5] | | | |
| High grade (CQS1) | | 7.1% | 6.1% | 8.2% |
| Upper medium grade (CQS2) | 20.0% | 9.2% | 7.8% | 10.6% |
| Lower medium grade (CQS3) | 50.0% | 42.0% | 35.7% | 48.3% |
| Non-investment grade speculative (CQS4) | 100.0% | 99.8% | 84.9% | 114.8% |
| Highly speculative (CQS5) | 100.0% | 172.1% | 146.3% | 197.9% |
| **Commercial real estate** | | | | |
| Commercial real estate development | 100%/150%[6] | Risk weights can vary between 50% and 250% which represents the full range of risk weights outlined by CRR Articles 153(5) and 158(6). | | |
| Commercial real estate investment | 100% | | | |
| **Institutions** | 20.0% | 11.1% | 9.4% | 12.7% |
| High grade (CQS1) | | | | |
| Upper medium grade (CQS2) | 50.0% | 24.1% | 20.5% | 27.7% |
| Lower medium grade (CQS3) | 50.0% | 45.8% | 39.0% | 52.7% |
| Non-investment grade speculative (CQS4) | 100.0% | 92.2% | 78.4% | 106.0% |
| Highly speculative (CQS5) | 100.0% | 140.1% | 119.0% | 161.1% |

3 Credit risk IRB benchmark has been updated to include the 9% upper range risk weight for Buy to let mortgages in the 0%-50% LTV. This upper range of 9% was omitted due an error first published in on 30 April 2018 (effective from 1 January 2019).

4 The range stated is +/- 15% and is not the simple range of IRB firms' average risk weights, with the exception of the possible range for CRE which is the full range of risk weights outlined by CRR Articles 153(5) and 158(6).

5 To note, these SA risk weights would not apply to EU sovereign exposures which benefit from a 0% risk weight irrespective of their external credit rate (or CQS).

6 As outlined by the EBA, speculative immovable property finance (including residential development) is assigned a risk weight of 150% and other CRE is assigned a risk weight of 100%.

| | | | | |
|---|---|---|---|---|
| Substantial risks (CQS6) | 150.0% | 287.3% | 244.2% | 330.4% |

## Table A2 Credit risk IRB benchmark – excluding expected losses

| | SA RW | Expected weighted average risk weight | Lower range RW[7] | Upper range RW[6] |
|---|---|---|---|---|
| **Mortgages** | | | | |
| Prime | | | | |
| 0% <= LTV <50% | 35.0% | 4.5% | 3.9% | 5.2% |
| 50% <= LTV <60% | 35.0% | 7.7% | 6.6% | 8.9% |
| 60% <= LTV <70% | 35.0% | 9.7% | 8.3% | 11.2% |
| 70% <= LTV <80% | 35.0% | 13.9% | 11.8% | 16.0% |
| 80% <= LTV < 90% | 36.0% | 18.7% | 15.9% | 21.5% |
| 90% < = LTV < 100% | 43.0% | 26.4% | 22.4% | 30.3% |
| >=100% | | 41.0% | 34.9% | 47.2% |
| **Buy to let** | | | | |
| 0% <= LTV <50% | 35.0% | 6.9% | 5.8% | 7.9% |
| 50% <= LTV <60% | 35.0% | 9.9% | 8.4% | 11.4% |
| 60% <= LTV <70% | 35.0% | 13.2% | 11.2% | 15.2% |
| 70% <= LTV <80% | 35.0% | 16.6% | 14.1% | 19.1% |
| 80% <= LTV < 90% | 36.0% | 31.0% | 26.3% | 35.6% |
| 90% < = LTV < 100% | 43.0% | 47.8% | 40.6% | 54.9% |
| **Personal loans** | 75.0% | 77.5% | 65.9% | 89.2% |
| **Credit cards – revolving retail exposures** | | | | |
| UK credit cards | 75.0% | 79.6% | 67.7% | 91.5% |
| International credit cards | 75.0% | 112.6% | 95.7% | 129.5% |
| **Corporate** | | | | |
| Large corporates | | 46.3% | 39.3% | 53.2% |
| Mid corporates | | 71.6% | 60.9% | 82.4% |
| SME | | 59.8% | 50.9% | 68.8% |
| **Sovereign** | | | | |
| High grade (CQS1) | 0.0%[8] | 7.0% | 6.0% | 8.1% |
| Upper medium grade (CQS2) | 20.0% | 9.1% | 7.7% | 10.4% |
| Lower medium grade (CQS3) | 50.0% | 40.9% | 34.8% | 47.0% |
| Non-investment grade speculative (CQS4) | 100.0% | 91.8% | 78.0% | 105.5% |
| Highly speculative (CQS5) | 100.0% | 143.1% | 121.6% | 164.5% |
| **Commercial real estate** | | | | |
| Commercial real estate development | 100/150%[9] | Risk weights can vary between 50% and 250% which represents the full range of risk weights outlined by CRR Articles 153(5) and 158(6). | | |
| Commercial real estate investment | 100% | | | |
| **Institutions** | | | | |
| High grade (CQS1) | 20.0% | 10.9% | 9.3% | 12.5% |
| Upper medium grade (CQS2) | 50.0% | 23.7% | 20.2% | 27.3% |
| Lower medium grade (CQS3) | 50.0% | 44.6% | 37.9% | 51.3% |
| Non-investment grade speculative (CQS4) | 100.0% | 87.0% | 73.9% | 100.0% |
| Highly speculative (CQS5) | 100.0% | 120.0% | 102.0% | 138.0% |
| Substantial risks (CQS6) | 150.0% | 206.5% | 175.6% | 237.5% |

7 The range stated is +/- 15% and is not the simple range of IRB firms' average risk weights, except for the possible range for CRE which is the full range of risk weights outlined by CRR Articles 153(5) and 158(6).

8 To note, these SA risk weights would not apply to EU sovereign exposures which benefit from a 0% risk weight irrespective of their external credit rate (or CQS).

9 As outlined by the EBA, speculative immovable property finance (including residential development) is assigned a risk weight of 150% and other CRE is assigned a risk weight of 100%.

### Reporting

2.14 Firms using the SA for credit risk for wholesale and retail credit exposures are required by Reporting Pillar 2 2.7 and 2.8 to complete the data items for wholesale and retail credit exposures under the SA (FSA076 and FSA077).

2.15 The SA data cover a larger array of data than set out in Table A1 and Table A2 in order to inform the assessment of the credit portfolios reported under the SA.

2.16 To calibrate the Pillar 2 credit risk methodology the PRA collects data. Firms with permission to use the IRB approach for retail exposures are required by Reporting Pillar 2, 2.5 to submit data on retail exposures. Firms that are in scope are required to submit the data with their Internal Capital Adequacy Assessment Process (ICAAP) submissions.

## 3 Market risk

3.1 This chapter sets out the methodology the PRA uses to inform the setting of a firm's Pillar 2A capital requirement for market risk.

### Definition and scope of application

3.2 Market risk is the risk of losses resulting from adverse changes in the value of positions arising from movements in market prices across commodity, credit, equity, FX and interest rates risk factors.

3.3 The Pillar 2A approach to market risk applies to all firms and covers all positions in the trading and fair value through other comprehensive income (FVOCI) books, including securitisation instruments/positions and covered bonds booked in the trading and FVOCI books.

3.4 The PRA's review of a firm's risks and risk management standards applies equally to positions covered by approved models or standardised approaches and, as such, is relevant to firms both with and without advanced model approval. In practice, however, the PRA expects the Pillar 2A regime for market risk to affect mainly firms with material trading books, which are typically those firms with advanced market risk model permission.

3.5 Where the underestimation of Pillar 1 capital is due to deficiencies of advanced models, the PRA addresses the capital shortfall by requiring the firm to remediate the shortcomings of the Pillar 1 model rather than setting Pillar 2A capital requirements.

### Methodology for assessing Pillar 2A capital for market risk

3.6 CRR Part Three, Title IV sets out the methodologies that firms must apply when calculating capital requirements for market risk under Pillar 1. The PRA may require firms to hold additional capital under Pillar 2A to cover risks likely to be underestimated or not covered under Pillar 1. The majority of such risks relate to illiquid, one-way and concentrated positions (referred to collectively as illiquid risks), which may not be capitalised appropriately.

3.7 To inform the setting of Pillar 2A capital, the PRA relies on a firm's own methodologies for assessing illiquid and concentrated positions. This is because market risk is specific to firms' individual positions. The PRA's focus is on the quality of firms' methodologies, including the magnitude of market shocks applied to assess illiquidity risks. The PRA also assesses the firm's abilities to manage the risk.

3.8 When assessing firms' own calculations, the PRA will:

- review the completeness of illiquidity risk identification by the firm;
- assess whether the stresses designed and calibrated by the firm are appropriate to measure the risk given a 1-in-1,000 year confidence level over one year (and, if not, request the firm to apply alternative stresses);
- assess the suitability of any existing capital mitigants or reserves which are proposed to offset the calculated stressed losses and discount these where not relevant; and
- set a Pillar 2A capital add-on such that the sum of the Pillar 1 (and Pillar 1 adjustments for model risks) and the Pillar 2A capital requirement is sufficient to cover losses at a 1-in-1,000 year confidence level.

3.9 In addition to the Pillar 2A add-ons for illiquid, concentrated and one-way positions, the PRA may also request a firm to hold additional capital under Pillar 2A where the PRA identifies deficiencies in a firm's market risk systems and controls.

### Reporting

3.10 The PRA already collects information on illiquid, concentrated and one-way positions from firms participating in the Stress Testing Data Framework (STDF) programme. This information is used for assessing the adequacy of a firm's capital under Pillar 2A.

3.11 Firms with significant illiquidity risk in their trading books are required by Reporting Pillar 2, 2.4 to submit data on market risk, unless those data have already been submitted as part of the STDF programme. Firms that are in scope are required to submit the data with their ICAAP submissions.

## 4 Operational risk

4.1 This chapter sets out the methodology the PRA uses to inform the setting of a firm's Pillar 2A capital requirement for operational risk.

4.2 The approach applies to all PRA Category 1 firms but may be extended to other firms depending on the level of sophistication of the firm's internal operational risk management.

4.3 In determining whether to use the methodology described below to non-Category 1 firms, the PRA takes into account the size and complexity of a firm, as well as the sophistication of a firm's internal operational risk management. Where a firm is re-assessed as Category 1 or otherwise brought into scope, supervisors will agree a timetable for assessment that is fair, proportionate to the firm's resources and considers the sophistication of the firm's internal operational risk management. For firms not in scope, the PRA assesses operational risk on the basis of data provided by the firm, the firm's own assessment of operational risk and supervisory judgement.

### Definition and scope of application

4.4 Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events, and includes legal risk.

4.5 Pillar 1 standardised approaches for operational risk use gross income as a measure of risk. This is not risk sensitive. During the recent economic downturn, incomes dropped but operational risk

exposures, in many cases, remained the same or increased. The PRA therefore assesses operational risk as part of its Pillar 2 review of firms' capital adequacy.

