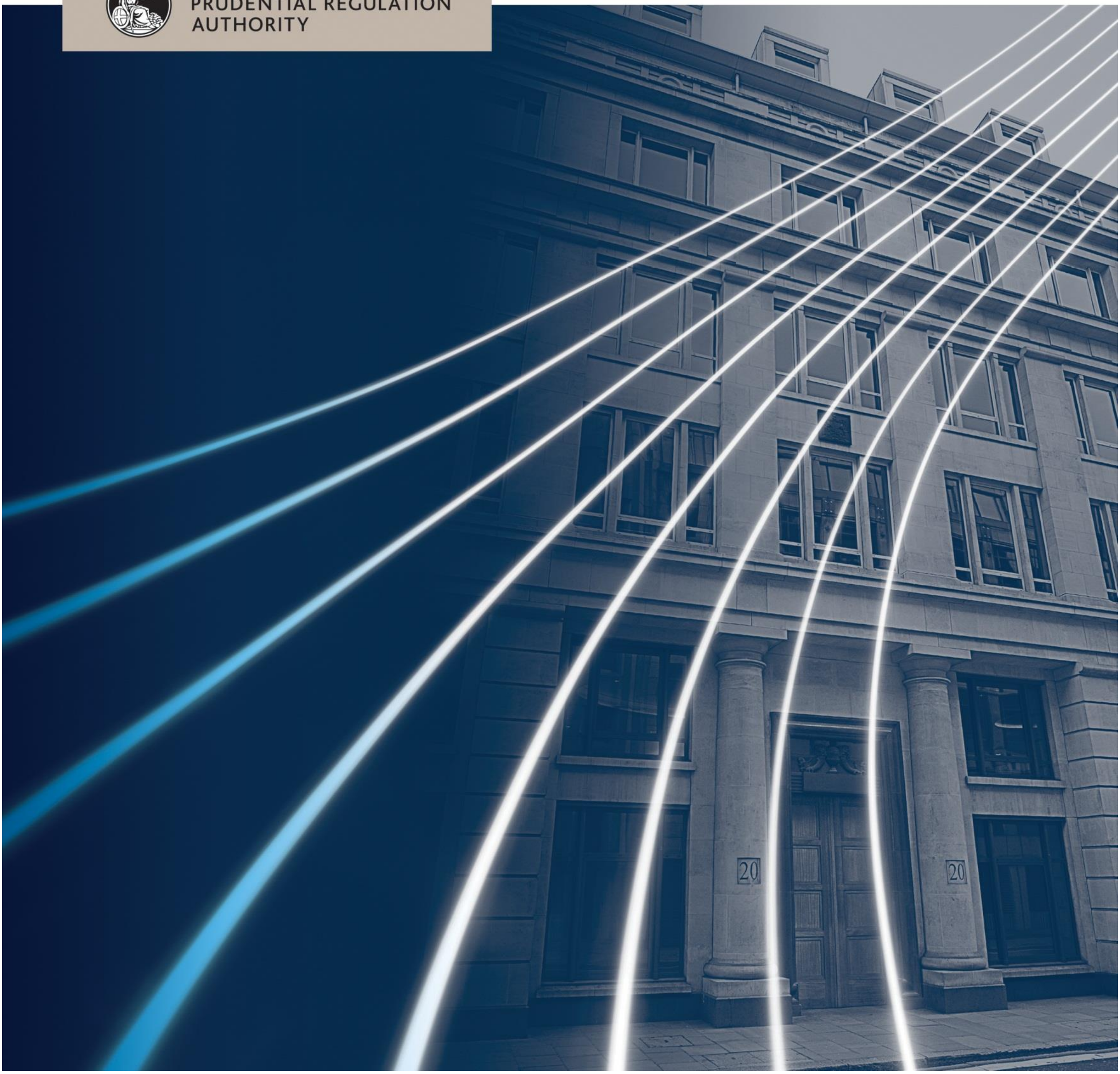
Policy Statement | PS19/18

Solvency II: Internal models - modelling of the matching adjustment

July 2018

BANK OF ENGLAND
PRUDENTIAL REGULATION AUTHORITY



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Prudential Regulation Authority | 20 Moorgate | London EC2R 6DA

