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Publication

Policy Statement | PS16/21

Internal Ratings Based UK mortgage risk weights: Managing deficiencies in model risk capture

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1 Overview

1.1 This Prudential Regulation Authority (PRA) Policy Statement (PS) provides feedback to responses to Consultation Paper (CP) 14/20 'Internal Ratings Based UK mortgage risk weights: Managing deficiencies in model risk capture'.[1] It also contains the PRA's final policy, as follows:

- an updated Supervisory Statement (SS) 11/13 'Internal Ratings Based (IRB) approaches'.

1.2 This PS is relevant to PRA-authorised UK banks, building societies, and ring-fenced banks (RFBs) holding Internal Ratings Based (IRB) model permissions. It may be of interest to other firms, including those considering applying for IRB model permission, and other market participants.

Background

1.3 In CP14/20, the PRA proposed to introduce two minimum expectations on mortgage risk weights that applied at all levels of consolidation and to all UK residential mortgage exposures, including buy-to-let:

- a risk weight of at least 7% for each individual UK residential mortgage exposure; and
- an exposure-weighted average risk weight of at least 10% for all UK residential mortgage exposures to which a firm applies the IRB approach.

Summary of responses

1.4 The PRA received ten responses to the CP. Respondents made a number of observations, which are set out in Chapter 2.

1.5 Respondents were generally not in favour of the proposed minimum expectations, with particular concerns raised against the proposed 7% risk weight minimum expectation for individual UK mortgage exposures. One respondent expressed caveated support for the measures.

Changes to draft policy

1.6 In response to the feedback received, which included useful quantitative data that enabled the PRA to better gauge the distribution of risks weights across mortgage exposures, and therefore the likely impact of its proposals, the PRA has made two changes to the draft policy as consulted on:

- the PRA will not introduce the proposed 7% minimum risk weight expectation on individual UK mortgage exposures. Instead, the PRA will consider carefully the calibration of the incoming Probability of Default (PD) and Loss Given Default (LGD) parameter floors for mortgage exposures as part of the PRA's implementation of the Basel 3.1 standards; and[2]
- mortgage exposures classified as in default will be excluded from the 10% average minimum risk weight expectation.

1.7 Not introducing the minimum risk weight expectation on individual UK mortgage exposures will mean those mortgage risk weights below the proposed value will continue to be permitted. Firms that would have been impacted by the proposal through increases to their mortgage risk weights and corresponding capital requirements will no longer be impacted by it.

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1 September 2021: https://www.bankofengland.co.uk/prudential-regulation/publication/2020/internal-ratings-based-uk-mortgage-risk-weights-managing-deficiencies-in-model-risk-capture.

2 The Basel 3.1 standards can be accessed here: https://www.bis.org/bcbs/publ/d424.pdf.

1.8 Mutuals provide a higher proportion of their total lending in the form of residential mortgages compared with the non-mutual sector. The overall impact on IRB mutuals from not proceeding with the 7% individual minimum risk weight expectation may be greater than that on comparative non-mutuals with similar IRB mortgage risk weights, but with a more varied asset base.

1.9 Mortgage defaults typically do not form a significant proportion of total UK mortgage exposures, and their exclusion from the measures is expected to have a limited capital impact compared to the previous proposals. The overall impact on IRB mutuals from the exclusion of defaults will not be materially different from the impact on comparative non-mutuals.

1.10 As part of the full implementation of the Basel 3.1 standards, the PRA will consider carefully the calibration of the incoming PD and LGD parameter floors for mortgage exposures. These minima were agreed by the Basel Commission on Banking Standards, but the PRA will consider whether higher levels would be more appropriate in the UK to reflect concerns about low individual mortgage risk weights. This would allow for a simpler framework than the original proposal consulted on, by having one less floor covering individual mortgage exposures.

Implementation and next steps

1.11 The amendments to SS11/13 will take effect from Saturday 1 January 2022.

1.12 Revised PD and LGD parameter minimum values will be consulted on as part of the PRA's implementation of the Basel 3.1 standards.

1.13 The policy in this PS has been designed in the context of the UK having left the European Union and the transition period having come to an end. Unless otherwise stated, any references to EU or EU derived legislation refer to the version of that legislation which forms part of retained EU law.[3]

3 For further information please see https://www.bankofengland.co.uk/eu-withdrawal/transitioning-to-post-exit-rules-and-standards.