4.6 Conduct risk has become a recurrent and a material source of losses for many firms but the existing approaches (the Basic Indicator Approach (BIA), the Standardised Approach (TSA) and the Alternative Standardised Approach (ASA)) for calculating Pillar 1 operational risk capital do not reflect the nature and scale of recent conduct risk losses.

4.7 For the purpose of the PRA assessment conduct risk losses are defined as losses in the Basel loss event category 'Clients, Products and Business Practices' (CPBP).[10] Currently, conduct and legal losses make up the bulk of CPBP losses. In the current environment CPBP losses are considered a proxy of conduct risk losses.

4.8 The approach detailed below applies to firms using BIA, TSA or ASA to calculate Pillar 1 operational risk capital requirements.

4.9 The approach does not apply to firms on the Advancement Measurement Approach (AMA) unless there are outstanding material remedial actions associated with their AMA approval. In that case additional capital may be required.

### Methodology for assessing Pillar 2A capital for operational risk

4.10 The approach considers non-conduct risk separately from conduct risk.

4.11 Where a firm's operational risk management and measurement framework are of AMA standard, the firm's ICAAP will be the main input into the setting of Pillar 2A capital for operational risk.

4.12 Sizing capital for operational risk is a significant challenge. The loss distribution is unusually fat-tailed, with infrequent but very large losses, and there is a paucity of data. This problem applies to all operational risks but is especially acute for conduct risk. The loss estimates below do not overcome these fundamental problems but they deliver better outcomes than relying on inadequate Pillar 1 approaches. They provide a simple, transparent and consistent way for the PRA to assess Pillar 2A operational risk across firms.

4.13 Conduct risk is not assessed using pre-determined distributions or scalars because of the difficulties in estimating the tail of the loss distribution. Modelling such high-impact but low-frequency losses is extremely challenging. In addition, modelling techniques for extrapolating to the tail rely on the assumption that conduct risk events are independent and recent observed conduct loss patterns show this is not the case.[11]

4.14 Pillar 2A capital for conduct risk is informed by: supervisory knowledge of a firm's exposure to conduct risk; a firm's largest conduct losses over the past five years; the level of expected annual loss for conduct risk; and conduct-related scenarios where potential exposures over a shorter time horizon (eg five years) are considered. As a result, the determination of additional Pillar 2A capital for conduct risk is driven predominantly by supervisory judgement.



10 CRR Article 324.

11 Two econometric studies provide such evidence:
(i) Gillet, Roland, Georges Hübner and Séverine Plunus (2010), 'Operational Risk and Reputation in the Financial Industry', Journal of Banking and Finance, Vol. 34, pages 224–35, argues that poor firm management creates an expectation that operational events (in general) are correlated.
(ii) Perry, Jason and Patrick de Fontnouvelle (2005), 'Measuring Reputational Risk: The Market Reaction to Operational Loss Announcements', unpublished Working Paper, Federal Reserve Bank of Boston, finds evidence of stickiness of internal fraud events.

4.15 The PRA uses three loss estimates, described below, to inform the setting of a firm's Pillar 2A capital requirement for non-conduct risk.

(i) The first estimate (C1) is based on a firm's forecast of its expected losses due to operational risk in the next year(s), extrapolated to estimate the loss at the 1-in-1,000 year confidence level (assuming a given relationship between expected loss and unexpected loss). The expected loss forecasts exclude 'material conduct and legal risk'. The extrapolation is dependent on the type of business undertaken by a firm, distinguishing between universal banks, predominately domestic banks and wholesale banks.

(ii) The second estimate (C2) is based on the average of the firm's five largest losses by Basel event type (excluding CPBP) for each year. This calculation is repeated for each of the past five years, and the event type resulting in the largest capital requirement (calibrated at a 1-in-1,000 year confidence level) is used. A Pareto distribution is used to calibrate the operational risk capital for each event type by using a predetermined shape parameter. Currently, the shape parameters are defined by event types but are constant for all firms. The calibration and five-year time horizon might be reconsidered as the PRA obtains more loss data.

(iii) The third estimate (C3) uses a firm's scenario assessments (excluding scenarios associated with CPBP event types). For each scenario, either one frequency and at least two severity impacts, or at least two annual impact assessments, are used to fit a calibration-free, fat-tailed distribution to determine the annual impact at a 1-in-1,000 year confidence level. The C3 estimate is obtained by summing the five largest annual impacts to which a predefined diversification benefit (determined by the PRA) is applied. The same diversification benefit is applied to all types of firms.

4.16 Supervisory judgement is used to determine the operational risk add-on, taking into account considerations such as: the quality of the firm's own Pillar 2A assessment; the capital range generated by C1, C2 and C3 for non-conduct risk; confidence in the firm's scenario analysis process and internal loss data; the quality of the firm's operational risk management and measurement framework; and peer group comparisons.

4.17 The Pillar 2A capital add-on is the sum of the capital adjustment for conduct risk and non-conduct risk.

## Reporting

4.18 The PRA already collects information on operational risk historical losses from firms participating in the Stress Testing Data Framework (STDF) programme. All significant firms and firms with AMA permission must report the data contained in the operational risk Pillar 2 data items in accordance with Reporting Pillar 2, 2.3, unless those data have already been submitted as part of the STDF programme. Firms are required to submit the data with their ICAAP submissions. 'Significant firm' means a deposit-taker or PRA-designated investment firm whose size, interconnectedness, complexity and business type give it the capacity to cause significant disruption to the UK financial system (and through that to economic activity more widely) by failing or carrying on its business in an unsafe manner. The PRA may also request some firms that are not significant to report the same data and will notify the firms accordingly in advance of their submitting an ICAAP document.

# 5 Counterparty credit risk

5.1 This chapter sets out the methodology the PRA uses to inform the setting of a firm's Pillar 2A capital requirement for counterparty credit risk (CCR), including settlement risk.

5.2 The PRA's review of a firm's CCR and risk management standards applies equally to positions covered by advanced models or standardised approaches and, as such, is relevant to firms both with and without advanced model approval. In practice, however, the PRA expects the Pillar 2A regime for CCR to affect mainly those firms with material derivatives, margin lending, securities lending, repurchase and reverse repurchase or long settlement transaction businesses.

## Definition and scope of application

5.3 CCR is the risk of losses arising from the default of the counterparty to derivatives, margin lending, securities lending, repurchase and reverse repurchase or long settlement transactions before final settlement of the transaction's cash flows and where the exposure at default is crucially dependent on market factors.

5.4 For firms with advanced model permission,12 deficiencies or issues in the quantification of the capital needed to mitigate CCR adequately, or other shortcomings in the management of such risk, are addressed as part of the model approval and review process, with any additional capital requirements reflected via model multipliers or add-ons under Pillar 1 in line with Article 101 of the Capital Requirements Directive (CRD).13

5.5 For firms with advanced model permission, the PRA will focus on areas of risk that are not covered by internal modelling. Examples include concentration risk and settlement risk.

5.6 For firms without advanced model permission, or for products and counterparties not included in a CCR advanced model permission, the focus of the Pillar 2A review will be broader and cover key areas that would otherwise be assessed as part of model permission. In particular: qualitative requirements for CCR; credit concentration risk; IT sufficiency and data quality; settlement risk; collateral management; wrong-way risk; stress testing of CCR; model validation; and the limitations of non-advanced methods.

## Qualitative requirements for CCR

5.7 CRR Articles 286–294 set out a number of qualitative requirements that firms must meet in order to use the advanced model for CCR. The PRA's view is that these qualitative standards should be the basis for assessing CCR risk management by all firms. The PRA assesses firms' management standards for CCR against these qualitative standards and may require firms to hold additional capital under Pillar 2 to address material deficiencies. The PRA focuses on the following areas: collateral disputes, collateral concentration and stress testing.

## Relationship with concentration risk

5.8 The PRA captures CCR exposures in the firm's assessment of concentration risk, as set out in Chapter 5. The PRA addresses concentration risk by looking at single name, sectoral and geographical credit concentration across all exposures, including exposures and facilities across the trading and banking book.



12 These include the Internal Model Method in CRR Article 283 and the Internal Models Approach for Master Netting Agreements in CRR Article 221.

13 See footnote (1) on page 5.

### IT sufficiency and data quality

5.9 IT and data issues can compromise the effectiveness of risk management and the calculation of capital requirements. For firms with advanced model permission, IT sufficiency and data quality are reviewed as part of an internal model application. For firms using standardised approaches, and for products not included within the scope of internal models, the Pillar 2A review focuses on IT sufficiency and data quality related to trade capture, exposure information for risk management and capital calculation. The PRA may require a firm to hold additional capital under Pillar 2A to address identified deficiencies.

### Settlement risk

5.10 Settlement risk for transactions where the settlement or delivery date is no later than the market standard or five business days after the transaction date is not capitalised under Pillar 1.

5.11 For firms with advanced model permission, the risk management framework for settlement risk is reviewed as part of the advanced model application and its ongoing review.

5.12 Where firms do not adequately manage settlement risk arising from products outside the scope of an advanced CCR model[14] (eg through pre-deal checking, defined limit frameworks, appropriate reporting), the PRA may challenge the appropriateness of a zero capital requirement for such risk and require firms to hold additional capital under Pillar 2.

5.13 The review of settlement risk management will also include those products that do not attract CCR capital but give rise to settlement risk (eg cash securities transactions that are not conducted on a delivery versus payment basis).

### Collateral management

5.14 The risk mitigation effects of collateral on derivative and repo-style transactions are incorporated into exposure calculations. However, the way in which collateral is used can give rise to additional risks. One particular area of concern is the re-use of collateral, for example when securities posted by a counterparty are re-used to collateralise an exposure with a riskier counterparty which does not segregate them. In such cases a firm may face liquidity constraints and losses if the counterparty defaults.

5.15 Collateral management is reviewed as part of the advanced model application and its ongoing review. For firms without advanced model permission, the PRA reviews firms' management of risks arising from collateral and may ask such firms to hold additional capital under Pillar 2 to address risks not sufficiently covered under Pillar 1.

### Wrong-way risk

5.16 Other than for specific wrong-way risk,[15] the CCR capital framework assumes independence between the creditworthiness of a firm's counterparty and the level of exposure to that counterparty. Wrong-way risk, where there is an adverse relationship between the exposure to the counterparty and the creditworthiness of that counterparty, arises in circumstances in which this assumption does not hold.

5.17 Wrong-way risk frameworks of firms with advanced model permission are reviewed as part of their Internal Model Method application process. The PRA expects firms without advanced model permission to identify, monitor, manage, mitigate and capitalise their wrong-way risk appropriately.

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14 This would include products (eg cash equities and cash bonds) that can result in settlement risk that does not attract counterparty credit risk.

15 As defined in CRR Article 291.

Misidentification of wrong-way risk leads to underestimation of risks and undercapitalisation. The PRA reviews the firm's management and capitalisation of wrong-way risk in its Pillar 2 assessment and may ask firms to hold additional capital under Pillar 2A to address identified deficiencies.