Contents

1 Overview

1.1 This Prudential Regulation Authority (PRA) Policy Statement (PS) provides feedback to responses to Consultation Paper (CP) 24/17 'Solvency II: Internal models - modelling of the matching adjustment'.[1] It also provides the final Supervisory Statement (SS) 8/18 of the same title (see Appendix) and an updated version of SS17/16 'Solvency II: internal models – assessment, model change and the role of non-executive directors'.

1.2 This PS is addressed to UK Solvency II firms and to the Society of Lloyd's and its managing agents. It is most relevant to firms with, or seeking, matching adjustment (MA) approval and that use a full or partial internal model to determine the Solvency Capital Requirement (SCR), together with UK Solvency II firms making an assessment as to the appropriateness of the standard formula for their risk profile.

Background

1.3 In CP24/17 the PRA proposed to:

- transfer and amend Chapter 3 of SS17/16 'Solvency II: internal models – assessment, model change and the role of non-executive directors' (see Appendix) to reflect more up-to-date thinking around the rationale for a 'mechanistic approach' for modelling the matching adjustment in internal models being inappropriate;

- incorporate the PRA's five-step framework as a tool firms could consider to ensure they are capturing all relevant risks in their approach to modelling the MA; and

- expand on the PRA's expectations as to how the MA should be reflected in internal models.

Summary of responses

1.4 The PRA received nine responses to the CP. Respondents generally welcomed the additional clarity on the PRA's expectations regarding the modelling of the MA for the purpose of calculating the SCR. However, respondents also raised several specific issues regarding the details of the proposals, particularly in respect of the risks that need to be allowed for when modelling the MA and considerations to be taken into account when rebalancing MA portfolios in order to maintain MA compliance in stress. There were also a number of points on which further clarification was requested.

1.5 The details of the responses and the PRA's feedback and final decisions are set out in Chapter 2.

Changes to draft policy

1.6 The PRA has made changes to the draft SS after considering responses to the consultation and further analysis. The changes include clarifications in the SS focussing on:

- the PRA's interpretation of 'stressed fundamental spread (FS)';

- the impact of a one-year stress on the MA;

- maintaining compliance with the MA requirements in stress conditions; and

1 November 2017: www.bankofengland.co.uk/prudential-regulation/publication/2017/solvency-ii-internal-models-modelling-of-the-matching-adjustment.

- validation of the amount of MA assumed in the SCR calculation.

1.7 Details of the changes are included in Chapter 2. The PRA considers that the clarifications outlined in this PS make the final policy clearer. The PRA does not consider these changes to be significant nor do they change the original policy intent of the CP. As a result the PRA has not updated the cost benefit analysis or assessment of the impact on mutuals from the CP.

Implementation and next steps

1.8 The expectations set out in the attached SS8/18 will come into effect on the publication of the PS on Friday 13 July 2018.

1.9 The expectations set out in SS8/18 primarily apply to the risks arising from corporate bond assets within firms' MA portfolios. However, much of SS8/18 could also be applied to other assets held in the MA portfolio and the PRA therefore expects firms to consider its content to be more widely applicable unless specifically stated otherwise. The PRA may issue further, more bespoke, expectations for the treatment of other assets within the MA portfolio as required. These will also be open to consultation and may be implemented as a new SS or as an amendment to this SS.

1.10 The policy contained in this PS has been designed in the context of the current UK and EU regulatory framework. The PRA will keep the policy under review to assess whether any changes would be required due to changes in the UK regulatory framework, including changes arising once any new arrangements with the European Union take effect.

