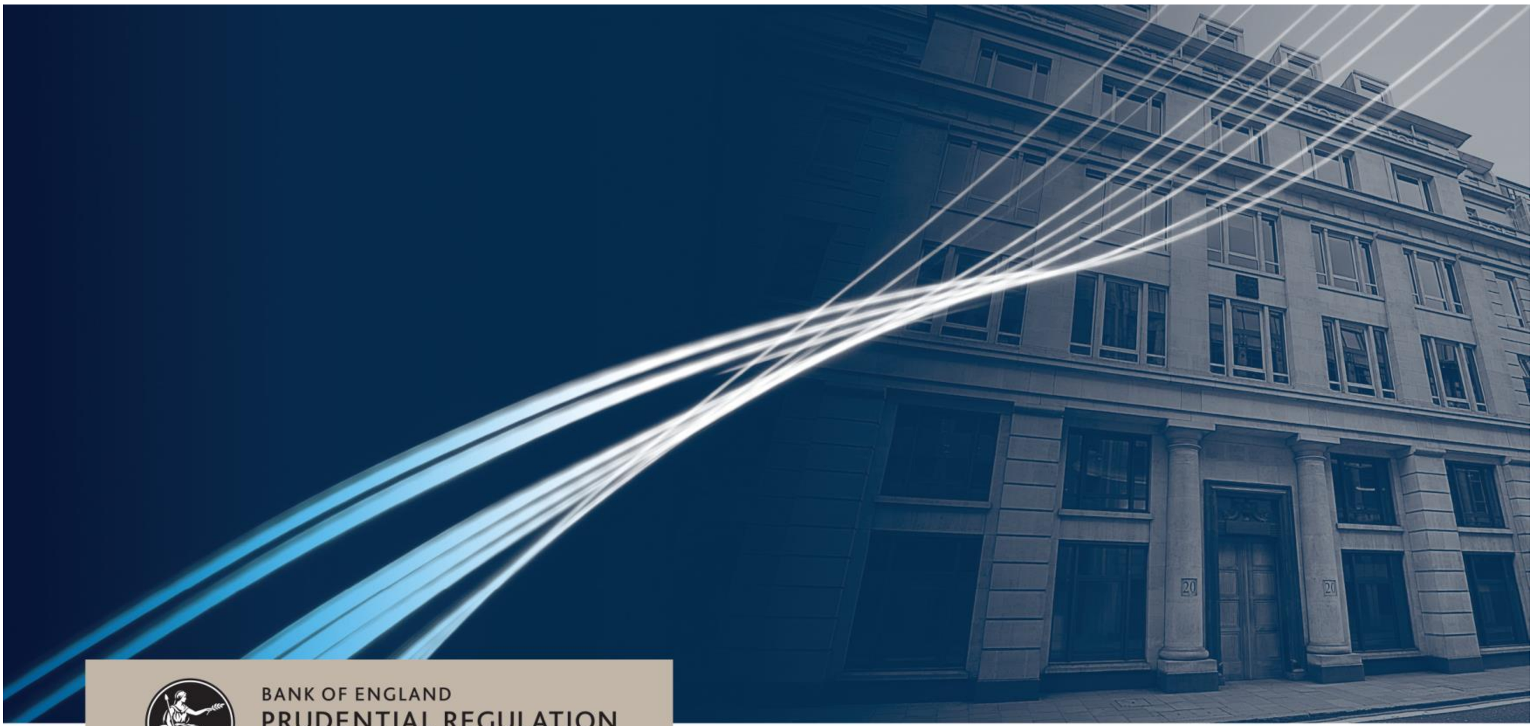

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Consultation Paper | CP13/18

Solvency II: Equity release mortgages

July 2018

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Responses are requested by Sunday 30 September 2018.

Please address any comments or enquiries to:

Prudential Regulation Authority
20 Moorgate
London
EC2R 6DA

Email: CP13_18@bankofengland.co.uk

Prudential Regulation Authority | 20 Moorgate | London EC2R 6DA

Contents

1 Overview

1.1 This consultation paper (CP) sets out further proposed detail on the Prudential Regulation Authority's (PRA) expectations in respect of firms investing in equity release mortgage (ERMs) portfolios, as set out in Chapter 3 of Supervisory Statement (SS) 3/17.