### Stress testing

5.18 The PRA considers stress testing to be an important complement to business-as-usual measures of CCR exposure used for risk management. Firms with advanced model permission are required to carry out comprehensive stress testing analysis for both risk management and capital adequacy assessments. The PRA expects a firm without advanced model permission, or with material proportions of business outside the scope of advanced model permission, to carry out stress testing that is commensurate with the complexity of its business. The PRA focuses on CCR stress testing capabilities in its Pillar 2 assessment and may ask firms to hold additional capital under Pillar 2A to address identified deficiencies.

### Model validation

5.19 Models are used extensively in the measurement of CCR, for the modelling of risk factors, the pricing of instruments and the quantification of risk. Firms with CCR advanced model permission have their model validation functions reviewed as part of the application and review processes. The PRA expects firms without CCR advanced model permission (but still using models in their CCR management) to have a model validation function that meets the PRA's expectations. The PRA focuses on the model validation function in its Pillar 2 assessment and may ask firms to hold additional capital under Pillar 2A to address identified deficiencies.

### Accuracy of the exposures and of the inputs under non-advanced methods

5.20 [Deleted]

The PRA reviews the risks that are not adequately captured by standardised approaches in its Pillar 2 assessment and may ask firms to hold additional capital under Pillar 2A to address identified deficiencies.

5.21 Inputs to the standardised approaches may come from a model or rely on prudent valuation. Where such inputs are inaccurate firms may fail to manage their exposures properly and may be under-capitalised. The PRA reviews the accuracy of those inputs to calculate Pillar 1 CCR charges and may ask firms to hold additional capital under Pillar 2A to address identified deficiencies.

## 6 Credit concentration risk

6.1 This chapter sets out the methodology the PRA uses to inform the setting of a firm's Pillar 2A capital requirement for single name, sector and geographical credit concentration risk in the banking and trading books.

### Definition and scope of application

6.2 Credit concentration risk is the risk of losses arising as a result of concentrations of exposures due to imperfect diversification. This imperfect diversification can arise from the small size of a portfolio or a large number of exposures to specific obligors (single name concentration) or from imperfect diversification with respect to economic sectors or geographical regions.

6.3 For the purposes of the methodology specified below, only wholesale credit portfolios are considered for single name and sector concentration risk (excluding securitisation, intra-group

exposures[16] and non-performing loans). All credit portfolios other than residential mortgage portfolios on the standardised approach are considered for geographic concentration risk.

### Methodology for assessing Pillar 2A capital for credit concentration risk

6.4 Firms are required to calculate a credit concentration risk measure, the Herfindahl-Hirschman Index (HHI), for all relevant portfolios (single name, pre-defined industry sectors and geographic regions). The HHI is defined as the sum of the squares of the relative portfolio shares of all borrowers (these portfolio shares are calculated using risk-weighted assets (RWAs)). Well-diversified portfolios have an HHI close to 0, whilst the most concentrated portfolios have a number close to 1. The HHI is a good indicator of the level of credit concentration risk within a portfolio. Mapping models translate a firm's HHI into a proposed capital add-on range. The table mapping the HHI for single name, sector and geographical credit concentration to capital add-on ranges is set out in Figure 1.

6.5 The mapping models for single name, sector and geographical credit concentration are described below.

### Single name concentration risk

6.6 The Gordy-Lütkebohmert (GL) methodology[17] is an extension of the Basel risk-weight function and aims to quantify the undiversified idiosyncratic risk in a credit portfolio not considered to be sufficiently granular. The GL methodology uses credit risk parameters to quantify the single name risk in a portfolio and suggests the necessary capital add-on range to account for single name concentration risk.

### Sector and geographic credit concentration risk

6.7 When assessing the degree to which a firm might be subject to industry sector or geographical credit concentration risk, the PRA adopts a methodology based on published multi-factor capital methodologies (eg Düllmann and Masschelein).[18]

6.8 The PRA has constructed a benchmark portfolio based on the average lending distribution from a sample of well-diversified firms. The PRA developed a multi-factor capital model, which takes into account the default rate volatilities (intra-sector and intra-region correlation) of eight pre-defined geographic regions and industry sectors as well as default rate volatility correlations between pre-defined geographic regions and industry sectors (inter-sector and inter-region correlations).

6.9 Sectors are broadly aligned to standard industry classification (SIC) codes and NACE (Nomenclature of Economic Classification) codes (set out in **Table B**), while the geographical regions are based on the International Monetary Fund's definition of the main global economic regions (set out in **Table C**). The United Kingdom is considered separately.

6.10 The multi-factor model is calibrated so that the capital requirement for a well-diversified lending portfolio (the benchmark portfolio) using the multi-factor model and a single risk factor model (on which the IRB framework is based) are equal. The PRA created a sequence of portfolios with increasing levels of concentration and compared the capital requirements derived from the multi-factor model with those derived from the single-factor risk model. The difference in the capital requirements between the multi-factor and single-factor risk model (capital add-ons) was compared to the HHI measures of concentration. The relationship between the two measures is strong. The



16 Where the calculation is in respect of a ring-fenced body on a sub-consolidated basis, intragroup exposures to group entities not included in the sub-consolidation are treated as if they were exposures to third parties.
17 Gordy, M and Lütkebohmert, E (2007), 'Granularity adjustment for Basel II', Discussion Paper 01/2007, Deutsche Bundesbank.
18 Düllmann, K and Masschelein, N (2007), 'A tractable model to measure sector concentration risk in credit portfolios', Journal of Financial Services Research, Vol. 32, pages 55–79.

PRA has therefore mapped the HHI measures to capital add-on ranges derived from its multi-factor capital model.

**Figure 1** **Concentration risk – mapping of capital add-on ranges to HHI**

| Concentration Risk Bucket | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| ***Single name concentration risk (granularity):*** | | | | | |
| $HHI_{RWA}$ | 0% – 0.29% | 0.29% – 0.59% | 0.59% – 1.15% | 1.15% – 1.65% | > 1.65% |
| Capital Add-on (% portfolio RWA) | 0% – 0.5% | 0.5% – 1% | 1% – 2% | 2% – 3% | 3% – 4% |
| ***Sector concentration risk:*** | | | | | |
| $HHI_{RWA}$ | 11.1% – 20.3% | 20.3% – 25.8% | 25.8% – 41.7% | 41.7% – 67.4% | > 67.4% |
| Capital Add-on (% portfolio RWA) | 0% – 0.25% | 0.25% – 0.5% | 0.5% – 1% | 1% – 1.5% | 1.5% – 2.8%(*) |
| ***Geographic (international) concentration risk:*** | | | | | |
| $HHI_{RWA}$ | 11.1% – 24.9% | 24.9% – 34.5% | 34.5% – 47.8% | 47.8% – 77.9% | > 77.9% |
| Capital Add-on (% portfolio RWA) | 0% – 0.2% | 0.2% – 0.5% | 0.5% – 0.8% | 0.8% – 1.25% | 1.25% – 1.4% |

(*) 2.8% for CRE but 2% for financial.

**Table B Breakdown of sectors**

Agriculture, forestry and fishing

Construction

Financial industry (bank and non-bank)

Real estate (commercial)

Manufacturing

Mining and quarrying

Wholesale and retail trade

Services and other

Transport, storage and utilities

**Table C Geographic breakdown**

United Kingdom

North America

South/Latin America and Caribbean

European (west) area

Eastern Europe and Central Asia (including Russian Federation)

East Asia and Pacific

South Asia

Middle East and North Africa

Sub-Saharan Africa

6.11 Given a capital add-on range produced by the concentration risk models, the PRA exercises its judgement as to where within that range the capital add-on should be set. In order to promote consistency of judgement, the mid-point of the range acts as a starting point. When setting the Pillar 2A credit concentration risk capital add-on, the PRA may consider a range of factors including firms' own concentration risk assessments; firms' ability to manage concentration risk; the degree to which conservatism is reflected in firms' Pillar 1 RWAs; instances where portfolio correlations are not adequately captured; any other factors not adequately captured under the quantitative assessment; and business models.

6.12 The PRA will continue to be proportionate in its approach to setting capital; supervisors may exercise judgement for small firms where they identify that the credit concentration risk methodology could overstate risks or could incentivise risk-taking behaviour.

6.13 The quantitative methodologies informing the recommended capital add-on ranges have been constructed so as to apply independently of one another in order to avoid double counting. The capital add-on for credit concentration risk is therefore the sum of the respective add-ons for each credit concentration risk type.

6.14 The measure of credit concentration risk is based on the Pillar 1 risk assessment (ie the risk weighting of the obligor, sector or geographic regions). Exposures with low risk weights therefore attract a lower concentration risk add-on compared to exposures with higher risk weights, everything else constant.

6.15 Where the PRA considers that a firm's credit risk RWAs do not accurately reflect the underlying credit risk within a portfolio, the Pillar 2A credit concentration risk capital add-on may be adjusted upwards.

6.16 Capital held against potential losses from credit valuation adjustments are excluded from the credit concentration risk assessment.

## Reporting

6.17 All firms must report the data contained in the credit concentration risk Pillar 2 data items in accordance with Reporting Pillar 2, 2.2. Firms are required to submit the data with their ICAAP submissions. These data items include information on the portfolio HHI for each of the concentration risk types and additional information on portfolio composition.

# 7 Interest rate risk in the banking book

7.1 This chapter sets out the methodology the PRA uses to inform the setting of a firm's Pillar 2A capital requirement for interest rate risk in the non-trading book, commonly known as interest rate risk in the banking book (IRRBB).

## Definition of scope of application

7.2 IRRBB is the risk of losses arising from changes in the interest rates associated with banking book items.

7.3 For larger or more complex firms the PRA employs a comprehensive approach to its IRRBB risk assessment that reviews duration risk, basis risk and, as necessary, optionality risk.

- Duration risk arises when the re-pricing of banking products (assets and liabilities) is mismatched across time buckets. Firms generate these positions via the normal running of their banking book and manage the resultant risks through their internal management processes and hedging activities.

- Basis risk is generated by banking book items that re-price in relation to different reference rates. The most common and material basis risks seen within UK banks derive from products re-pricing against policy rates (eg Bank Rate) and market rates (eg SONIA). As part of the review of basis risk the PRA also considers asset swap spread risk, which typically arises when firms hedge the duration risk associated with fixed rate securities using derivatives (typically interest rate swaps).

- Optionality risk arises from the discretion that a bank's customers and counterparties have in respect of their contractual relations with the bank in the form of financial instruments. Embedded options are diverse and firm-specific and include prepayment risk on fixed rate loans and deposits and switching risk on non-interest bearing current accounts. Optionality risk is considered separately when material.

7.4 Smaller firms and firms with less complex IRRBB exposures are subject to a standard approach, which is based on reviewing their own policy limits for duration risk, as described in paragraph 7.27. A proportionate approach is applied where a firm demonstrates some aspects of complexity with a detailed review undertaken of the policy limit-setting approach, the potential for any breaches and the ability of the firm to manage the associated risks.