2 Feedback to responses

2.1 The PRA must consider representations that are made to it in accordance with its duty to consult on its general policies and practice and must publish, in such manner as it thinks fit, responses to the representations.[1]

2.2 The sections below have been structured along the same lines as the chapters of the new SS. The responses have been grouped as follows:

- introduction;
- allowing for a matching adjustment within the SCR calculation;
- a framework for determining the matching adjustment used in the SCR calculation;
- impact of a one-year stress on the matching adjustment;
- maintaining compliance with the MA requirements in stress conditions; and
- validation of the amount of MA assumed in the SCR calculation.

2.3 Having considered the feedback, the PRA has decided to maintain the expectations set out in CP24/17, but has slightly revised the wording of the SS to clarify some of these expectations. The PRA considers that these expectations are necessary in ensuring that firms fully capture all quantifiable risks to which they are exposed in their internal models.

1 Sections 2L and 2N of the Financial Services and Markets Act 2000 (FSMA).

Introduction

2.4 Some respondents requested clarity on what further, more bespoke, expectations the PRA may issue relating to the SCR treatment of other assets within an MA portfolio, such as illiquid assets. Of particular interest was the likely timing of any such communications due to continued uncertainty making, in some respondents' views, the attractiveness of illiquid assets unclear. The PRA is unable to commit at this stage that further communications will be made and by extension, the specific timescales for any future communications. In making the more general statement in the SS the PRA was simply alerting firms to the fact that further communications could follow.

2.5 There was also some concern that further piecemeal guidance would potentially result in firms making additional changes to internal models in several stages rather than as a holistic piece.

2.6 While the PRA recognises that publication of its expectations can act as a trigger for firms to review and potentially revise their internal models, firms with internal models are required to ensure that these models continue to meet the Solvency II tests and standards at all times. Firms will therefore need to assess continually the appropriateness of their internal models for their risk profiles and make changes if necessary. The PRA anticipates that model changes may be required where there have been risk exposure changes, for example as a result of a move into new asset classes, or to allow for any changes in actuarial practice regarding the modelling of risks. Firms should not therefore wait for a signal from the PRA before considering changes to their models.

2.7 A number of respondents expressed concern on the potential modelling complexity involved in meeting some of the expectations of the SS. The PRA is not seeking unnecessarily to push firms to more complex modelling solutions but instead wants to ensure that firms have a good understanding of the risks to which they are exposed, and that these risks are appropriately captured in firms' internal models. The PRA considers that the content of the SS should be applied on a proportionate basis.

Allowing for a matching adjustment within the SCR calculation

2.8 Two respondents noted potential confusion in places as to whether the SS was referring to the FS for the MA portfolio as a whole or whether it was referring to the FS calibration tables. The SS wording has been updated to make this clearer.

2.9 On a similar point, one respondent questioned the PRA's intended meaning of the term 'stressed FS' that was used in a number of places in the SS. The respondent considered there was confusion as to whether this referred to; (i) stressed inputs used in the SCR calculation; (ii) the overall stressed FS; or (iii) alternative views of credit risk under stress. In general, the term 'stressed FS' was intended to refer to the overall FS for the MA portfolio on the stressed balance sheet. If not calculated directly then this can be derived from the stressed MA. The PRA has amended wording in the SS to make the meaning of this term clearer.

2.10 Another respondent noted that the FS under stress is only one possible approach to capturing 1 in 200 losses that are higher than the FS as defined for the purpose of calculating technical provisions. In particular the respondent was concerned that there may be a 'double count' for some risks which are already allowed for elsewhere within the SCR calculation (eg within the credit spread widening assumed in stress).The PRA accepts this point but notes that the SS is not intended to be prescriptive in any discussion of methodology for modelling the risks which could have an impact on the MA in stress. The SS sets out considerations that the PRA expects firms to take into account in determining that their chosen approach adequately captures the risks to which they are exposed. However, in the particular case of credit spread widening, firms need to ensure that they are not overestimating the extent to which an increase in MA could have an impact on the stress.

