

RESPONSE BY POLYNYA CONSULTING ACTUARIES
TO THE HMT CALL FOR EVIDENCE
RELATING TO THE REVIEW OF SOLVENCY II
FEBRUARY 2021



1 INTRODUCTION

1. Polynya Consulting Actuaries ('Polynya') is an independent firm supplying consulting services to the life insurance industry and related organisations.
2. We are grateful for the opportunity to comment on HMT's Call for Evidence in respect of the Review of Solvency II. This response has been published on our website at <https://www.polyact.co.uk>.
3. Our principal consultant, Paul Teggin, is a Fellow of the Institute of Actuaries and a Chartered Enterprise Risk Actuary. He has significant experience of Solvency II, having provided consulting services to several life insurers on Matching Adjustment and Internal Model applications during the period 2009-2018. He was an independent consultant to the PRA during 2015-2016 and returned to the PRA as an employee from 2018-2020 where he focused on Matching Adjustment arising from restructured equity release mortgages and other complex credit assets, the internal model treatment of these assets, and the supervision of annuity firms.
4. As a result, Polynya has insights into both the industry and regulatory perspectives on Solvency II and in particular the Matching Adjustment, where we put forward detailed suggestions that account for most of our response. We have also responded in respect of the Risk Margin and SCR, but not other parts of the Call for Evidence. We would be happy to discuss this response further with HMT or the PRA if that would be of use.

2 EXECUTIVE SUMMARY

2.1 A more transparent and principles-based regime

5. In the current Solvency II regime, there is a substantial degree of disconnection between what things *mean* and how they are *calculated*. For example, as the Call for Evidence notes, it is generally accepted that the method by which the Risk Margin (RM) is calculated does not lead to a sensible outcome in relation to its intended meaning, both in relation to the size of the RM and its volatility in response to changes in interest rates. Similar effects apply in relation to the Matching Adjustment as discussed later in this note. The Call for Evidence rightly identifies an opportunity to rebalance the mix of rules and judgement.
6. This is likely to result in the PRA having more powers, both formally (through changes to legislation or the PRA Rulebook), and informally through a greater degree of establishing and interpreting principles and exercising judgement. This increase in powers should be balanced by an increase in transparency, so that the firms the PRA regulates and supervises understand the reasoning behind the PRA's expectations and where appropriate are able to challenge the PRA's judgements effectively.
7. As part of improving transparency, key aspects of the regime should be better defined, for example by explaining what an element is intended to represent in terms of a risk appetite or confidence level. The SCR is well-defined in these terms (99.5% confidence over 1 year), but the same cannot be said of the Fundamental Spread, where in the current regime the level of confidence relating to long-term default and downgrade risk is an opaque consequence of the methodology used to calculate it. This opacity is unhelpful, for example it makes it difficult to ensure that different asset classes are being treated in an equivalent way.

2.2 Risk Margin

8. We agree with the diagnosis in the Call for Evidence of the issues with the RM. The issues are sufficiently serious that technocratic adjustment to the calculation methodology (for example the 'lambda factors' recently proposed by EIOPA¹) is insufficient and a more fundamental reform is needed.
9. The MOCE concept introduced by IAIS² appears to be more sensibly designed than the RM and is based on well-defined confidence levels for life and general insurers. Aligning with IAIS would have obvious practical benefits for firms that will become subject to IAIS in due course.