## Comprehensive methodology for assessing Pillar 2A capital for IRRBB for larger firms or firms with more complex IRRBB exposures

7.5 Large firms or those with more complex IRRBB risk exposures are subject to a comprehensive risk assessment process. This assessment involves the collection and processing of granular risk data provided by the firm and a review process including firm meetings and discussion. Together this ensures that the PRA has the appropriate information to understand and evaluate the firm's IRRBB risks and management processes.

7.6 The data for this process are collected in a standard data report from the firm. The data are processed using internal PRA systems. A range of value-at-risk and earnings-at-risk based measures are used to calculate capital requirements. The FSA017 regulatory return, which provides more aggregated re-pricing information, can be used to validate the data provided.

7.7 The methodology with respect to duration risk, basis risk and optionality risk is detailed below.

### Duration risk

7.8 To assess duration risk, firms are first requested to allocate all items to the relevant time bucket and to report their exposure in each time bucket, as follows:

- fixed-rate assets or liabilities are allocated to the time bucket corresponding to their maturity (allowing for behavioural prepayment adjustments);
- floating-rate assets or liabilities are allocated to the time bucket corresponding to the frequency of re-set, with behavioural adjustments for administered rate products;
- derivatives are allocated according to their contractual re-pricing dates; and
- non-determinate items (ie those that do not have a pre-set contractual maturity, such as sight deposits and current accounts) are allocated to time buckets based on firms' assumptions. The PRA expects firms to justify these assumptions and any changes to them.

7.9 Second, the net interest rate gap of the firm for each time bucket is calculated for each material currency.

7.10 A shock is then applied to the net interest rate position for each respective time bucket. The methodology uses a range of currency-specific yield curve volatility parameters and a set of different interest rate shocks.

7.11 The VaR model is calibrated to a 1-in-100 year confidence level and uses a one-year holding period to reflect the potentially illiquid nature of banking book positions. Historical observations normally include ten years of yield curve data and are designed to capture stressed market conditions.

7.12 For each significant currency, the different interest rate shocks are applied to the net interest rate gaps in each time bucket. The methodology uses both government yield curves and swap rate curves by material currency in order to calculate the potential impact of the interest rate risk shocks.

7.13 Economic value (EV) changes are then summed up across all time buckets in order to assess the change of the firm's EV due to its IRRBB exposure to an interest rate shock.

### Basis risk

7.14 The review of basis risk concentrates on net policy rate and net market rate (contractual and behavioural) exposures including on-and off-balance sheet positions. The assessment is designed to capture the risk of market funding costs rising relative to a more stable policy benchmark.

7.15 The assessment process involves collecting information on variable rate re-pricing in order to calculate the net policy rate position by currency. These positions include: customer products linked contractually to policy rates; customer products that are expected to price in line with policy rates behaviourally; balances held with central banks that are currently priced in line with policy rates; and derivative hedges based on policy rates or correlated indices.

7.16 The PRA measures basis risks by applying to each firm's nominal exposure a change of the spread between the two reference rates on which the bank incurs basis risk exposure. The potential movement between the reference rates employs a statistical approach based on historical observations, at a 1-in-100 year confidence level.

7.17 The PRA measures how the price of hedging market versus policy rate exposures for a one-year period can move over a three-month timeframe. This is likely to involve the use of relevant swap curves, eg Overnight Indexed Swaps.

7.18 The approach generates a one-year earnings at risk (EaR) measure to assess the capital requirement for basis risk. The calculation considers the net Bank Rate position exposed to a funding shock.

7.19 Swap spread risk arises when firms hedge the duration risk associated with fixed rate securities using derivatives (typically interest rate swaps). This generates a valuation risk through asymmetric movements between the value of the bond (eg gilt) and the derivative (eg swap). The ongoing valuation risks should be managed within appropriate risk limits and capitalised.

7.20 The PRA considers relative movements in the value of securities, eg gilts versus swaps (of similar maturities) over a ten-year period via a Value at Risk (VaR) model calibrated at a 1-in100 year confidence level assuming a one-year holding period.

### Optionality risks

7.21 In the United Kingdom, prepayment risk on lending is limited by the typically short re-pricing duration of fixed-rate products (retail mortgages and unsecured lending are typically fixed for terms not exceeding five years).

7.22 The impact of behavioural factors on certain non-determinate liabilities such as current accounts (eg customer switching) should be considered by firms. The behaviour of some components of these current account balances remains uncertain and may be affected by a change in interest rates.

7.23 The comprehensive approach involves discussing optionality risks with the firm during the risk assessment process in order to understand the materiality (or otherwise) of embedded option features. Dependent on the nature of a firm's business this could include non-UK products that have material embedded option features for which additional information may be requested.

### Other IRRBB risks

7.24 Other IRRBB risks that may be considered, if material, include the risks arising from legacy market rates, hedge accounting operations and structural foreign exchange exposures. The PRA monitors these and other emerging risks to ensure such risks are capitalised adequately.

### Aggregation of IRRBB risks

7.25 Individual capital requirements for the different sub-components of IRRBB referenced above are then summed to calculate a firm's IRRBB capital requirement based on the data provided.

7.26 The process also assesses the quality of the firm's management, data and governance of IRRBB under the comprehensive approach and considers any additional capital required to reflect failings in a firm's practice.

### Standard methodology for assessing Pillar 2A capital for IRRBB for smaller firms and firms with less complex IRRBB exposures

7.27 The PRA reviews the internal policy limits used by smaller firms and firms with less complex IRRBB exposures. The capital requirement for IRRBB is a firm's risk appetite for EV sensitivity (or EVE sensitivity where a firm does not calculate EV sensitivity) to parallel up and down shifts in interest rates across the whole yield curve. The size of the shift currently used by the PRA as a benchmark is

200 basis points. The capital requirement is subject to the PRA being comfortable with the way a firm measures sensitivity, including any behavioural assumptions being used, and that the firm has the risk management capabilities and processes in place to manage within its risk appetite.

### Basis risk

7.28 Under the standard methodology, the PRA does not assess Pillar 2A for basis risk. Nevertheless, the PRA expects that a bank or building society mitigates its basis risk by setting limits on:

- its exposure to basis risk for each type of basis risk mismatch; and
- the sensitivity of its net interest margin to basis risk.

### Behavioural adjustments

7.29 The PRA may allow firms, on a case-by-case basis, to allocate maturities based on behavioural assumptions.

### Reporting

7.30 The PRA uses existing data reports, such as the Stress Testing Data Framework (STDF) programme for larger firms, or FSA017 for smaller firms, and works with individual firms to set out additional bespoke data requirements where needed for the IRRBB assessment. The PRA may also ask firms to submit internal management information relevant to IRRBB.

## 8 Pension obligation risk

8.1 This chapter sets the methodology the PRA uses to inform the setting of a firm's Pillar 2A capital requirement for pension obligation risk.

### Definition and scope of application

8.2 Pension obligation risk is the risk:

- to a firm caused by its contractual or other liabilities to, or with respect to, a pension scheme (whether established for its employees or those of a related company or otherwise); and
- that a firm will make payments or other contributions to, or with respect to, a pension scheme because of a moral obligation or because the firm considers that it needs to do so for some other reason.

8.3 Pension obligation risk relates to defined benefit pension schemes and defined contribution schemes offering guaranteed returns that are not fully matched by underlying investments. Hybrid schemes are considered to be defined benefit pension schemes. Pension obligation risk includes the risk arising from overseas pension schemes.

8.4 A sponsoring firm is a firm with contractual or potential commitments to one or several defined benefit pension schemes covering its employees or the employees of another entity within the same group.

8.5 Pension obligation risk manifests itself in different forms. The PRA's focus is on the impact that changes in the value of a pension scheme could have on Common Equity Tier 1 (CET1). The accounting deficit of a firm's pension scheme is reflected in CET1. Under Article 36(1)(e) of the Own Funds and Eligible Liabilities (CRR) Part of the PRA Rulebook, any surpluses are deducted. Firms are

therefore exposed to pension obligation risk because a material increase in the pension scheme's deficit under adverse conditions will have a negative impact on their CET1.

8.6 A firm that does not deduct its pension scheme deficit from CET1 (eg because another company within the group recognises the deficit on its balance sheet) may still be exposed to indirect pension obligation risk, where the UK Pensions Regulator (TPR) has the power to require the firm to support the pension scheme, or where the failure of the company that recognises the deficit could destabilise the group, leading to the risk of contagion.

8.7 The PRA does not have a remit to protect members of defined benefit pension fund schemes against the failure of those plans. Nevertheless a firm must at all times comply with the overall financial adequacy rule. Accordingly, the PRA aims to ensure that firms are adequately capitalised against their defined benefit pension obligations.

## Methodology for assessing Pillar 2A capital for pension obligation risk

8.8 The PRA's framework for Pillar 2A pension obligation risk capital consists of two elements:

- the firm's own assessment of the appropriate level of Pillar 2A pension obligation risk capital; and

- a set of stresses on the accounting basis which will be used by the PRA in assessing the adequacy of the firm's own assessment of the level of capital required.

8.9 The firm's own assessment and the PRA stress tests on the accounting basis can be reduced by offsets and management actions, and any pension scheme deficit deducted from CET1.

8.10 The PRA uses the results of two scenarios it prescribes to assess the adequacy of the firm's own assessment of the appropriate level of capital and to inform the setting of the Pillar 2A capital requirement for pension obligation risk. The higher of the two stress scenarios will form the starting point of the assessment.

8.11 The two scenarios applicable from 1 January 2016 are set out in **Table D**.

**Table D PRA pension obligation risk stress scenarios (applicable from January 2016)**

**Per cent**

| | Scenario 1 | Scenario 2 |
|---|---|---|
| Fall in equity values | 15 | 30 |
| Fall in property values | 10 | 20 |
| Percentage reduction in long-term interest rates | 10 | 15 |
| Absolute increase in assumed inflation | 0.5 | 0.75 |
| Percentage change in credit spreads | -25 | +25 |
| Increase in liabilities due to a longevity stress | 3 | 6 |

8.12 The PRA recognises that the assumptions underpinning the stress scenarios may not be appropriate for the risk profile of all pension schemes. Where the PRA believes that the risk profile of a firm's pension scheme deviates significantly from the assumptions underlying the published scenarios, it will use other models to inform the appropriate level of Pillar 2A pension obligation risk capital to compare against the firm's own assessment.

8.13 For the purposes of the stress scenarios, the PRA expects the valuation measure of liabilities to be the same as that used for IFRS reporting. Firms' approaches to setting the valuation assumptions should be stable over time and any changes to the approach should be justified in the ICAAP. The PRA will review the robustness of the valuation assumptions and may adjust the surplus or deficit in the capital requirements calculations where the assumptions are found to be out of line with other firms, or where an alternative set of assumptions better satisfies the capital adequacy rules.

8.14 The stress scenarios have been designed to produce an appropriate level of capital for a typical pension scheme. From time to time, it may be necessary to update the scenarios to ensure that they continue to remain appropriate. This may be done, for instance, where significant movements in market conditions mean that the scenarios produce inappropriate levels of capital or where the average risk profile of the pension schemes sponsored by PRA-regulated firms deviates from the risk profile the PRA has assumed when calibrating the stress scenarios.