A framework for determining the matching adjustment used in the SCR calculation

2.11 The PRA proposed a five-step framework for determining the matching adjustment within the SCR calculation.

2.12 The PRA did not receive material responses to this chapter of the CP. No changes have been made to the SS.

Impact of a one-year stress on the matching adjustment

2.13 In CP24/17, the PRA focussed on PRA Rulebook Technical Provisions 7.2(2) which defines the FS as reflecting the risks retained by the undertaking. By extension, this led to the SS framing the FS in stress as reflecting the risks retained by the undertaking in stress. A number of respondents asked for clarity on this interpretation and its implications in terms of the freedom firms had in calibrating their models. In particular, respondents asked for clarity on where the PRA considered that the calculation of the FS in stress can and should move away from the specification set out for the purposes of calculating technical provisions in the Solvency II text.

2.14 In developing its expectations, the PRA separated the Solvency II requirements relating to the calculation of the MA and determination of the FS into two categories, those covering the:

- steps for the matching adjustment calculation; and
- assumptions used to calculate the matching adjustment.

2.15 The PRA considers that those parts of the Solvency II text that fall into the first category should not be changed for the purpose of modelling the MA within firms' internal models. This ties back to the expectation in Chapter 6 of the SS that firms should be able to calculate the MA in stress conditions in the same way in which they would do such a calculation for the purposes of determining the technical provisions. However, as regards the second category, the PRA considers that the assumptions used in determining the technical provisions may need to be changed in order to capture fully the risks retained by the firm.

2.16 On more detailed, related points, the PRA has made minor changes to the SS to help clarify its expectations. In particular:

- Respondents asked for clarity on the statement that 'the PRA expects the methods used to determine the stressed FS calibrations to be consistent with the methods used by the European Insurance and Occupational Pensions Authority (EIOPA) to determine the FS calibration for the purposes of calculating technical provisions'. The reference to 'methods' in this context was intended to refer to the calculation framework for the FS as set out in the Solvency II Directive: it was not intended to refer to the assumptions and parameters used in this framework. Wording in the SS has been updated to make this clearer.
- Respondents disagreed with the PRA's view that there should be an expectation that they 'capture the risk that actual migration and default rates over the future holding period of their assets are more onerous than historical events'. The PRA's expectation in this area was intended to encourage firms to consider a forward-looking calibration, including a

discussion of whether a 1 in 200 event could be more severe than that seen in the historical data, or whether a future crisis could affect their portfolio differently from previous crises. This is particularly important for illiquid assets where the data and experience history are more limited.

- Respondents queried whether the expectation to determine the credit quality of each asset under the modelled stresses was proportionate. The PRA acknowledges that some firms stress the credit quality at portfolio level, and is not expecting the stressed credit quality of each asset to be determined individually, unless the absence of this granularity of modelling would prejudice the ability of the model to reflect appropriately the firm's risk profile. The SS has been updated to clarify this.

- Respondents asked for clarification on maintaining a floor (ie a minimum level of FS) based on long-term average spreads (LTAS) as part of their calibration of the FS in stress, and in particular whether firms are expected to justify the use of the LTAS floor as a concept. The PRA considers that justification is needed if the LTAS floor calculation is updated or changed within the internal model, but does not expect firms to justify the LTAS floor in principle. Wording in the SS has been updated to reflect this.

2.17 A number of respondents suggested that the PRA's definition of risks retained within the SCR calculation (ie the risks the PRA expects to be considered for inclusion within the calculation of the FS in stress) goes beyond Article 77c of the Solvency II Directive. In particular respondents commented:

- Basis and concentration risks should not be considered in this context as these risks do not affect the MA calculation for the purposes of calculating the technical provisions and so should also be excluded in stress (beyond any consideration deemed necessary in modelling the change in asset values in stress conditions).