2.3 Matching Adjustment

10. We support the economic rationale for allowing a mechanism like the MA. As the Call for Evidence notes, there are many benefits from the MA. However, there are pros and cons to any such regime. We consider the MA regime needs to be revised to improve outcomes for policyholders, firms, the PRA, and the UK economy.
11. The MA should be regarded by firms as a privilege, not a right. Both firms and the PRA should approach the MA with an appropriate degree of humility, as it relies on accurate risk measurement over long time horizons.
12. We consider the definition of the MA as an adjustment to liability valuation to be unhelpful. In our view, it is better to frame the Matching Adjustment as a way of recognising the risk-mitigating effects of a credible hold-to-maturity strategy. It should be shown as a separate item on the asset side of the balance sheet, arising from a synergy between the assets and liabilities and depending on both, but not directly part of the valuation of either. In this framing, the investment assets and insurance liabilities both remain at market / market-consistent values. The separate MA asset would recognise the risk-mitigating effect of the hold-to-maturity strategy on the regulatory balance sheet, net of all relevant risks, including but not limited to those measured by the current FS. This framing more clearly expresses what the concept *means*, rather than how it is *calculated* (via an addition to the liability discount rate).
13. The MA relies on separation of credit from non-credit risk. This is technically challenging, and impossible to achieve with complete confidence. There is a risk of falling into a 'best is the enemy of the good' trap here: lower annuity prices, more long-term investment and reduced procyclicality are all very worthwhile outcomes, and our view is that these outcomes merit accepting some degree of uncertainty over the measurement of credit risk. The balance to be struck is a risk appetite question for HMT and the PRA.
14. The credit-riskiness of the cashflows is not the only risk. All risks to the credibility of a hold-to-maturity strategy need to be considered, either through measurement (in the equivalent of the FS) or exclusion (the eligibility criteria). The presentation of the MA as an asset rather than an addition to the discount rate enables the equivalent of the FS to be composed of different monetary reserves. This is a more general lens through which to examine the allowance for risks and facilitates a more flexible approach than either excluding risks entirely or forcing them through the FS as a basis points item. We believe it would then be possible (within reason) to relax eligibility criteria around cashflow fixity, prepayment risk and cashflow matching by introducing compensation for these risks within an expanded definition of the FS.
15. The current FS is based on a complex, inelegant, and internally inconsistent methodology inherited by the PRA from EIOPA. In our view, the definition of the credit element of the FS (as distinct from prepayment and mismatching elements) should be recast as:
 - a. a best-estimate allowance for all relevant risks impacting on asset cashflows; plus
 - b. an additional well-defined allowance for risk, which could be considered as a 'credit risk premium'.

¹ See page 30 of EIOPA's Opinion on the 2020 Review of Solvency II at https://www.eiopa.europa.eu/content/opinion-2020-review-of-solvency-ii_en

² See section 5.3 of Public 2020 ICS Data Collection Technical Specifications at <https://www.iaisweb.org/page/supervisory-material/insurance-capital-standard/file/90757/public-2020-ics-data-collection-technical-specifications>

16. The allowance for the credit risk premium should be based on a well-defined risk appetite articulated by HMT or the PRA, with a transparent and detailed methodology giving effect to this risk appetite published by the PRA so that interested parties can scrutinise and challenge the calibration against this appetite. This risk appetite would in effect express the balance struck between the trade-offs embedded in the use of the ALMA concept, reflecting costs, benefits and risks to policyholders and wider society.
17. The overall calibration of the expanded FS is again a risk appetite question for HMT and the PRA, within the design considerations outlined above. The balance between using credit ratings and market prices needs to be reconsidered: the MA regime essentially gives almost no weight to current market prices as a source of information on credit risk, other than in the special case of the BBB cliff in Article 77c(1)(c) of the Solvency II Framework Directive. The focus on credit ratings has a very strong stabilising effect, arguably excessively so: in our view this needs to be rebalanced towards giving some weight to market prices alongside credit ratings. Again, this is primarily a risk appetite question, as it bears on the cost/benefit trade-off from the MA.
18. In the current MA regime, we believe there is more strength in the SCR than on the base balance sheet. This balance should be reconsidered: we believe it would be better to have more strength in base than the current FS, particularly for internally rated assets, and a corresponding reduction in the SCR – when the base is stronger, there is less risk to be covered by the SCR. While there would be a loss of diversification benefit from reducing the SCR, there would also be a reduction in the capital buffers firms hold on top of the SCR and the impact might reasonably be broadly neutral overall.

2.4 Solvency Capital Requirement

19. The distinction between the Standard Formula and (partial) Internal Models is too hard-edged and more flexibility is needed. This should include:
 - a. More granularity in the risk modules – for example at present credit risk is ‘all or nothing’ and it would be beneficial to some firms to be able to use the SF for corporate bonds while having an internal model for risks where the SF was inappropriate. This would be a more proportionate approach for small firms with specialised exposures.
 - b. Widening the scope of undertaking-specific parameters (USPs), in particular to include asset risks. This would enable customisation within a predefined methodology for asset classes other than corporate bonds, and act as a helpful half-way house between the SF and a full IM.
20. There is limited transparency in the calibration of the SF at present. The PRA should improve this on a gradual basis starting with the most material risks. This would also have the benefit of improving the transparency of the PRA’s Quantitative Indicator (QI) framework³: if the historical circumstances had been such that the PRA had adopted its own view for SF purposes there would be no need to have distinct IM QIs for the same risks, although some QIs would still need to be adapted to fit the risk profile of each firm applying for an IM.
21. The PRA should have powers to adjust Technical Provisions directly (in the manner of a ‘capital resources add-on’ under the prior UK ICAS regime) rather than using an adjustment to the SCR to achieve the same effect. The PRA should be accountable for the use of this power via existing mechanisms, including being subject to the Tribunal, and should also disclose aggregate statistics on how often it is used.