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 practices and must publish, in such manner as it sees fit, responses to the representations.

2.2 The PRA has considered the responses received to the CP. This chapter sets out the PRA's feedback to those responses, and its final decisions.

2.3 The PRA received ten responses. The responses, and the PRA's feedback on these, have been grouped as follows:

- theory and rationale underpinning the proposals;
- modelling concerns;
- impact and incentives;
- timing and implementation options; and
- other feedback.

Theory and rationale underpinning the proposals

2.4 In CP14/20, the PRA set out its concern that some UK mortgage IRB risk weights were too low, and continued falls would consequently increase prudential risk. The PRA recognised that calculating IRB mortgage risk weights is inherently uncertain and set out a number of observations that had cumulatively influenced the PRA's concern.

2.5 These observations included:

- risk weights for low Loan-to-Value (LTV) mortgages can be difficult to calibrate due to limited historical experience of either extreme house price falls or the varying effects different types of economic downturn might have;
- average UK IRB mortgage risk weights are below, and in some cases significantly below, international peers;
- a number of other jurisdictions, including EU member states, have acted to address low mortgage risk weights generated from some IRB models;
- there is large variation in IRB risk weights between UK firms, including material variation between loans with similar LTVs;
- the significant difference between IRB risk weights for residential mortgages and risk weights under the standardised approach (SA); and
- IRB mortgage risk weights have been falling for a number of years. Although it was unclear whether the trend would continue in the short term given the global pandemic, there remained

the risk that the medium and longer term trend of falling mortgage risk weights would continue, increasing the likelihood that some IRB mortgage providers were under-capitalised.

2.6 Five respondents argued that comparison with EU mortgage markets was not appropriate, given some EU countries had higher residential mortgage default rates, material differences in residential mortgage exposure PD and LGDs, and different legal frameworks for repossession. Three respondents felt comparison with SA risk weights was not sufficiently meaningful, as the SA is a global standard not specifically calibrated for the UK, and differences between SA and IRB risk weights would remain anyway. Another three respondents considered the difference between SA and IRB risk weights was due to SA risk weights being too high, rather than IRB risk weights being too low.

2.7 The PRA recognises that global domestic mortgage markets have different characteristics. There are reasons why some countries, including some EU member states, have higher mortgage risk weights than the UK. Some individual countries, including EU member states, have repossession frameworks which are materially different to the UK's, which partially accounts for why those countries have higher average residential mortgage risk weights than UK firms. Nevertheless, average UK mortgage risk weights are one of the lowest among comparative European countries. International comparison on its own was also not the main driver behind the PRA's conclusion that some UK mortgage risk weights were too low.

2.8 Similarly, the PRA acknowledges that the calibration of SA residential mortgage risk weights (and the revised SA risk weights set out in the Basel 3.1 standards) is a worldwide calibration, and not UK-specific. However, the UK has agreed to the Basel standards, determining that they are appropriate for use in the UK as a minimum. It is possible current SA mortgage risk weights are 'too high', and indeed the Basel 3.1 standards introduce lower and more risk sensitive SA mortgage risk weights.

2.9 Even if the Basel 3.1 standards are implemented in the UK, there will remain a significant divergence between average IRB mortgage risk weights and SA mortgage risk weights. Some difference in IRB and SA mortgage risk weights is likely justified given the difference in risk management capability and the accuracy of risk capture between IRB and SA firms. However, the PRA considers the significant continued divergence supports the conclusion (without it being the defining reason) that some IRB mortgage risk weights are too low. The significant divergence also undermines the PRA's secondary competition objective.

2.10 One respondent queried the PRA's concern that IRB risk weights might continue to decline given the effect of the global Covid-19 pandemic on the UK. The PRA considers that the pandemic may well impact trends in UK IRB mortgage risk weights in the short to medium term. However, it remains unclear whether the pandemic will affect the longer term trends observed.

2.11 Two respondents felt improvements in underwriting and lending standards meant there was less reason for the setting of minimum expectations on risk weights. The PRA recognises the valuable work undertaken by the Financial Conduct Authority in improving underwriting standards, and the Financial Policy Committee's Loan-to-Income (LTI) limits which, at a firm level, reduce the potential for high percentages of significantly indebted borrowers. However, it is important for the risk weighting regime to be robust in order to ensure firms are sufficiently capitalised in the event of unexpected tail-risk scenarios. The PRA's concern, despite improvements in lending standards and limits on high LTI lending, remains that some mortgage risk weights are too low, and may fall further.