- There should not be an expectation to increase the level of granularity of the FS tables used in the SCR calculation beyond the granularity of those published by EIOPA for the purposes of the technical provisions calculation.

2.18 The PRA recognises that basis and concentration risk in respect of firms' individual portfolios are not explicitly taken into account for the purposes of calculating the technical provisions. The PRA notes in particular that EIOPA's calibration of the FS is based on an assumption of a well-diversified portfolio of externally rated corporate bonds. However, portfolio concentrations and/or differences between firms' portfolio compositions and those under-pinning the FS calculation can impact the risk profile of a firm and/or its sensitivity to different stress scenarios in respect of both the asset portfolio and the long-term view of risks retained. Firms could therefore have exposure to these risks that should be considered in the SCR calculation as per the Solvency II requirement for the SCR to cover all quantifiable risks.[1] In doing this the PRA would expect firms to have assessed the extent to which they are exposed to these risks and the appropriateness of the stressed FS calibration in light of this. No wording changes to the SS have been made.

2.19 Some respondents believed that basis and concentration risks were captured within other modules of the internal model, notably market risk modules. They therefore felt they did not need to be reconsidered within the stressed FS calculation. The PRA does not have a preference as to how and where basis and concentration risks should be captured. However, it

1 PRA Rulebook – General Provisions for the Calculation of the SCR 3.3.

expects firms to ensure that they have considered the full extent of their exposure to the risks. For example, even if the market concentration risk module captures concentration risks from the composition of firms' investment portfolios, concentration risk could also arise when considering rebalancing of the MA portfolio due to it becoming mismatched in a stressed scenario.

2.20 In specific relation to basis risk, one respondent commented that it was unclear why basis risk should be considered if firms can demonstrate that there is minimal difference when comparing their portfolio(s) to the historic data. The PRA retains its view that basis risk could arise from the fact that historic data may not be a good predictor of future experience. The PRA's expectations are intended to encourage firms to consider the appropriateness of assumptions over the lifetime of their MA portfolio using a forward-looking view of risk. This is of particular importance as MA portfolios should operate on a buy-and-hold strategy, and as such investment strategies that aim to closely replicate bond indices may not be possible for MA portfolios.

2.21 In specific relation to concentration risk, two respondents questioned the PRA's assertion that non-corporate bond assets could give rise to more complex exposure to this risk. For non-corporate bond assets, concentration risk could arise from a wider range of sources including the underlying asset (eg property), the sponsor, the contractors and the financial counterparties. It is also the case that while concentration risk can be reduced for corporate bond holdings by increasing the range of investments, such an action for a portfolio of non-corporate bonds could lead to increased strain on firms' operational capabilities. For reasons such as these, the PRA considers concentration risk is likely to be more complex for these assets.

2.22 In summary, by not considering other risks such as basis risk and concentration risk in the context of the stressed FS, the PRA expects it would be difficult for firms to demonstrate that they have captured all quantifiable risks in their SCR as required by PRA Rulebook – General Provisions for the Calculation of the SCR 3.3.

2.23 Some respondents commented that they believed the CP did not fully recognise the important role that expert judgment has in setting the assumptions used for determining, and final calibration of, the stressed FS. The PRA has not commented explicitly on expert judgment within the SS, but does mention where it expects expert judgment to be considered. The PRA agrees that a degree of expert judgment is necessary, especially where data is scarce. However, this expectation is consistent across the entirety of a firm's internal model, and the PRA therefore has not made more general points on expert judgement as part of this SS. No changes have been made to the SS in this area.

2.24 Respondents queried the PRA's intention regarding its expectation that illiquid assets be modelled using a bespoke methodology, particularly as it could give rise to additional layers of complexity within models. Although the PRA still expects the modelling to be conducted at an appropriate level of granularity, it considers it important that firms should achieve a balance between additional complexity in their models and ensuring that the model appropriately captures their risk profile. The PRA is therefore supportive of firms adopting a proportionate approach within their modelling, and an adaptation of the corporate bond methodology may be appropriate for assets with similar features to corporate bonds. However, in some cases non-corporate bond assets could behave differently in stress and the PRA expects a more bespoke methodology would need to be considered. This is of particular importance where there is a material holding of such assets.