³ See the 2016 letter from Sam Woods (then in his capacity of Executive Director of PRA Insurance Supervision) at <https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/letter/2016/sam-woods-reflections-2015-solvency-ii-internal-model-approval-process-jan-2016.pdf>

3 DETAILED SUGGESTIONS FOR REFORM OF THE MATCHING ADJUSTMENT

3.1 Introduction

22. We support the economic rationale for allowing a mechanism like the MA. As the Call for Evidence notes, there are many benefits from the MA. However, there are pros and cons to any such regime, and we consider that the MA needs to be re-framed, re-designed and re-calibrated, to improve outcomes for policyholders, firms, the PRA, and the UK economy.
23. Given the very large and far-reaching nature of the MA's effects – it materially increases Own Funds, reduces the Solvency Capital Requirement (SCR), and stabilises the balance sheet – it should be regarded by firms as a privilege, not a right. Moreover, both firms and the PRA should approach the MA with an appropriate degree of humility, as it relies on accurate risk measurement over long time horizons. In the interests of safety and soundness we consider it is appropriate for there to be barriers to entry for something like the MA, notwithstanding the resulting reduction in competition, and only sufficiently capable firms should be able to use it. It is therefore appropriate that the PRA should retain approval powers over the use of the MA.

3.2 Framing

24. There has been much debate within and outside the UK actuarial profession about the Matching Adjustment, the extent (if at all) that it is appropriate to adjust the valuation of liabilities to allow for an illiquidity premium, and whether the adjustment should reflect the backing assets or be independent of them. We consider the emphasis on valuation to be unhelpful. In our view, it is better to frame the Matching Adjustment as a way of recognising the risk-mitigating effects of a credible hold-to-maturity strategy, and then consider when and how the value of this risk-mitigating technique should be reflected on the Solvency II balance sheet.
25. We retained the MA terminology within the Executive Summary, but to avoid confusion in this detailed exposition, we refer to the proposed re-framing of the Matching Adjustment as the Asset-Liability Management Adjustment (ALMA). In the remainder of this section, the abbreviation MA refers to the current Matching Adjustment regime.
26. We start with an analogy to reinsurance. On the Solvency II balance sheet, reinsurance is presented as an asset, and is subject to an adjustment for the secondary risks (primarily counterparty risk) introduced as part of transferring the primary risks (insurance risk). Reinsurance could equally be considered as a reduction to liabilities, again subject to a secondary risk adjustment⁴. Presenting reinsurance as an asset has the advantage that it is separated from the liabilities, making it clearer that its value can vary for reasons unrelated to the liabilities, primarily because the adjustment for secondary risks (counterparty risk) can change with the creditworthiness of the reinsurer.
27. With the MA, the risk-mitigation arises from the hold-to-maturity strategy. Putting accounting and regulation to one side temporarily, in purely economic terms an insurer that can credibly hold fixed-income assets to maturity is not much concerned with asset prices and is far more focused on the cashflows that the assets will produce. Secondary risks are allowed for in the form of the Fundamental Spread (FS). Under the current regime the FS mitigates default and downgrade risk on the asset cashflows. Eligibility criteria, and other mechanisms such as the three PRA cashflow matching tests, seek to exclude all other secondary risks. To complete the analogy with reinsurance, we note the MA takes effect via reducing the value of liabilities rather than creating an additional asset.
28. The Solvency II regime is of course based on measuring solvency via the cost of transferring assets and liabilities at market or market-consistent prices to a third party. Under the current framing, the MA is tightly coupled to the valuation of liabilities through being regarded as an allowance for illiquidity risk in the valuation discount rate. This leads to a debate about whether such an allowance is reasonable at all, and if so whether it is measured appropriately. There are public disclosures of the impact on the balance sheet from setting the

⁴ In fact, reinsurance is somewhat of a hybrid on the Solvency II balance sheet: it is presented as an asset rather than a reduction to best-estimate liabilities (BEL), but reduces liabilities as well, by being netted off the Risk Margin directly.

MA to zero, but this is seen as 'switching the MA off' rather than separating it from the valuation of liability cashflows at the basic risk-free rate.