8.15 The scenarios described in Table D are distinct from the multi-year firm-wide scenarios the PRA expects firms to develop in their ICAAP in accordance with the general stress test and scenario analysis rule in Internal Capital Adequacy Assessment 12.1 in the PRA Rulebook.

8.16 The PRA reviews the scenarios on an annual basis, but only expects to make changes to them every few years. Any changes will be consulted on before being implemented.

### Offsets and management actions

8.17 The firm's own assessment of the appropriate level of capital and the results of the PRA stress scenarios may be reduced by eligible offsets and management actions recognised by the PRA. Offsets are reductions in a firm's Pillar 2A capital requirement to reflect factors present at the ICAAP effective date which would reduce the impact of a stress on the firm. Management actions are steps the firm could, and would, take when a stress occurs in order to reduce its impact.

8.18 To be accepted by the PRA, offsets and management actions in relation to the PRA stress scenarios should comply with the following eligibility criteria:

- financial performance — the efficacy of offsets and management actions should not depend on assumptions as to the future financial performance of the firm, either before or after a stress;

- independence from the decisions and actions of third parties — the efficacy of offsets and management actions should not depend on assumptions as to the future agreement or behaviour of third parties, either before or after a stress; and

- immediacy — recognised offsets should reflect a risk mitigation benefit that is already effective when the offset is taken. Management actions should be capable of taking effect quickly enough to mitigate the stress to which they are the proposed response.

8.19 The PRA expects firms to explain any offsets or management actions they propose. Where practical, management actions will be formulated after discussion with pension scheme trustees. The PRA will apply the eligibility criteria in a strict manner on a case-by-case basis. Offsets and management actions that do not meet the eligibility criteria will not be accepted.

### Reporting

8.20 The PRA already collects information on defined benefit pension schemes from firms participating in the Stress Testing Data Framework (STDF) programme. All PRA firms with defined benefit pension schemes are required to report the data contained in the pension risk data item in

accordance with Reporting Pillar 2, 2.6, unless those data have already been submitted as part of the STDF programme. Firms that are in scope are required to submit the data with their ICAAP submissions.

## 8A Group Risk, including RFB group risk

8A.1 This chapter sets out the methodology the PRA uses to inform the setting of a firm's Pillar 2A capital requirement for group risk, including RFB group risk, where groups contain an RFB sub-group.

### Definition and scope of application

8A.2 Group risk, as defined in the PRA Rulebook,[19] means the risk that the financial position of a firm may be adversely affected by its relationships (financial or non-financial) with other entities in the same group or by risk which may affect the financial position of the whole group, including reputational contagion.

### Methodology

8A.2A The PRA's assessment of group risk will be informed by the following:

- the extent to which the allocation of the total amount of financial resources, own funds and internal capital between different parts of the consolidation group adequately reflects the nature, level and distribution of the risks to which the consolidation group is subject;

- the extent to which, for any given risk type, the minimum requirements applied to an entity established outside the United Kingdom, on an individual or sub-consolidated basis, exceed the entity's share[20] of the consolidated group requirements for the same risk. When making this assessment, the PRA would not generally take into account requirements that are attributable to risks that:

    (i) are already mitigated through the risk based capital framework[21] or by other means;[22] or

    (ii) net off in consolidation (for example, intragroup risks and offsetting positions); and

- where a firm is a member of a group in which a qualifying parent undertaking[23] has a double leverage ratio above 100%, or is projecting one above 100%, the firm's approach to managing the risks of double leverage, including the cash flow risks, and the credibility of its related stress testing and scenario analysis. For this purpose, the double leverage ratio is defined as a parent company's common equity capital investment in its subsidiaries[24] divided by its own common equity capital.[25]

8A.2B Supervisory judgement is used to determine:



19 Internal Capital Adequacy Assessment 1.2.
20 An entity's share of a particular consolidated group capital requirement can be determined by multiplying that consolidated group capital requirement by the proportion of the consolidated group's Pillar 1 RWAs that are attributable to that entity. The consolidated group's RWAs that are attributable to an entity is calculated as the entity's Pillar 1 RWAs, calculated on the same basis as the group RWAs, minus the risk-weighted exposures of the entity to other group entities.
21 For example, a PRA authorised firm may have permission to use an IRB model to calculate consolidated capital requirements in respect of a portfolio of credit risk exposures. If its overseas subsidiary is required to use a standardised approach for the same portfolio of credit risk exposures (on an individual or sub-consolidated basis), and as a result, it is subject to higher requirements in respect of that portfolio, the PRA would not take the difference into account in its assessment of group risk.
22 For example, the risk of a local entity might be mitigated at the group level through risk management processes or internal control mechanisms established at the group level.
23 Section 192B FSMA.
24 As defined in paragraph 3.29A of SS 31/15.
25 As defined in paragraph 3.29A of SS 31/15.

- the amount of firm-specific Pillar 2A capital requirements for group risk; and

- any steps that need to be taken in respect of any double leverage being used or proposing to be used by a firm's qualifying parent undertaking. Such steps may include, for example, imposing a specific limit on the amount of double leverage a firm's qualifying parent undertaking can use.[26]

### RFB group risk

8A.3 RFB group risk means, in relation to a consolidation group containing an RFB sub-group,[27] the risk that the financial position of a firm on a consolidated basis may be adversely affected by the minimum capital and buffers applicable at the level of the RFB sub-group, such that there is insufficient capital within (or an inappropriate distribution of capital across) the consolidated group to cover the risks of the consolidated group.

### Methodology

8A.4 Where minimum capital (Pillar 1 or Pillar 2A) of the RFB sub-group for an identified risk is higher than the RFB sub-group's share of the minimum capital for that risk on a consolidated basis, the difference will usually be reflected in Pillar 2A capital requirements on a consolidated basis to reflect the associated RFB group risk at the consolidated group level.

8A.5 The PRA's assessment of the total amount of the Pillar 2A capital requirement for RFB group risk will be informed by the following, to the extent not already captured by the assessment of other elements of the capital framework:

- the difference between:

  (i) the amount of capital applicable at the RFB sub-group level to cover credit concentration risk identified on a sub-consolidated basis; and

  (ii) the RFB sub-group's share of the capital held by the consolidated group to cover credit concentration risk identified for the consolidation group.

  The share referred to in point (ii) above will be calculated as:

  (a) the amount of capital applicable at the level of the consolidated group to cover the credit concentration risk identified for the consolidation group, multiplied by

  (b) the proportion of the consolidated group's credit risk RWAs that are attributable to the RFB sub-group;[28]

- any minimum capital applicable at the level of the RFB sub-group that is attributable to risk-weighted exposures of the RFB sub-group to group entities that are not members of the RFB



26 For example, by exercising the PRA's power of direction under Section 192C of the Financial Services and Markets Act (Power of Direction over Qualifying Parent Undertakings).

27 An RFB sub-group is a sub-set of related group entities within a consolidation group, consisting of one or more RFBs and other legal entities, which is established when the PRA gives effect to Article 11(5) of the CRR. See SS8/16 'Ring fenced bodies (RFBs)' for more detail.

28 The proportion of the consolidated group's credit risk RWAs that are attributable to the RFB sub-group is calculated as the RFB sub-group's credit risk RWAs (calculated on a sub-consolidated basis) minus the risk-weighted exposures of the RFB subgroup to group entities that are not members of the RFB sub-group.

sub-group (to the extent RFB group risk in relation to those exposures is not already captured by the assessment of other aspects of RFB group risk covered in this paragraph); and

- as appropriate, the amount by which the minimum capital applicable at the RFB sub-group level to cover any other risk exceeds the amount of minimum capital applicable at the consolidated group level to cover the same risk. (This could include, for example, interest rate risk in the banking book, operational risk or the risk of a consolidation group being undercapitalised following the application of PRA rules on deduction of significant investments in financial sector entities at the level of the RFB sub-group.)[29]

### Pension obligation risk

8A.6 As set out in SS8/16 'Ring-fenced bodies (RFBs)',[30] the PRA expects an RFB to ensure it has fully and appropriately considered group risk arising in respect of its pension arrangements when conducting its assessment of pension obligation risks at the level of the RFB sub-group. The PRA expects an RFB to consider all relevant factors when performing its assessment, including, but not limited to, its current share of consolidated group pension obligations, and its expected future share where it is making changes to its pension arrangements. An RFB's assessment should not be limited to a simple allocation of a share of the consolidated group's pension obligation risk. A full assessment may therefore result in a higher capital requirement than if the RFB were to apply a 'share-of-group' approach, particularly in the period prior to 1 January 2026. The PRA also expects to apply its existing policy, as set out in SS31/15 'The Internal Capital Adequacy Assessment Process (ICAAP) and the Supervisory Review and Evaluation Process (SREP)',[31] when assessing the pension obligation risk of a consolidated group containing an RFB. The PRA expects the assessment of RFB group risk at group level to be unaffected by the assessment of the pension obligation risk for the RFB sub-group given:

- the transitional nature of the risk; and

- assuming the sum of the amount of pension risks at the level of the RFB sub-group and group entities that are not members of the RFB sub-group is not expected to increase to a level above that of the consolidated group in the event that the RFB will have to assume the pension liabilities of group entities that are not members of the RFB sub-group.

This exception only applies to the assessment of pension risk and should not be taken to mean that other risks with proportionately higher requirements should not be included in the assessment of RFB group risk.

### Reporting

8A.7 Firms are required to submit data in respect of the Pillar 2A RFB group risk add-on in FSA071 'Firm Information and Pillar 2 Summary' template.[32]



29 See paragraphs 2.1 and 2.2 in the Definition of Capital Part of the PRA's Rulebook.
30 December 2017: https://www.bankofengland.co.uk/prudential-regulation/publication/2016/ring-fenced-bodies-ss.
31 January 2020: https://www.bankofengland.co.uk/prudential-regulation/publication/2013/the-internal-capital-adequacy-assessment-process-and-supervisory-review-ss.
32 https://www.bankofengland.co.uk/prudential-regulation/regulatory-reporting/regulatory-reporting-banking-sector/banks-building-societies-and-investment-firms.

# 8B Pillar 2A lending adjustments

8B.1 This chapter sets out the PRA's methodology for setting a firm's Pillar 2A adjustments for eligible SME and infrastructure lending. In addition, the appendices of this SoP provide hyperlinks to the data templates and related instructions required for the calculation of the Pillar 2A lending adjustments.

## Definition and scope of application

8B.2 As part of the Capital Supervisory Review and Evaluation Process (C-SREP), the PRA will calculate Pillar 2A lending adjustments for firms that submit the necessary data alongside their ICAAP submission. The PRA will calculate the SME and infrastructure lending adjustments for exposures that meet the eligibility criteria as set out in the 'Instructions for Pillar 2 SME lending adjustment and infrastructure lending adjustment data templates' (see the appendices).