2.25 Two respondents also asked for justification for the expectation to consider a glide-path for credit spreads. The PRA considers that a credit spread glide-path could be important in a number of areas of the stressed MA calculation including the LTAS, rebalancing costs and potential future recovery rates if these are based on market value at the point of default. The reference to a glide-path for credit spreads has therefore been retained in the SS.

Maintaining compliance with the MA requirements in stress conditions

2.26 In this chapter, the PRA set out its expectations of firms when modelling rebalancing actions that could be taken to restore MA compliance within the SCR calculation. The ability of a firm to apply an MA when valuing its Solvency II liabilities is contingent on continued compliance with the relevant PRA rules.[1] The PRA expects that in a stress event, portfolios may become mismatched and cease to comply with the MA conditions. Rebalancing actions will therefore be required in order to ensure that compliance is re-established.

2.27 In CP24/17, the PRA set out its expectation that any rebalancing action assumed within an internal model constitutes an assumed future management action. Firms with internal models would therefore be required to demonstrate that the assumed action is in line with the requirements around modelling of management actions (Article 236 of the Delegated Regulation).[2]

2.28 Some respondents challenged the PRA's statement that rebalancing actions constitute a future management action. The context of this challenge was that firms with MA approval are required to maintain compliance with the MA conditions on an ongoing basis and therefore, in the event of a breach of MA conditions, need to take action to restore this compliance.

2.29 The PRA notes that, although the MA conditions do require ongoing compliance with the MA requirements, they do not mandate how a firm can achieve the rebalancing required if a firm ceases to meet the MA requirements in stress conditions. Firms will likely have a range of plausible strategies that could be used to rebalance the MA portfolio. Therefore management decisions will still be required in selecting which strategy to implement. The PRA considers that this choice, and the associated management decision, means that any rebalancing actions would fall within the definition of what constitutes a management action for the purposes of Article 236 of the Delegated Regulation. The PRA has therefore not amended the SS in light of this response.

2.30 Regarding the extent to which management actions should be used, the PRA set out its expectation that firms should only consider actions necessary to restore the MA portfolio to a compliant position within their model. In particular, the PRA did not consider that firms should seek to take credit for actions to optimise an already compliant position. Four respondents challenged the assertion that no portfolio optimisation actions would be permissible and sought clarity on the distinction between actions to restore compliance and actions taken to optimise an already compliant position.

2.31 The PRA has updated the SS to clarify the meaning of 'optimisation' and how actions to optimise the portfolio are distinct from those intended to restore compliance with the MA requirements. Firms with MA approval are required to maintain an appropriately matched position in order to comply with the MA requirements. Firms are also expected to manage MA portfolios in line with overall risk appetite, and not to take on undue risk with assets that are

1 PRA Rulebook – Technical Provisions 6.
2 Commission Delegated Regulation (EU) 2015/35.

used to meet liabilities.[1] In effect, this may require firms to take action to reduce risk where necessary, including trading or other actions to rebalance the MA portfolio. Firms may have different approaches to risk management of the MA portfolio. This is generally expressed in the form of a firm's investment strategy[2] and internal risk limits. In the PRA's view, firms may be required to rebalance the MA portfolio in order to comply with the:

- conditions for applying the MA, as set out in Article 77(b) of the SII Directive; and
- internal investment strategy including any risk limits that have been set in respect of investments.

2.32 Any actions proposed that go beyond those required to cover the points set out above, including any changes to investment strategy or risk appetite, would usually be considered examples of optimisation by the PRA and would therefore not be expected to be assumed management actions within firms' models.