29. In our view, the tight coupling of the MA to the liabilities is the source of many conceptual difficulties. It would be preferable to re-frame the MA as what we are here calling ALMA: a separate item on the balance sheet, arising from a synergy between the assets and liabilities and depending on both, but not directly part of the valuation of either. ALMA would be presented on the asset side of the balance sheet, to emphasise the decoupling from liabilities (and because a negative liability is less natural than an asset).
30. In this framing, the investment assets and insurance liabilities both remain at market / market-consistent values. The separate ALMA asset recognises the risk-mitigating effect of the hold-to-maturity strategy on the regulatory balance sheet, net of secondary risks. It more clearly expresses what the concept *means*, rather than how it is *calculated* (via an addition to the liability discount rate).
31. For the avoidance of doubt, this framing does not imply the investment assets are somehow 'worth more than they should be' – they are required to be valued at market/market-consistent value, and they are. Similarly, the liabilities are not 'worth less than they should be' – they remain discounted at the risk-free rate. The value of the synergy between assets and liabilities leading to a hold-to-maturity strategy is shown transparently as a separate item.
32. There are two immediate points to address:
 - a. Why is there an economic risk-mitigating effect from a hold-to-maturity strategy based on fixed-income assets?
 - b. Even if there is such an effect in economic terms, why it is appropriate to give any benefit for it on the Solvency II balance sheet, given the regime is based on market / market-consistent prices?
33. The critical feature of a fixed-income asset is in its name: the promised cashflows are known in advance. Variations in the price of these cashflows can come from two sources: changes in the market views of the probability of receiving them in full (and in views of the amount lost in the event they are not received in full), and variations in price that are unrelated to the cashflows. If a fixed-income asset credibly can be held to maturity, then in economic terms the second element can be disregarded and is only relevant to the extent that accounting principles or regulations say that it is. The first element is directly relevant and needs to form part of the compensation for secondary risks in ALMA.
34. Now let us recast prices as yields, and then strip out risk-free interest rates by moving to spreads. The first element above obviously corresponds to the credit risk (PD and LGD) part of spreads, and the second is often labelled as illiquidity risk. We believe this is too narrow: there is some illiquidity risk, of course, but arguably more important is mark-to-market volatility risk: the risk to an investor from the fact that market prices change. For a hold-to-maturity investor, there is no economic effect from price changes that do not have implications for the creditworthiness of the cashflows.
35. To make another obvious point, mark-to-market volatility risk without credit risk implications is only relevant if one is compelled to mark to market, either economically or by regulation. Broker-dealers are economically affected by mark-to-market volatility because they buy and sell constantly, seek to minimise inventory where they can, and set prices (including bid-offer spreads) accordingly. Insurers operating a credible hold-to-maturity strategy are not subject to mark-to-market volatility (or illiquidity) in an economic sense other than insofar as it signals new information about credit risk. However, they are affected by mark-to-market volatility in full insofar as the regulations they operate under lead to that outcome. This is particularly relevant for private credit, where market-consistent valuations are required to be derived for assets that are not traded on a market.
36. In short, the exposure of hold-to-maturity investors such as annuity firms to mark-to-market volatility (and illiquidity) is a risk primarily created by the regulations themselves, not by the intrinsic economics of the situation. This has significant disadvantages:

- a. It reduces the willingness of annuity writers to invest in credit-risky fixed-income assets, particularly long-dated assets. This both leads to higher annuity prices and reduces productive investment for the benefit of wider society.
 - b. To the extent annuity writers do invest in such assets, there is procyclical pressure to sell into falling markets simply to comply with the regulations, rather than because it is necessary to do so for economic reasons.
37. Thus, it is advantageous to have a mechanism like the MA (or the re-framed ALMA) to enable market prices to be taken into account to the extent they are *relevant* for hold-to-maturity investors, rather than in their entirety. Determining relevance entails separating credit from non-credit risk.
38. This separation is technically challenging, and impossible to achieve with complete confidence. There is a risk of falling into a ‘best is the enemy of the good’ trap here: lower annuity prices, more long-term investment and reduced procyclicality are all very worthwhile outcomes, and our view is that these outcomes merit accepting some degree of uncertainty over the measurement of credit risk. The precise balance to be struck is a risk appetite question for HMT and the PRA. For example, the appetite might be for insurers to recognise a greater level of ALMA than the current MA, and an acceptance that (within limits) this would have beneficial economic outcomes for the UK economy while reducing policyholder protection. The converse position could also be sustained, of course.