## Methodology for assessing Pillar 2A lending adjustments

8B.3 The SME lending adjustment and the infrastructure lending adjustment are calculated by multiplying two components:

- 'ΔRWA' which is the impact on a firm's RWAs arising from the application of the SME Factor and/or Infrastructure Factor as defined in the 'Instructions for Pillar 2 SME lending adjustment and infrastructure lending adjustment data templates' (see the appendices); and

- the 'capital adjustment factor' which is a firm-specific multiplier that converts ΔRWA into the Pillar 2A lending adjustments amount.

8B.4 'ΔRWA' is calculated by aggregating the difference between: (i) the Pillar 1 RWAs for eligible exposures; and (ii) the Pillar 1 RWAs for eligible exposures with the SME Factor or Infrastructure Factor applied. In a limited number of cases, this approach is adjusted for certain types of eligible exposures for which risk weights are calculated using the SA or the slotting approach as set out in Tables A3 and A4 below.

8B.5 For exposures where a credit risk mitigation (CRM) method is applied under Articles 222, 232, 235, or 236 of the Credit Risk Mitigation (CRR) Part, including where the exposure or the protected part receives a different risk weight due to the application of CRM (eg exposures under the Risk Weight Substitution Method):

- the eligibility of an exposure and the adjusted methodology set out in Tables A3 and A4 are determined based on the underlying exposures, ignoring the application of the CRM method; and

- where applicable, the impact of the application of the SME Factor and/or Infrastructure Factor to the protected and unprotected parts of the exposure (where applicable) are calculated separately and both will contribute to 'ΔRWA'. The adjusted methodology in Tables A3 and A4 are only applied for the calculation of the impact for the unprotected part of the exposure.

**Table A3 – Adjusted SA general methodology for calculating ΔRWA (for SME lending adjustment)**

| Exposure type | Approach to calculating ΔRWA |
|---|---|
| Regulatory retail exposures to SMEs - transactor exposures | For exposures assigned a risk weight of 45% under Article 123(3)(a) of the Credit Risk: Standardised Approach (CRR) Part, ΔRWA is zero. |

| | |
|---|---|
| Unrated corporate exposures to SMEs | For exposures assigned a risk weight of 85% under Article 122(11) of the Credit Risk: Standardised Approach (CRR) Part, calculate the difference between:<br><br>(i) RWA calculated with a risk weight of 85% assigned in accordance with Article 122(11) of the Credit Risk: Standardised Approach (CRR) Part; and<br><br>(ii) RWA calculated with a risk weight of 100% assigned in accordance with Article 122(5) of the Credit Risk: Standardised Approach (CRR) Part (the risk weight assigned to an unrated corporate exposure under the risk neutral approach) and if the SME Factor was subsequently applied (ie 76.19% – 85%). |
| Regulatory real estate exposures to SMEs that are not materially dependent on the cash-flows generated by the property | For residential real estate, for the part of the exposure assigned a risk weight of 20% under Article 124F(1)(a) of the Credit Risk: Standardised Approach (CRR) Part, the ΔRWA is zero.<br><br>For commercial real estate, for the part of the exposure assigned a risk weight of 60% under Article 124H(1)(a) of the Credit Risk: Standardised Approach (CRR) Part, the ΔRWA is zero.<br><br>For any part of the exposure assigned a risk weight of 85% under Articles 124L(1)(c) or 124L(1)(d) of the Credit Risk: Standardised Approach (CRR) Part, calculate the difference between:<br><br>(i) RWA calculated with a risk weight of 85% assigned in accordance with Articles 124L(1)(c) or 124L(1)(d) of the Credit Risk: Standardised Approach (CRR) Part; and<br><br>(ii) RWA calculated with a risk weight of 100% assigned in accordance with Article 122(5) of the Credit Risk: Standardised Approach (CRR) Part (the risk weight assigned to an unrated corporate exposure under the risk neutral approach) and if the SME Factor was subsequently applied (ie 76.19% – 85%). |
| Other real estate exposures that are not materially dependent on the cash-flows generated by the property where the counterparty is assigned a risk weight of 85% under Articles 124L(1)(c) or 124L(1)(d) of the Credit Risk: Standardised Approach (CRR) Part | Calculate the difference between:<br><br>(i) RWA calculated with a risk weight of 85% assigned in accordance with Articles 124L(1)(c) or 124L(1)(d) of the Credit Risk: Standardised Approach (CRR) Part; and<br><br>(ii) RWA calculated with a risk weight of 100% assigned in accordance with Article 122(5) of the Credit Risk: Standardised Approach (CRR) Part (the risk weight assigned to an unrated corporate exposure under the risk neutral approach) and if the SME Factor was subsequently applied (ie 76.19% – 85%). |

### Table A4 – Adjusted SA and the slotting approach general methodology for calculating ΔRWA (for infrastructure lending adjustment)

| Exposure type | Approach to calculating ΔRWA |
|---|---|
| High-quality unrated project finance exposures in the operational phase (HQPF) | For exposures assigned a risk weight of 80% under Article 122B(4) of the Credit Risk: Standardised Approach (CRR) Part, calculate the difference between:<br><br>(i) RWA calculated with the risk weight of 80% assigned in accordance with Article 122B(4) of the Credit Risk: Standardised Approach (CRR) Part; and<br><br>(ii) RWA calculated with the risk weight of 100% assigned in accordance with Article 122B(2)(c) of the Credit Risk: Standardised Approach (CRR) Part and if the Infrastructure Factor was subsequently applied (ie 75%). |

| | |
|---|---|
| Substantially stronger project finance exposures (under the slotting approach) | For exposures assigned a risk weight of 50% under Articles 153(5)(e) or 153(5)(f) of the Credit Risk: Internal Ratings Based Approach (CRR) Part (but not assigned a risk weight of 50% under Article 153(5)(d) of the Credit Risk: Internal Ratings Based Approach (CRR) Part), the ΔRWA is zero. |

8B.6 The 'capital adjustment factor' covers the following components of the PRA's capital stack: (i) Pillar 1 minimum total capital ratio; (ii) capital conservation buffer (CCoB); (iii) countercyclical capital buffer (CCyB); (iv) systemic buffers;[33] and (v) PRA buffer deductions for the CCoB and CCyB.

8B.7 The methodology used to calculate the Pillar 2A lending adjustment will be based on the underlying Pillar 1 credit risk approach to calculate the RWAs for SME and infrastructure lending, irrespective of whether a firm is bound by the output floor. The PRA will not require a firm's Pillar 2A lending adjustment to be recalculated as a result of becoming bound by the output floor.

8B.8 In line with the PRA's existing approach for setting Pillar 2 capital requirements, the Pillar 2A lending adjustments are subject to the PRA being satisfied that the firm maintains an adequate level of capital resources needed to comply with rule 2.1 of the Internal Capital Adequacy Assessment Part of the PRA Rulebook ('overall financial adequacy rule').

### Reporting

8B.9 Firms that choose to submit the necessary data for eligible exposures need to complete the data template in accordance with the 'Instructions for Pillar 2 SME lending adjustment and infrastructure lending adjustment data templates' (see the appendices). Firms will need to return the data templates alongside their ICAAP submission, as part of their C-SREP.



33 The systemic buffers refer to the buffer for Global Systemically Important Institutions (G-SII) and the buffer for Other Systemically Important Institutions (O-SII), including where these are set as group risk adjustments to the PRA buffer.

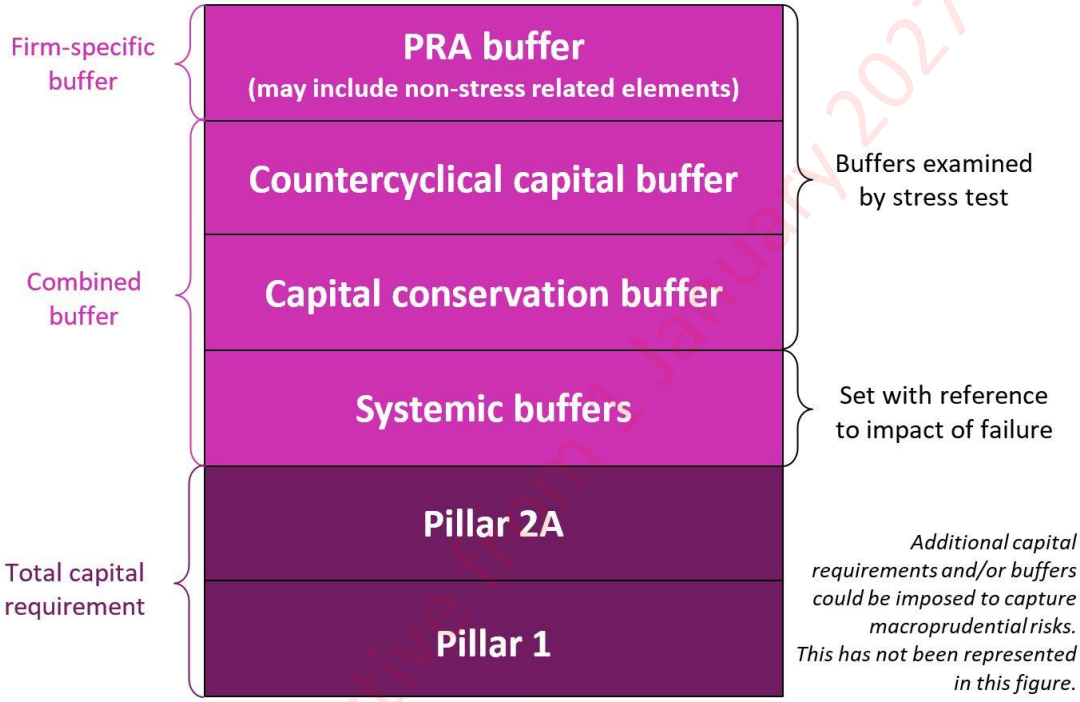
# Section II: Pillar 2B

## 9 The PRA buffer

### Purpose and objective of the PRA buffer

9.1 The PRA buffer (also referred to as Pillar 2B) is an amount of capital firms should maintain in addition to their total capital requirement[34] (TCR) and the combined buffer. The PRA buffer absorbs losses that may arise under a severe stress scenario, while avoiding duplication with the combined buffers. Together the PRA buffer, the combined buffer[35] and the TCR make up the PRA's capital framework as illustrated by the capital stack in Figure 2.

**Figure 2 The capital stack**




9.2 Firms should maintain capital to meet their TCR (regulatory minimum) at all times. Firms also maintain capital in the PRA buffer and the combined buffer for use (either immediately or in the future) to withstand the impact of a severe but plausible stress.

9.3 The PRA buffer is set using three assessments:

(a) the 'stress impact' – an assessment of the amount of capital firms should maintain to withstand a severe stress scenario;

(b) the 'risk management and governance assessment' – an assessment of whether a firm has significant risk management and governance (RMG) weaknesses; and

(c) 'supervisory judgment' – an assessment of any other relevant information to inform

34 Total capital requirements is the sum of Pillar 1 capital requirements plus Pillar 2A capital requirements.
35 The combined buffer comprises the Capital Conservation Buffer (CCoB), the Countercyclical Buffer (CCyB), the buffer for global systemically important institutions (G-SIIs) and (for ring-fenced banks and the largest building societies) the other systemically important institutions buffer (O-SII buffer).

adjustments to the PRA buffer in order to protect the safety and soundness of firms.