2.12 Two respondents felt the leverage ratio reduced the need for the proposed minimum expectations. Five respondents thought that some of the incoming standards as set out under Basel

3.1 (and in particular the output floor) meant the proposed minimum expectations were not required.[4]

2.13 Both the leverage ratio and output floor are whole-of-balance sheet measures. They do not target mortgage risk weights specifically. Mortgage exposures are the single biggest exposure class in the UK banking sector, and the largest exposure class on many individual firms' balance sheets. As a result, it is critical from a prudential regulation and financial stability perspective that they are appropriately risk-weighted. Two respondents agreed and recognised that the proposed average risk weight expectation in particular would act as a more targeted 'guardrail' for mortgages than either the leverage ratio or the output floor.

2.14 Two respondents argued that instead of the proposed minimum expectations, the PRA should review firms' residential mortgage models where it has greatest concern. The PRA will continue to review firms' residential mortgage models and require remediation if appropriate. However, the PRA takes a risk-based approach to IRB model reviews across all asset classes and considers the proposed minimum expectation complementary to ongoing model reviews.

2.15 Three respondents felt the PRA's concerns over low risk weights would be better managed through Pillar 2B. Pillar 2B (sometimes referred to as the PRA Buffer) and Pillar 1 risk weights do different things and have different conceptual and practical rationales. Capital requirements and buffer capital are also different, with different expectations over their use. In this instance, the PRA's concerns, as set out in CP14/20, related to IRB mortgage risk weights and Pillar 1 capital requirements. For that reason, the PRA considers it appropriate to address its concerns directly by addressing mortgage risk weights, rather than changes to capital buffers.

2.16 Having considered the responses to the CP, the PRA continues to consider that some IRB mortgage risk weights at some firms are too low and are a source of prudential risk, and the divergence between SA mortgage risk weights and those generated under IRB raises competition concerns.

Modelling concerns

2.17 In proposing minimum expectations on UK IRB mortgage risk weights, there would inevitably be some loss of IRB mortgage risk-weight spread, particularly at the lower end of the distribution. Four respondents felt it important that risk-sensitivity is reflected in the measurement of risk weights and were concerned the proposals – particularly the individual mortgage exposure risk weight measure – reduced it. Three respondents were concerned that if a large portion of risk weights were overridden, effective rank ordering would be reduced, and compliance with the IRB use-test would be undermined. Three respondents felt the proposals dis-incentivised firms to develop high quality models. Another respondent felt the proposals diluted the value of receiving an IRB permission. Three respondents commented that the proposed 7% individual mortgage risk weight expectation implied an unrealistically high PD for lower risk residential mortgages with low expected LGD. A further respondent noted it effectively overrode the PRA's existing PD and LGD modelling expectations.

2.18 The PRA agrees the 7% minimum expectation on individual mortgage exposures implied a higher PD than observed in available historic data. The PRA also agrees it was higher than the existing effective minimum risk weight which can be extrapolated from current PD and LGD minimum modelling expectations. However, given the PRA's prudential concern regarding some low

[4] The 'output floor' is set out in the Basel 3.1 standards: https://www.bis.org/bcbs/publ/d424.pdf. Once it is fully-phased in, an IRB firm's total risk weights will be floored at the higher of its risk weights calculated under its own internal models, or 72.5% of the same balance sheet risk weighted according to the standardised approach.

mortgage risk weights, it was intentional that the proposed minimum expectation be higher than that generated by the combination of existing IRB parameters. As part of its full implementation of the Basel 3.1 standards, the PRA will consider whether higher PD and LGD minimum values than both those currently in use and in the incoming Basel 3.1 minima should be introduced.

2.19 Having considered the responses, the PRA has decided not to introduce the proposed minimum expectation on individual mortgage exposures, electing instead to consider the levels of the incoming PD and LGD floors as part of the implementation of Basel 3.1 standards. At its proposed calibration of 7%, significant model risk-sensitivity and rank-ordering would have been lost. It is also possible there would have been some (in the PRA's consideration, limited) dis-incentivisation to develop and maintain high-quality models.

2.20 After considering responses in light of the PRA's prudential and competition objectives, the PRA still intends to implement the proposed 10% average portfolio risk weight minimum expectation.