2.33 CP24/17 also noted the PRA's expectation that firms' rebalancing strategies consider the need to address any breach of MA requirements within a two-month timeframe. A number of respondents challenged this statement, and noted that the SCR calculation is intended to reflect a 1 in 200 year event over a one-year timeframe.

2.34 Some changes have been made to the SS to clarify the PRA's position. In the PRA's view, firms should be able to demonstrate that it is possible for the MA portfolio to be made compliant with the conditions for applying the MA within the two-month window. However, this does not preclude firms from potentially reflecting further actions that may be taken within the SCR timeframe in order to restore the MA portfolio to a position that is more in accordance with firms' own investment strategies. That said, care would need to be taken to justify that applying stresses with a two-step rebalancing strategy would truly result in an SCR reflective of the impact of a 1 in 200 year event. This would likely involve taking greater account of the assumed timing of any stress event and may mean it is difficult for firms to justify any assumed rebalancing beyond the two-month window.

2.35 In the draft SS, the PRA set out a number of expectations relating to particular actions that firms may consider when rebalancing the MA portfolio. In particular, the draft SS referred to the PRA's concerns around actions requiring use of proceeds from recoveries on default, and proceeds from the sale of downgraded assets, as well as trading of illiquid assets in a stressed environment. A number of respondents challenged the PRA's views regarding the appropriateness of these actions. The PRA notes that these expectations do not preclude firms from proposing such assumptions to discuss with the PRA on a case–by-case basis. However, the PRA retains the concerns expressed in the SS, and remains of the view that it would not usually be appropriate to take credit for actions that are subject to a high degree of uncertainty within the model.

2.36 In CP24/17, the PRA outlined its expectations around assets that may be injected into the MA portfolio after a stress event. In particular, it was noted that any such assets should 'have the same features as those already in the MA portfolio'. One respondent suggested that this should be changed to limit injected assets to those that are permissible under the terms of a firm's MA approval. The PRA does not consider this to be in line with the Implementing

1 Prudent Person Principle – Article 132 of the SII Directive.
2 See Chapter 7 of SS7/18: www.bankofengland.co.uk/prudential-regulation/publication/2018/solvency-2-matching-adjustment-ss.

Technical Standard for the MA which sets out that assets can only be injected into the MA portfolio (without a new approval) if they possess the same features as assets already in the portfolio.[1]

2.37 One respondent queried how new business should be treated within the MA in stress calculation, and whether this may have an impact on the rebalancing assumptions. The PRA is aware that treatment of new business written over the SCR year will likely vary between firms. It is expected that a consistent approach be taken across different modules in a firm's internal model. Individual firms with a specific concern on achieving internal consistency should discuss this with the PRA on a case-by-case basis.

2.38 A number of responses discussed a potential release on the stressed balance sheet of perceived prudence in the regulatory calibration of the FS and MA for the purposes of calculating the Technical provisions. The PRA does not accept that it would be reasonable to assume that the EIOPA FS would be weakened in a stress.

2.39 Some respondents challenged the inclusion of an expectation in the SS in respect of recapturing liabilities into the MA portfolio upon reinsurer default. These responses outlined that such a risk would not be expected to be material, especially in cases where collateral has been posted in respect of the reinsurance. As with other risks, the PRA's view is that this is a risk that firms should consider, and if included in their models firms should follow a proportionate approach to determining the appropriate level of complexity needed.

2.40 The draft SS noted that the PRA expects firms to have regard to the level of matching measured using the PRA's 3 tests. Some respondents expressed concern at the potential complexity arising from assessment of these tests within the internal model. The PRA does not seek to mandate precisely how firms should assess the extent of matching in the MA portfolio in stress. The SS has been updated to clarify this.

2.41 Two respondents commented on the PRA expectation in the SS for firms to consider 'all risks that could affect the cash-flow profile of the MA portfolio and ensure that the full cost and impact of any rebalancing is captured in the SCR'. In particular, it was noted that where risks are not included in the internal model, it may be difficult for firms to model cash flows under these stresses accurately. The PRA considers that any such issues arising from the use of the standard formula for modelling some of the risks to which the MA portfolio is exposed should be captured as part of an assessment of the appropriateness of the standard formula for the firm's risk profile.