9.4 All components of the PRA buffer including RMG should be met by CET1 capital.

9.5 The PRA considers that all buffers in the capital framework, including the PRA buffer, can be used as required in times of stress. When this happens, the PRA will be content for firms to rebuild their buffers over a reasonable period of time. In exercising its judgement on what constitutes a reasonable time to rebuild buffers drawn down in stress, the PRA will take into account the amount by which the buffer has been used and the expected duration of the stress. It will consider any firm-specific drivers of the use of the buffer, in the context of current and forecast macroeconomic and financial conditions. There is no expectation on firms to maintain additional amounts of capital to avoid being within the PRA buffer in the event of a stress. More detail on the PRA's response to firms using buffers can be found in SS31/15.[36]

### Setting the PRA buffer

9.6 The frequency of assessment of the PRA buffer is aligned to a firm's SREP cycle; annually for major UK firms, and every two to three years for other firms. The PRA may reassess the PRA buffer more frequently when a firm's circumstances change. For example a change in business model or strategy, a material change in a firm's risk profile, or when RMG weaknesses are either identified or resolved.

9.7 Together the combined buffer and PRA buffer (the components relating to the stress impact) aim to ensure firms' capital is at a level to withstand the impact of a suitably severe stress. The PRA buffer captures firm-specific risks and is set with reference to a firm's hurdle rate. The risk-weighted CET1 hurdle rate is the level of CET1 capital firms are expected to maintain throughout the economic cycle and in a severe but plausible stress. The scenario is severe but plausible, and is common to all firms. The Bank and PRA jointly publishes benchmarks for the appropriate severity of the scenario firms should consider.

9.8 For all firms not participating in the annual stress tests (AST), the hurdle rate is equal to total capital requirements (TCR). For firms participating in the AST, the hurdle rate is set out in the annual guidance published on the Bank's website.[37]

9.9 Firms subject to leverage requirements will also be subject to a hurdle rate based on the Tier 1 leverage measure. Refer to the Bank's website[38] for the applicable hurdle rate.

9.10 TCR refers to the minimum requirement applicable to all tiers of capital. CET1 capital may be required to cover any shortfalls in AT1 or T2 capital, including those projected under the stress scenario, before it can count towards the buffers or considered excess CET1 capital.

9.11 Where a buffer[39] for an entity established outside the UK exceeds that entity's share[40] of the buffer applicable at the consolidated group level to cover the same risk, the difference will generally



36 The Internal Capital Adequacy Assessment Process (ICAAP) and the Supervisory Review and Evaluation Process (SREP), March 2019: https://www.bankofengland.co.uk/prudential-regulation/publication/2013/the-internal-capital-adequacy-assessment-process-and-supervisory-review-ss.

37 The hurdle rate reflects the level of capital firms are expected to maintain in a stress. This is specific to each stress test. Firms participating in the AST should refer to the guidance for each test: https://www.bankofengland.co.uk/stress-testing.

38 https://www.bankofengland.co.uk/stress-testing.

39 In this context, buffer refers to capital that overseas authorities expect firms to hold in addition to minimum capital, and which is intended to be able to be drawn down in periods of stress.

40 An entity's share of a particular consolidated group buffer can be determined by multiplying that consolidated group buffer by the proportion of the consolidated group's Pillar 1 RWAs that are attributable to that entity. The consolidated group's RWAs that are attributable to an entity is calculated as the entity's Pillar 1 RWAs, calculated on the same basis as the group RWAs, minus the risk-weighted exposures of that entity to other group entities.

be reflected in the setting of the consolidated group's PRA buffer to reflect the associated group risk at the consolidated group level. The PRA would generally not reflect such a difference in the consolidated group PRA buffer where the underlying risk of the credit institution established outside the United Kingdom is otherwise mitigated in the consolidated group requirements.

9.12 Where a particular buffer applicable on a sub-consolidated basis for the RFB sub-group is higher than the RFB sub-group's share[41] of the corresponding buffer on a consolidated basis, the difference will generally be considered in the setting of the consolidated group's PRA buffer. This is to reflect the associated RFB group risk at the consolidated group level.

### The stress impact

9.13 The PRA carries out an assessment of firms' ICAAP stress testing as part of the SREP.[42] For the major UK firms this is supplemented by the Bank's annual stress test (AST).[43]

9.14 The assessment considers the credibility and reasonableness of firms' projected stress results and the underlying assumptions on which the stress projections are build. The assessment focusses on the areas where the stress scenario adversely impacts firms' capital positions (ie reducing capital resources and increasing capital requirements), the nature and severity of the scenario on which the stress results are based and the reasonableness of mitigating actions firms propose to mitigate the impact of the stress.

9.15 Firms' assumptions, choice of scenario and stress projections are analysed and compared against the PRA's own internal models, peer benchmarks and information submitted in their ICAAPs. Where the PRA has concerns around the credibility of firms' stress results, adjustments will be made to the results or to the PRA buffer.

#### Stress scenario

9.16 The Bank publishes the stress scenario that major UK firms should consider. These are used in the Bank's AST exercise.

9.17 For firms that are not part of this AST, the PRA regularly publishes scenarios to serve as a guide when designing their own scenarios for ICAAPs.[44] These scenarios provide a benchmark for the severity and nature of stress scenarios, to be considered, to ensure consistent assessments across firms.[45]

9.18 The assessment of firms' stress testing includes an analysis of the severity of the stress scenario considered by firms for the purposes of calculating the PRA buffer and the reasonableness of the stressed projections of the associated economic/market indicators that are part of the firm's scenario expansion.



41 The RFB sub-group's share of a particular consolidated group buffer can be determined by multiplying that consolidated group buffer by the proportion of the consolidated group's Pillar 1 RWAs that are attributable to the RFB sub-group. The consolidated group's RWAs that are attributable to the RFB sub-group is calculated as the RFB sub-group's Pillar 1 RWAs (calculated on a sub-consolidated basis) minus the risk-weighted exposures of the RFB sub-group to group entities that are not members of the RFB sub-group.

42 Stress testing and scenario analysis requirements are set out in Chapter 12 of the Internal Capital Adequacy Assessment rules and in Chapter 3 of the SS31/15 The Internal Capital Adequacy Assessment Process (ICAAP) and the Supervisory Review and Evaluation Process (SREP): https://www.bankofengland.co.uk/prudential-regulation/publication/2013/the-internal-capital-adequacy-assessment-process-and-supervisory-review-ss.

43 https://www.bankofengland.co.uk/stress-testing.

44 https://www.bankofengland.co.uk/stress-testing.

45 The PRA may also ask firms to run additional sensitivity analyses, the purpose of which will be to explore the impact on portfolios and/or regions, which are not covered in the PRA's published scenarios or the firms' idiosyncratic scenarios. The results of these sensitivity tests may be used to adjust the assessment of the stress impact.

## Capital resources in stress testing

9.19 Capital resources are expected to reduce in a stress scenario driven by reduced income and lower profitability, as a result of increased losses, and adverse movements in capital deductions.

9.20 The assessment of stressed capital resources includes an analysis of firms' income and impairment projections, the reasonableness of the balance sheet assumptions under stress, the stressed projections of potential misconduct costs beyond those already paid or provided for, (if relevant for an individual firm) and the credibility of the projections of stressed capital resources.

## Capital requirements in stress testing

9.21 In a stress, capital requirements are expected to change as a result of changes in balance sheets and a deteriorating economic environment. Pillar 2A covers a range of risks not addressed under Pillar 1 (eg concentration risk, IRRBB) or not adequately addressed under Pillar 1 (eg operational risk). While Pillar 2A is typically expressed as a share of RWAs, the nature of some of these risks (eg pension deficit risk) is not related to RWAs and may evolve differently from RWAs in stressed conditions.

9.22 To reflect the evolution of the Pillar 2A requirements in a stress the PRA scales each of the Pillar 2A risk components with a suitable metric considered to be an underlying driver (or closely related to an underlying driver) of the particular risk type (see Table E). For example, Pillar 2A requirements for credit risk will scale with changes in credit RWAs rather than total RWAs.

9.23 These scaling bases do not reflect the way the PRA sets Pillar 2A requirements. Rather, they provide a simple way to ensure Pillar 2A requirements in the stress test reflect more closely the probable impact of the stress on the risks captured in Pillar 2A.

**Table E – Pillar 2A scaling bases**[46]

| Risk type | Scaling base |
|---|---|
| Operational risk[47] | Leverage exposure measure |
| Pension risk | No scaling – remains a fixed add-on |
| Interest rate risk in the banking book (IRRBB) | Leverage exposure measure |
| Credit concentration risk | Pillar 1 credit RWAs |
| Market and counterparty credit risk[48] | Pillar 1 market risk RWAs |
| Credit risk | Pillar 1 credit RWAs |
| RFB group risk | No scaling – remains a fixed add-on |
| Other risks | As appropriate |

## Management actions

9.24 The PRA recognises management actions that firms could and would realistically take to mitigate the impact of the stress scenario. Guidance on management actions is provided in SS31/15. Additional expectations on management actions for the major UK firms participating in the Bank's AST are published on the Bank's website.[49]

9.25 When assessing the credibility of the management actions, the PRA will consider the following:



46 Table E covers the material risks captured by Pillar 2A requirements for the firms participating in the annual stress test. For other risks, the PRA will consider the best scaling base to apply while maintaining the simplicity of the calculation.
47 Including information technology risk.
48 The Pillar 2A requirement for counterparty credit risk typically relates to the market risk aspect of counterparty credit risk. The credit risk component would typically be captured in credit concentration risk requirements.
49 https://www.bankofengland.co.uk/stress-testing.

(a) the credibility of the actions in the hypothetical stressed market conditions;

(b) any effects management actions could have on firms' reputation with its counterparties, investors and customers;

(c) the main risks associated with executing these actions;

(d) the time required to implement actions and for these to take effect; and

(e) whether or not a firm has a proven track record of executing management actions or similar actions.

9.26 The firms participating in the Bank's AST are expected to meet the projected demand for credit from UK households and businesses in the stress. This may limit the management actions recognised by the PRA in this context.

9.27 The credibility of capital related management actions such as the issuance, redemption and amortisation of additional Tier 1 (AT1) and Tier 2 capital instruments will be considered against the planned capital exercises in firms' baseline projections. The feasibility, timing and pricing of the issuances and redemptions in the stress scenario will be considered.

### Overlaps with the combined buffer

9.28 Together the CCoB and the CCyB aim to ensure the banking system as a whole has sufficient capital to absorb system-wide losses that could occur in stress. The CCoB establishes a basic level of capacity across the system to absorb losses. The CCyB aims to ensure that the banking system is able to withstand the stress throughout the cycle without restricting essential services, such as the supply of credit.