Impact and incentives

2.21 In proposing the minimum risk weight expectations, the PRA recognised there would be some capital impacts on some firms. The PRA considered that, overall, such impacts would be relatively low, but that some individual firms with particularly low IRB UK mortgage risk weights might see individual larger increases.

2.22 Four respondents argued it was essential that the minimum expectations were not over-calibrated. One respondent noted calibration should be proportionate to the perceived risk. Three respondents felt the measures may require some firms to raise more going-concern or gone-concern capital. One respondent was concerned the overall endpoint CET1 impact would likely be larger for IRB building societies than banks.

2.23 The PRA considers it essential that any measures are proportionate and risk-based. In light of responses received, including very useful data that firms have provided, the PRA has chosen not to introduce the proposed minimum risk weight expectation on individual mortgage exposures. The proposed calibration of 7% would impact IRB mortgage risk weights across a number of firms. While the PRA considers the overall corresponding capital implications would have remained low and unlikely to require capital-raising, updated impact estimates (based on hybrid risk weight data submitted by firms as part of the consultation) were higher and impacted more firms than the PRA anticipated.

2.24 Given the potential capital impact, two respondents argued the measures should apply to the flow of new lending only, rather than to existing stock, given the potential impact on capital and pricing. The PRA considers application to the flow of new lending, rather than stock, is not justified on prudential grounds. It would also be complicated to implement and supervise. By choosing not to proceed with the individual risk weight minimum expectation, capital impacts are partly reduced in comparison to the original proposals.

2.25 Seven respondents were concerned the proposals could impact availability of low LTV lending, by increasing the cost of low LTV mortgages and reducing the incentives for firms to continue lower-risk/lower-return lending. Two respondents were concerned that large firms may be incentivised to move into higher-risk lending, which may reduce margins for new entrants and smaller firms which currently serve those markets. The PRA considers the potential consequences outlined unlikely to materialise to any significant degree; the PRA's decision not to proceed with the minimum expectation on individual mortgage exposures further reduces their likelihood and significance.

2.26 Three respondents raised concerns about the added complexity two additional minimum expectations would bring to the IRB regime, which could also cause reporting and disclosure challenges. The potential for additional complexity was one of the reasons for the PRA deciding to only implement the average portfolio risk weight minimum expectation. The PRA considers it is simpler not to introduce the proposed minimum expectation on individual risk weights, and instead consider carefully appropriate PD and LGD parameter floors as part of the implementation of the Basel 3.1 standards.

2.27 One respondent queried the interaction of the proposed minimum expectations on IRB risk weights with the 2017 refinements to Pillar 2A policy.[5] The PRA recognises that this is a complex area, and other relevant future regulatory changes will need to be considered.

2.28 The refinements to Pillar 2A explained the PRA will take into account some of the likely conservatism inherent within the current SA when setting Pillar 2A. Providing relevant criteria are met, the PRA will compare SA and average IRB risk weights (the IRB benchmark) in relevant asset classes. The PRA will then take into account the difference between the two when it sets Pillar 2A for firms on the SA.

2.29 The revised SA, as set out in the Basel 3.1 standards, has much lower starting mortgage risk weights than in place currently. In light of this, the PRA will consider whether there remains enough inherent conservatism to justify the current refined approach. Even if the current approach is maintained, the proposed drop of the minimum SA mortgage risk weight, from 35% to 20%, will significantly reduce the impact of this policy. Depending on implementation options, the output floor will also further reduce the likely impact as it phases in.

2.30 The proposed minimum expectations as set out in CP14/20 would increase some IRB risk weights and therefore potentially the IRB benchmark, should the PRA choose to pass through such increases. Therefore, the differential between SA mortgage risk weights and the IRB benchmark could reduce. The lower differential could theoretically lead to larger Pillar 2A for some SA firms, dependent on circumstances. The PRA considers any change in differential under the original proposals would have been very modest. The original proposals were intended to target outlier IRB firms and outlier risk weights. As a result, theoretical changes to the IRB benchmark (which comprises sector averages) would be small. Moreover, the biggest moves —which would still be small — would most likely be concentrated at the lowest LTV end, where lending by firms on the SA is also typically lower.