3.3 Design

39. The credit-riskiness of the cashflows is not the only secondary risk that needs to be allowed for. All risks to the credibility of a hold-to-maturity strategy need to be considered, either through measurement (in the equivalent of the FS) or exclusion (the eligibility criteria).
40. We use the terminology Risk Correction (RC⁵) as the generalisation of the FS. RC is to ALMA as FS is to MA.
41. The presentation of ALMA as an asset rather than an addition to the discount rate enables the RC to be composed of different monetary reserves. This is a more general lens through which to examine the allowance for secondary risks and facilitates a more flexible approach than either excluding risks entirely or forcing them through the FS as a basis points item.
42. In our view, there should be a different balance between exclusion and measurement in the design of the ALMA regime. Specifically:
- a. Rigid eligibility criteria can lead to unhelpful binary outcomes. Callable bonds that fall a basis point short of an approved Spens clause level are ineligible when it would be more beneficial and proportionate to allow them to be held in an ALMA portfolio with the shortfall in prepayment compensation allowed for within the RC.
 - b. On the same theme, it ought to be possible within reason to set limits on departures from strict fixity and measure this within the RC. This would still need an eligibility criterion to eliminate entirely unsuitable assets such as equities from consideration.
 - c. Likewise, there should be the equivalent of a mismatching reserve included within the RC, acting as an elastic penalty that penalises moderate departures from perfect cashflow matching, rather than an all-or-nothing test, although there would be degrees of cashflow mismatching that warranted more stringent action. Inflation-linked liabilities are comparatively difficult to match, particularly on deferred bulk annuities where there is generally a mix of complex inflation-linked exposures with varying caps and floors. The current regime does not recognise this complexity. While we consider that such

⁵ There are RC factors within EIOPA’s current FS methodology but hopefully these are at so low a level of detail that the RC abbreviation does not cause any confusion.

liabilities should remain eligible, we also believe that an inflation mismatching component of the RC is merited. This would naturally be small where firms are able to match their linked liabilities closely.

- d. Conversely, there should be an eligibility criterion requiring that the credit risk of any asset in an ALMA portfolio can be quantified. At present there is an implicit assumption that any credit-risky asset meeting the existing eligibility criteria can be assigned a credit rating, with that credit rating (refreshed from time to time) constituting all the information needed to derive an FS. Worse, firms can use their own internal credit ratings for this, regardless of their internal capabilities or the conflicts of interest that may arise. These are unwelcome features of the existing regime that should be changed at an early opportunity. There should be a criterion that the credit risk on an ALMA-eligible asset is and will plausibly remain capable of quantification from purchase to maturity, with sufficient guidance from the PRA that firms can unambiguously identify which assets do and do not meet this criterion. The Prudent Person Principle already requires asset risks to be measurable, but the standard of measurability needed for inclusion in an ALMA portfolio should be higher because of the very significant benefit from ALMA. And the PRA should have powers to introduce robust minimum standards for firms seeking to use internal ratings (patterned on an appropriate subset of the regulatory requirements on external credit rating agencies) and not have to rely on softer supervisory expectations.
- e. There is no good economic reason why MA could not be derived from annuity-like liabilities subject to morbidity risk, provided the morbidity risk is sufficiently quantifiable to enable a firm to adopt a credible hold-to-maturity investment strategy. At present liabilities of this nature are excluded because of the closed list of risks that liabilities can be subject to, which is in effect used as a crude proxy for predictability.

43. The current FS is based on a complex, inelegant, and internally inconsistent methodology inherited by the PRA from EIOPA in which:

- a. there are two different items called PD, one used for risk-adjusting cashflows and the other part of the basis points FS, both of which are compensation for expected losses on a hold-to-maturity basis (and so neither is in fact a probability of default notwithstanding the PD terminology);
- b. another element (the cost of downgrades, or CoD) is based on assuming immediate sales of downgraded assets, and thus is inconsistent with the PD;
- c. the CoD has a 'ratchet effect' in which assets that upgrade and then downgrade again are unrealistically assumed to be sold;
- d. the prices at which assets are sold within the CoD calculation are based on round-number price haircuts that are presented in EIOPA's documentation without any justification;
- e. the inconsistency between PD and CoD is remedied by subtracting from the CoD the excess of hold-to-maturity PD over sell-on-downgrade PD (so there are in fact 3 different kinds of PD, all of which are expected losses) – in a charitable interpretation this leads to the sum of PD and CoD being on a sell-on-downgrade basis but the PD used for risk-adjusting cashflow matching being on a hold-to-maturity basis;
- f. the overall calculation is overtaken in many circumstances by a floor calculated as 35% of long-term average spreads;
- g. the methodology for deriving long-term average spreads has issues of its own, and the 35% is presented in the Solvency II Framework Directive without any justification.