9.29 The PRA buffer aims to ensure that firms can meet their TCR in a severe but plausible stress. A portion of the amount of capital firm need to meet their TCR in stress is therefore already captured by the CCoB and CCyB. To avoid double counting between the buffers, the component of the PRA buffer that relates to the impact of the stress is calculated as the excess amount of capital required over and above the CCoB and relevant CCyB to withstand a severe but plausible stress.

9.30 The PRA considers there to be no overlap between the systemic buffers and the other buffers.

9.31 Changes in the CCyB will generally be additive to firms' existing PRA buffer. For example, if the FPC increases the CCyB rate by 0.25% to reflect the risk environment, the PRA buffer does not mechanically change.

### Stylised example

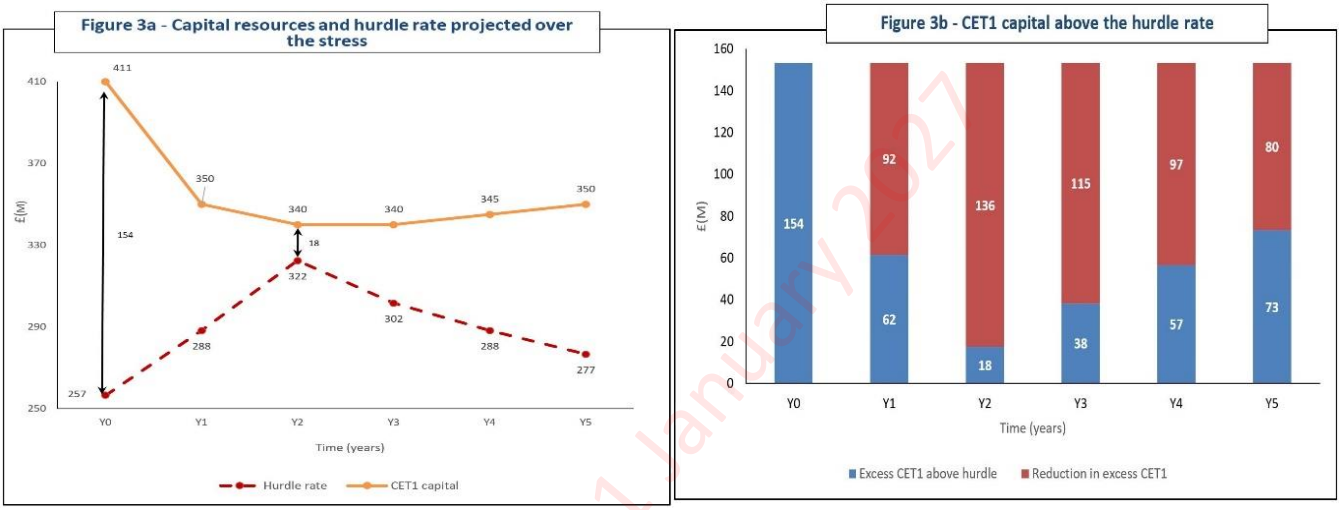
9.32 Figure 3 below presents a stylised example[50] to illustrate the key steps to calculate the PRA buffer. The results from the stress test inform the amount of CET1 capital needed to maintain a firm's capital levels above the hurdle rate in a severe but plausible stress. Figure 3a shows the projected CET1 capital resources and the risk weighted CET1 hurdle rate for a hypothetical firm in a stress scenario. At each reporting point, the excess CET1 capital above the hurdle rate is calculated (blue bars in figure 3b). The total amount of CET1 capital the firm is expected to hold is set to equal the largest reduction in excess CET1 capital. In this example, this is equivalent to the reduction in

50 This is a stylised example to show the mechanics of the stress impact assessment for a firm not subject to the Tier 1 leverage hurdle rate. It does not represent all considerations taken into account for the assessment. The illustrative example assumes the firm does not breach the hurdle rate and has excess CET1 throughout the stress. The cases of a projected CET1 shortfall is likely to increase the PRA buffer calculation.

CET1 in year 2 (£136m, red bar in Figure 3b), when the stress impact on the firm's capital is the greatest from the starting position (red bars in Figure 3b). The PRA buffer is set as the amount of CET1 needed to remain above the hurdle rate in stress that is not covered by the CCoB and the CCyB.

9.33 Assume the CCoB is £94m (2.5% of £3778m – the starting RWAs), and CCyB is set at £19m (0.5% of £3778 RWAs). The amount of CET1 capital depletion not covered by the CCoB and the CCyB is the PRA buffer, i.e. £136m minus £94m minus £19m = £23m (0.6% of £3778m RWAs). As the firm has excess capital resources to meet the CCoB, CCyB and the PRA buffer, based on this example, the firm will not need to raise capital to meet the PRA buffer.

**Figure 3 Calculation of the PRA buffer – Illustrative example**




## The risk management and governance assessment (RMG)

9.34 Where the PRA assesses a firm's RMG to be significantly weak, it may also set the PRA buffer to cover the risks posed by those weaknesses until they are addressed. This will generally be calibrated in the form of a scalar applied to the amount of CET1 required to meet the TCR. The scalar could be up to 40% of the total CET1 TCR (variable).

9.35 Depending on the severity of the weaknesses identified and the proposed remediation actions, the PRA may allow the firm time to address the identified weaknesses before applying a scalar. In these circumstances, the PRA may give the firm an indicative figure for the size of the scalar – often referred to as a 'suspended scalar'. If a scalar is applied, the amount may vary from the indicative figure as it will be based on the facts at the time of application.

9.36 If an RMG scalar is included in the PRA buffer, RMG weaknesses identified in specific risk categories would not ordinarily be reflected in Pillar 2A capital requirements for those categories.[51] Once the identified weaknesses have been remedied, the scalar should be removed. If new weaknesses emerge that are not adequately addressed by the scalar or if previous remedial action taken by the firm has led to its removal a new scalar may be applied.

9.37 To ensure consistency, RMG scalar decisions will be subject to a peer review process within the PRA.



51 An exception might be if the risk were only partially addressed by the imposition of a scalar.

## Overall supervisory judgement

9.38 While supervisory judgement may be applied at all levels of the assessment process, a number of specific areas are outlined below. The PRA may use any appropriate information to inform adjustments to firms' PRA buffer.

### Group risk

9.39 The PRA's assessment of the total amount of the PRA buffer at consolidated group level for group risk will be informed by the amount by which any buffer applicable on an entity established outside the United Kingdom exceeds that entity's share of the buffer applicable at the consolidated group level to cover the same risk.[52] [53]

9.40 The PRA's assessment of the total amount of the PRA buffer applicable to the consolidated group will be informed by:

(a) for systemically important institutions, the amount by which any other systemically important institutions buffer (O-SII buffer) exceeds the RFB sub-group's share of any buffer for global systemic importance (the G-SII buffer) at the consolidated group level. If the G-SII buffer is zero, RFB group risk will be informed by the full amount of any O-SII buffer, taking account of the RFB sub-group's size relative to the consolidated group; and

(b) the amount by which any other buffer (such as the PRA buffer and including the RMG scalar) applicable to the RFB sub-group is higher than its share of the corresponding buffer for the consolidated group.

### Impact of projections under the base case

9.41 Firms are expected to be able to meet their combined buffer[54] and PRA buffer under the base case. Where a firm's CET1 capital falls short of meeting the PRA buffer in the base case, the PRA's response will depend on the situation, but will most likely include a request for a revised capital plan to improve its stress resilience.

### Post-balance sheet adjustments

9.42 The PRA buffer calculation is dependent on the firms' balance sheet used to complete the ICAAP. At the time the PRA buffer is set the firms' balance sheet may have materially changed, eg disposals and/or acquisitions. Where this has occurred adjustments will be made ensuring capital requirements remain consistent with a firm's balance sheet risks.

### Weaknesses in stress testing processes and data quality

9.43 Supervisors consider the adequacy of a firm's stress testing processes, the quality of its data submissions and the effectiveness of its model risk management practices. Where shortcomings and deficiencies are identified, the PRA may apply adjustments to specific stress results or set a higher PRA buffer to gain more comfort in a firm's stress results. Enhanced supervision may also be considered in instances of serious or persistent failings.

### Other factors

9.44 The PRA expects firms to hold a larger buffer or strengthen their capital position where necessary based on other factors. These include, but are not limited to: the firm's leverage ratio;

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52 For example, when making this assessment, the PRA may consider the extent to which any domestic systemically important bank (D-SIB) buffer exceeds the D-SIB's share of any group-wide global systemically important institution (G-SII) buffer, after accounting for the effect of risks that net off on consolidation.

53 The PRA would not reflect such a difference in the consolidated group PRA buffer where the underlying risk of the entity established outside the United Kingdom is otherwise mitigated in the consolidated group requirements.

54 This would include the CCoB, the CCyB and systemic buffers, if any.

Tier 1 and total capital ratios; risks associated with double leverage; and the extent to which potentially significant risks are not captured fully as part of the stress test. Until the end of 2023, the PRA will also assess firms' capital positions under transitional arrangements for International Financial Reporting Standards (IFRS) 9,[55] where firms are using these arrangements.

### New entrants and expanding smaller banks

9.45 The PRA's expectations for Pillar 2B of new and growing banks are set out in the SS3/21 'Non-systemic UK banks: The PRA's approach to new and growing banks'.[56]

## Reporting

9.46 The scope and intensity of the PRA's assessment is proportionate to the nature, scale, size, and complexity of the firms and is reflected in the granularity of the stress test data firms are required to submit. The Stress Test Data Framework (STDF) contains the data templates for the larger UK firms participating in the Bank's AST.

9.47 All firms with total assets equal to or greater than £5 billion, at the relevant level of consolidation used as the basis of their ICAAP, must report the data in the stress testing Pillar 2 data item (PRA111) in accordance with Reporting Pillar 2. Firms are required to submit the data with their ICAAP submissions. Firms with total assets less than £5 billion may be requested by supervisors to complete PRA111 on a case-by-case basis. The information in PRA111 includes information on firms' base and stress scenario projections used in the ICAAP. PRA111 is aligned to the STDF used in the Bank's annual stress test with reduced granularity.



55 IFRS 9 was issued in July 2014 and sets out new rules for accounting for financial instruments, replacing the rules in International Accounting Standard (IAS) 39. Following endorsement for use in the EU, IFRS 9 is effective for annual periods beginning on or after 1 January 2018. The PRA's communications to firms on IFRS 9 are available on the Bank's website at https://www.bankofengland.co.uk/prudential-regulation/letter/2017/transition-disclosures-for-ifrs9-financial-instruments.

56 April 2021: https://www.bankofengland.co.uk/prudential-regulation/publication/2020/new-and-growing-banks

## Appendices

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| 1 | Instructions for Pillar 2 SME lending adjustment and infrastructure lending adjustment data templates available at https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/statement-of-policy/2025/instructions-non-sddt-regime.pdf |
| 2 | Data templates for Pillar 2 SME lending adjustment and infrastructure lending adjustment available at https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/statement-of-policy/2025/template-non-sddt-regime.xlsx |