2.31 The PRA no longer intends to implement the 7% minimum expectation on individual mortgage risk weights. The PRA considers that the impact of the remaining average portfolio minimum expectations on individual firms will make limited difference to the overall market-wide IRB benchmarks the PRA uses for its comparison with SA risk weights. This is because the average portfolio floor of 10% roughly aligns with current average IRB risk weights and it will only impact outlier firms.

Timing and implementation options

2.32 In CP14/20, the PRA proposed to implement the minimum expectations on Saturday 1 January 2022. Three respondents felt the timing of the measures, particularly the proposed individual exposure minimum expectation, should be reconsidered in light of the current economic situation

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5 The relevant refinements to Pillar 2A capital are available here: https://www.bankofengland.co.uk/prudential-regulation/publication/2017/refining-the-pra-pillar-2a-capital-framework.

and ending of government stimulus measures, to avoid the potential for reduced mortgage lending capacity, increased mortgage pricing, and potential house price falls.

2.33 In light of these responses, the PRA has chosen not to introduce the proposed individual mortgage risk weight minimum expectation. Instead it will consider carefully the most appropriate minimum PD and LGD parameters as part of the full implementation of the Basel 3.1 standards, which will be consulted on in due course. The PRA considers the minimum expectation on average mortgage risk weights is unlikely to reduce mortgage lending capacity or have any significant negative economic impact. This will therefore be introduced as planned on Saturday 1 January 2022.

2.34 Two respondents felt hybrid modelling may add some conservatism to mortgage risk weights, and suggested that until hybrid risk weights were more certain, the proposed minimum expectations should be delayed. The PRA has considered this view in its decision not to implement the proposed individual mortgage minimum expectation and instead consider higher minimum PD and LGD parameters. It is anticipated that the Basel 3.1 standards (including PD and LGD parameter floors) will come into effect in the UK after firms have completed their move to hybrid modelling. However, the PRA considers it prudent to implement the proposed average minimum risk weight expectation now, though the PRA will keep the 10% minimum expectation under review in light of future hybrid mortgage risk weights.

Other feedback

2.35 Two respondents thought that it was inappropriate to include defaulted exposures in the minimum expectations, given defaults should be fully provisioned for. Respondents suggested that doing so was excessively penal and potentially procyclical. The PRA chose to include defaults in the original proposals for simplicity. However, the PRA acknowledges that, for defaulted exposures, Expected Loss (and therefore provisions) increases significantly, while Unexpected Loss (and therefore risk weighted assets) falls. In light of responses and in order to avoid potential procyclical effects, the revised final policy excludes defaulted exposures from the minimum risk weight expectation on average mortgage portfolios.

2.36 Several respondents suggested a number of other measures the PRA could take to address competition concerns between IRB and SA firms. Four respondents advocated continued encouragement of IRB take-up or the introduction of a UK-tailored SA risk-weight regime. The PRA remains open to enquiries from firms that are considering applying for IRB permissions.[6] The PRA will also consider the appropriateness of the Basel 3.1 SA residential mortgage risk weights for different UK firms in its implementation of the Basel 3.1 standards.

2.37 Regarding a more tailored regime in the UK for smaller firms often on SA, in April 2021 the PRA published Discussion Paper 1/21 ‘A strong and simple prudential framework for non-systemic banks and building societies’. Subject to feedback, and further analysis and consideration by the PRA, there is the potential to develop a more tailored credit risk framework for some smaller firms in future.[7]

2.38 One respondent recommended bringing forward the PRA’s implementation of the revised SA mortgage risk weights set out in the Basel 3.1 standards. Another requested the PRA not to implement the LTV origination requirements set out in the Basel 3.1 standards. These comments will be taken into consideration as part of the PRA’s full implementation of the Basel 3.1 standards.

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6 The modular approach for new IRB applications includes engagement with the PRA at key states of the application process, details of which are available here: https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/authorisations/capital-requirements-regulation-permissions/internal-ratings-based-approach-crr-permission-application-pack.

7 April 2021, https://www.bankofengland.co.uk/prudential-regulation/publication/2021/april/strong-and-simple-framework-banks.

2.39 One respondent requested that the scope of the UK leverage ratio framework not be expanded to smaller firms. The PRA will consider this response as part of its ongoing analysis of the leverage ratio.

Appendix

1 SS11/13 'Internal Ratings Based (IRB) approaches', available at: https://www.bankofengland.co.uk/prudential-regulation/publication/2013/internal-ratings-based-approaches-ss.