44. This situation is clearly highly unsatisfactory. In our view, the definition of the credit element of the RC (as distinct from prepayment and mismatching elements) should be recast as:

- a. a best-estimate allowance for all relevant risks impacting on asset cashflows and used consistently for cashflow matching in the derivation of the RC; plus

- b. an additional well-defined allowance for risk, which could be considered as a 'credit risk premium'.
45. This construction would mean that assets with inherently higher uncertainty in their lifetime credit quality would receive a higher RC than lower-risk assets even if the best estimate element of the RC is similar. This is how markets would reasonably be expected to price such assets and is an important contribution of the conceptual alignment of ALMA with Solvency II as being based on market / market-consistent values.
46. The allowance for the credit risk premium within the RC should be framed in terms of a well-defined risk appetite articulated by HMT or the PRA, with a transparent methodology giving effect to this risk appetite that the PRA publishes in detail so that interested parties can scrutinise and challenge the calibration of the RC against this appetite. This risk appetite would in effect express the balance struck between the trade-offs embedded in the use of the ALMA concept across costs, benefits and risks to policyholders and wider society.
47. The RC should allow for all relevant sources of risk:
- a. Specific and detailed consideration should be given to specialised lending: this is where an underlying asset (such as a commercial property or infrastructure asset) both generates cashflows and acts as security for a loan. These assets are rightly subject to special treatment in the banking world and that thinking should follow through to insurers as it is intrinsic to the assessment of credit risk on these assets.
 - b. Within the risk appetite set, the allowance for uncertainty should reflect technical issues including (1) the sampling error arising from limited default experience, (2) wrong-way risk between default and recovery rates, particularly on specialised lending, (3) concentration risk in ALMA portfolios, and (4) model and parameter risk where models are used instead of (or alongside) historical default data.
 - c. The risk to an ALMA portfolio is not simply one of loss of principal. Any deviation from the promised cashflows is a risk that needs to be measured. Acceleration clauses that bring forward the payment of principal if an underlying asset is performing badly (for example on commercial mortgages or some securitisations) are sound forms of managing credit risk in the narrow sense of principal. They are inadequate for ALMA purposes because acceleration impairs cashflow matching and creates a reinvestment risk. The measurement of credit risk in ALMA should reflect the timing of all payments as well as the risk to the principal lent. A credit rating methodology that does not recognise this point is not fit for use in the context of determining the RC of assets within an ALMA portfolio.

3.4 Calibration

48. The overall calibration of the RC is again a risk appetite question for HMT and the PRA, within the design considerations outlined above.
49. In the current MA regime, we believe there is more strength in the SCR than on the base balance sheet. This balance should be reconsidered: we believe it would be better to have a stronger RC in base than the current FS, particularly for internally rated assets, and a corresponding reduction in the SCR – when the base is stronger, there is less risk to be covered by the SCR. While there would be a reduction in diversification benefit from reducing the SCR, there would also be a reduction in the capital buffers firms hold on top of the SCR and the impact might reasonably be broadly neutral overall.
50. The PRA should have greater powers over the granularity and calibration of the RC, both to remedy deficiencies in the current approach, and to tailor the RC used for assets with materially different credit characteristics to corporate bonds. In particular, corporate bonds are very different to specialised lending. As a minimum the PRA should recognise the distinction between non-specialised and specialised lending in the calibration of the RC.
51. The balance between using credit ratings and market prices also needs to be reconsidered as part of the calibration of the RC. The MA regime essentially gives almost no weight to current market prices as a source of

information on credit risk, other than in the special case of the BBB cliff⁶. The focus on credit ratings has a very strong stabilising effect, but in our view needs to be rebalanced towards giving some weight to market prices alongside credit ratings. Again, this is a risk appetite question, and we note that the more use of market information in the RC, the more the ALMA is exposed to market prices notwithstanding the hold-to-maturity strategy, so a balance does need to be struck. Further, since markets can become both unduly optimistic (for example in 2006 and early 2007) and pessimistic (later in 2007 and into 2009), we consider it is necessary to apply basis points collars to market-based information. An unfettered ‘% of spread’ approach would be unwise, in our view.