2.42 Two respondents commented on the PRA's suggested sensitivity of assessing the impact of a rebalancing strategy comprising only of purchasing gilts. The PRA notes that this is a suggested sensitivity which may provide firms with useful information relating to the rebalancing strategy, and the reliance the firm has more generally on sourcing higher-yielding assets. The PRA is not seeking to indicate that firms should necessarily adopt this rebalancing strategy within their internal models.

2.43 Two respondents challenged the PRA's view that firms should demonstrate that, after any rebalancing, sufficient MA-eligible assets are held to cover MA liabilities in stress and, in particular, that this assessment should be completed gross of any transitional measure on technical provisions (TMTP). The PRA remains of the view that this assessment should be completed gross of TMTP. TMTP is an adjustment to the overall level of technical provisions, ie

1 Commission Implementing Regulation 2015/500 (8).

it is applied to the entire amount of technical provisions of a firm, and cannot be applied to a specific section of technical provisions, such as the MA portfolio liabilities. Further, TMTP is not an 'asset', it is an adjustment to liabilities – it therefore cannot be used to back MA liabilities directly.

2.44 Two respondents commented on the PRA’s assertion in the draft SS that firms should consider the ‘likely level of competition for the assets’ it intends to purchase to rebalance the MA portfolio. This response proposed that any difficulty in sourcing the appropriate assets would be inherent in the spread widening component of the model. The PRA does not accept this argument as the level of competition for an asset could depend on more factors than price, for example desirability of certain assets or asset classes could change post stress based on risk considerations and/or new investment direction. The PRA has therefore retained these expectations in the SS.

Validation of the amount of MA assumed in the SCR calculation

2.45 The PRA recognises the important role that validation plays within internal models and in particular for complex areas such as the modelling of the matching adjustment in stress. A respondent commented that firms should not aim to validate the FS in stress in isolation, but consider it more widely and validate against an overall credit stress loss, or as part of the validation of the total SCR. The PRA agrees that validation at these other levels would be expected, but does not consider that validation should only focus on the overall credit risk SCR with no specific consideration of underlying components that give rise to this. The wording in the SS has been updated.

2.46 Respondents also commented on the additional complexity that some of the validation expectations would bring. In particular, respondents queried the expectation that firms should validate their stressed FS using a methodology that differs from the primary methodology used to calibrate the stressed MA, and the expectation that the scope of internal models should cover all risks to which the MA portfolio is exposed.

2.47 The PRA is not suggesting that a firm should build an alternative model of the same granularity and complexity as the primary calibration approach for the same risk (albeit this is clearly an option) nor does it desire unnecessary complexity be introduced within the validation methods. Rather, the validation should aim to sense check the calibration of the MA in stress and its drivers. The wording in the SS has been updated to reflect this.

2.48 In terms of the response regarding internal model scope, the PRA is concerned that the exclusion of some risks from the internal model scope may lead to significant risk interactions not being captured within the SCR. This position has been retained in the SS. However, the PRA has amended the SS to clarify that the statement on internal model scope should be considered in a proportionate manner considering the materiality of the relevant risks.

Appendices

1	**Supervisory Statement 8/18 'Solvency II: Internal models – modelling of the matching adjustment available at: www.bankofengland.co.uk/prudential-regulation/publication/2018/solvency-2-internal-models-modelling-of-the-matching-adjustment-ss**
2	**Supervisory Statement 17/16 UPDATE 'Solvency II: internal models – assessment, model change and the role of non-executive directors' available at: www.bankofengland.co.uk/prudential-regulation/publication/2016/solvency2-internal-models-assessment-model-change-and-the-role-of-non-executive-directors-ss**