52. The granularity of the RC should be more risk-based:
- a. For corporate bonds, there is limited evidence to justify separate calibrations for CQS0 (AAA) and CQS1 (AA) assets, and considerable evidence to support splitting CQS3 (BBB) assets into the three ‘notches’ (BBB+, BBB and BBB- or equivalent symbols) used by rating agencies.
 - b. Specialised lending should be treated separately to corporate bonds. Specialised lending is identifiable by its characteristics (dual dependency on an underlying asset such as a commercial property) without recourse to lists of asset classes. If granularity by asset class is introduced, it should be backed up by very clear definitions with edge cases considered carefully.
 - c. Consideration should be given to giving a different treatment to internally rated assets unless a firm can positively demonstrate its ratings are equivalent to external ratings and are not biased.
53. We have focused on Pillar 1 considerations above. Pillar 2 (risk management) and Pillar 3 (disclosure) are also important. Measuring risk well does not stop asset or liability cashflows from changing, and risk-managing this is key to the success of an ALMA portfolio. The framing of ALMA as an asset and RC in monetary terms with different components should assist with transparency and market discipline.

4 RISK MARGIN

4.1 Question 1: What is the impact of the current design of the risk margin?

54. The current Risk Margin is:
- a. too large, particularly in a low-interest rate environment;
 - b. too volatile in response to interest rate movements;
 - c. complex to calculate;
 - d. leads to longevity risk being reinsured overseas to the likely detriment of the UK economy; and
 - e. results in TMTP being used as a risk mitigation technique for Risk Margin movements, contrary to its intended purpose.

4.2 Question 2: What changes, if any, should be made to the methodology to improve the operation of the risk margin?

55. A working party of the Institute and Faculty of Actuaries has published a helpful paper⁷ setting out various options.

⁶ Article 77c(1)(c) of the Solvency II Framework Directive.

⁷ See https://www.actuaries.org.uk/system/files/field/document/Risk%20Margin%20Working%20Party%20Research%20Paper%20Final%2008082019_0.pdf

56. In our view, a fundamental reform is needed, perhaps to adopt something along the lines of the IAIS Margin Over Current Experience (see Footnote 2 above).

4.3 Question 3: What are the benefits, and costs, of any proposed changes to the methodology to calculate the risk margin?

57. The benefits would arise from remediating the issues with the Risk Margin.

58. The costs are primarily 'frictional' and would arise from firms having to amend their systems and models.

5 MATCHING ADJUSTMENT

5.1 Question 4: What changes, if any, should be made to the eligibility of assets for the matching adjustment?

59. See detailed discussion in section 3 above. Note that it would also be possible (and beneficial) to widen the definition of *liability* eligibility to include products where a hold-to-maturity strategy can be credibly followed, such as morbidity annuities arising from claims in payment on income protection policies⁸.

5.2 Question 5: What changes, if any, should be made to the calculation of the matching adjustment?

60. See detailed discussion in section 3 above.

5.3 Question 6: What changes, if any, should be made to the matching adjustment approval process?

61. We believe an approval process is necessary - see detailed discussion in section 3 above.

62. If there was more emphasis placed on risk measurement and less on eligibility criteria it would be possible to simplify the approval process, at the cost of the ongoing risk measurement.

63. The approval processes for adding assets with new features to an existing portfolio ought to be streamlined and be less burdensome than at present, where it is not much different to a brand-new application.

64. Careful consideration should be given to the pros and cons of the PRA charging firms directly for the MA approval process and additional ongoing supervision, to reflect the costs of additional supervision of firms making heavy use of MA.

5.4 Question 7: What changes, if any, to the matching adjustment could be made to support insurance firms' provision of long-term capital to support growth, including investment in appropriate infrastructure or other long-term productive assets?

65. HMT should resist the temptation to apply overlays to the FS/MA as a 'lever' influencing investment towards favoured industries, for example infrastructure, or away from assets subject (say) to some kinds of climate change risk. Favourable regulatory treatment simply creates distortions and a race to the bottom to interpret the scope as widely or narrowly as possible. It is much better to assess risks on their intrinsic merits.

⁸ In the interest of full disclosure, we note that a client of Polynya writes such business. We make the point about liability eligibility on its merits, without any regard to the benefit that the client might derive in the event the liability eligibility criteria were widened.

5.5 Question 8: What changes, if any, to the matching adjustment could be made to better reflect climate change-related risks arising from investments and contribute to sustainable investment?

66. Since this is a developing area, any changes should be made in a cautious and measured way. There is a natural fit between a cautious approach and the 1-year time horizon of the SCR (and its definition as encompassing only quantifiable risks). In the short term, we consider that the ORSA is a more natural home for considering climate change-related risks, but over time the balance would shift.

5.6 Question 9: What are the costs and benefits of any changes proposed in response to the above questions? How should any risks to the safety and soundness of insurers and/or to policyholder protection be mitigated?

67. Our proposals in section 3 above are aimed at improving safety and soundness and policyholder protection, with explicit regard to risk appetites to be set by the HMT and the PRA having regard to its statutory objectives.

5.7 Question 10: What changes, if any, should be made to the PRA's powers to manage risks to the safety and soundness of firms, and policyholder protection, arising from the use of matching adjustment?

68. See detailed discussion in section 3 above, which suggests additional powers for the PRA in several areas, albeit balanced by a requirement for greater transparency, for example by setting explicit risk appetites by which PRA calibrations can be reviewed and challenged.

6 SOLVENCY CAPITAL REQUIREMENT

6.1 Question 11: What other tools should be available to supervisors to assess and ensure the overall level of capital held by firms is appropriate?

69. Supervisors could make greater use of stress and scenario testing, including asking firms to calculate the impact of benchmark scenarios selected from analysing biting scenarios from across sets of peer firms.

70. The PRA could make more use of capital add-ons, rather than thinking of them as a last resort. The prior UK ICAS regime placed less emphasis on approval standards in part because capital add-ons were an accepted part of the approach.

6.2 Question 12: What changes, if any, should be made to the current approval process for new internal models and changes to models? What type of supervisory tool would be an appropriate alternative to the rejection of an insufficient model application?

71. The PRA should be able to formally approve models that are close to the required standard subject to improvements to be made in future, applying proportionate capital add-ons until such time as the improvements are made.

72. The PRA should publish more information about best observed practice so that firms can see the required standard and not have to discover it by what can sometimes be a form of trial and error. Our experience is the PRA as a body has an understandable aversion to providing 'free consultancy'. Nevertheless, it has unrivalled access to information on good practice and would be acting in the public interest in sharing this, subject to appropriate safeguards on not disclosing proprietary intellectual property of firms.

- 6.3 Question 13: What changes, if any, should be made to the standard formula to better reflect the risk profile of the UK insurance industry? What are the costs and benefits of such changes?
73. Increasing the granularity in the risk modules of the SF would be helpful. For example, at present credit risk is ‘all or nothing’ and it would be beneficial to some firms to be able to use the SF for corporate bonds while having an internal model for risks where the SF was inappropriate. We have seen very small firms develop corporate bond models because they had another asset class that was inappropriate for the SF that could not be separated out and treated individually because the credit module of the SF could not be sub-divided.
74. There is limited transparency in the calibration of the SF at present. The PRA should improve this on a gradual basis starting with the most material risks. This would also have the benefit of improving the transparency of the PRA’s Quantitative Indicator (QI) framework⁹: if the historical circumstances had been such that the PRA had adopted its own view for SF purposes there would be no need to have distinct IM QIs for the same risks, although some QIs would still need to be adapted to fit the risk profile of each firm applying for an IM.
- 6.4 Question 14: In circumstances in which there is insufficient justification for a full or partial internal model, how might the SCR be calculated for insurance firms or business for which the standard formula is deemed inappropriate?
75. Undertaking-specific parameters (USPs) are the natural existing mechanism for this, but their scope is limited to selected liability risks. The scope of USPs should be widened to include asset risks.
76. It should also be possible for a firm to adopt an ‘Undertaking-specific Methodology’ (USM). The distinction between a USM and a (partial) Internal Model is that a USM would have a strong affinity with the existing SF method and not differ from it in a fundamental way. For example, a firm could seek to increase the granularity of an existing SF risk module so that it could include a USP for the additional risk categories created, while retaining the existing methodology.
- 6.5 Question 15: What changes, if any, could be made to the methodologies that insurance firms can use to calculate the SCR, including by removal of potential barriers, to enable them to provide long-term capital to support growth, including to invest in infrastructure, venture capital and growth equity, and other long-term productive assets, consistent with the Government’s objectives?
77. As with the response to Question 7, HMT should resist the temptation to influence the calibration of the SCR as a ‘lever’ influencing investment towards favoured assets. Favourable regulatory treatment simply creates distortions and a race to the bottom to interpret the scope as widely or narrowly as possible. It is much better to assess risks on their intrinsic merits.
- 6.6 Question 16: What changes, if any, should be made to the SCR calculation to promote better measurement and capitalisation of climate change-related risks?
78. See response to Question 8.

⁹ See the 2016 letter from Sam Woods (then in his capacity of Executive Director of PRA Insurance Supervision) at <https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/letter/2016/sam-woods-reflections-2015-solvency-ii-internal-model-approval-process-jan-2016.pdf>