1.2 This CP is relevant to insurance and reinsurance companies holding ERMs.

Background

1.3 SS3/17 set out a test (the Effective Value Test or 'the EVT') to help the PRA determine whether firms appear to be taking inappropriately large matching adjustment (MA) benefit from restructured ERMs held within MA portfolios. Principle (i) in paragraph 3.8 of SS3/17 states that securitisations where firms hold all tranches do not result in a reduction of risk to the firm and the EVT involves comparing the Effective Value of restructured ERMs to the economic value of ERM cash flows, as described in paragraphs 3.11-3.13 of SS3/17. The PRA's expectation is that the Effective Value of restructured ERMs would be less than the economic value of ERM cash flows.

1.4 SS3/17 did not specify the exact approach or calibration that firms should use when determining the economic value of ERM cash flows for the purposes of the EVT, other than in so far as principles (ii) to (iv) in paragraph 3.8 establish an expected approach to the assessment of the risk arising from the no negative equity guarantee (NNEG). In assessing this, the PRA's view is that firms should not use assumptions about future house price growth in excess of the risk free rate as a basis for reducing value of the NNEG and inflating the MA benefit claimed. Firms may in due course benefit from growth in house prices in excess of the risk-free rate, but they should not reflect this expectation in the form of an 'upfront' higher MA. ERM redemption payments are ultimately funded by the sale of property and firms therefore remain exposed to the risk that house price growth above the risk-free rate does not materialise.

1.5 The PRA also considers that the economic effect of the NNEG is effectively to provide the borrower with a put option – to give the insurer possession of the property in settlement of their debt if it is worth less than the loan and accumulated interest. The value of this requires an assessment of the present value of obtaining possession of the property at some point in the future. The current version of SS3/17 characterises this as a deferment price and reflects the PRA's view that a deferment price will be lower than the price for possession today. The PRA considers that the extent to which that price is higher than the deferment price does not depend on views on future house price growth, because both immediate and deferred possession give exposure to future house price growth: the only difference is the value attributed to possession during the deferment period.

1.6 The PRA therefore proposes to provide firms with greater clarity on how they should address these aspects of NNEG risks under SS3/17 by setting out an option valuation approach and minimum deferment rate calibration that it considers to be consistent with principles (ii) to (iv). The PRA does not necessarily consider this to be the only approach that could address the issues identified above but firms using this approach will be meeting the PRA's expectations for the purposes of applying the EVT.

1.7 These proposals address risks inherent in ERMs. They are neither a consequence of the introduction of Solvency II nor of the restructuring of ERMs. They are therefore relevant not just to firms incorporating MA benefit in the calculation of their technical provisions (TPs) but to any firm with ERMs currently applying the transitional measure on technical provisions

(TMTP) to the calculation of its Solvency II TPs. The PRA therefore proposes that firms should use the same approach and calibrations for assessing NNEG risk when calculating their ICAS TPs for the purposes of calculating TMTP.

1.8 The PRA intends to ask firms during the consultation period to provide an assessment of the change (if any) in their Solvency II TPs, TMTP and Solvency Capital Requirement (SCR) under the proposals, plus any other secondary impacts on the balance sheet (for example in respect of deferred tax).

Purpose

1.9 The purpose of the proposals is to ensure that, where firms have invested in ERMs and have approval to use the MA or TMTP, their TPs are not understated and that their Solvency II and ICAS balance sheets include appropriate allowance for the risks to which they are (directly or indirectly) exposed.

Summary of proposals

1.10 The proposals included in this CP are:

(i) Firms using the approach and minimum calibration proposed would meet the PRA's expectations for assessing the allowance for NNEG risk for the purposes of the EVT;

(ii) Firms holding ERMs should include an explicit allowance for 'other risks' within the EVT;

(iii) Where firms holding restructured ERMs in their MA portfolio cannot meet the EVT then this suggests that they may be taking an inappropriately large MA benefit. Accordingly, they will need to review their current approach and consider making changes to the structure, valuation or rating of restructured ERMs to ensure that they are able to calculate their MA benefit consistently with Solvency II requirements;

(iv) Firms holding ERMs that benefit from the TMTP should adopt the same approach to an assessment of NNEG and other risks for their ICAS TP calculations as they do for Solvency II TP calculations for the purposes of calculating TMTP to ensure consistency between the calculation bases; and

(v) Firms should consider whether they need to revise their internal models in response to any changes as above.

Implementation

1.11 The proposed implementation date for the proposals in this CP is Monday 31 December 2018.[1]

Responses and next steps

1.12 This consultation closes on Sunday 30 September 2018. The PRA invites feedback on the proposals set out in this consultation. Please address any comments or enquiries to CP13_18@bankofengland.co.uk.

1.13 The proposals in this CP have 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

1 Firms should, however, note paragraph 2.19 below.

changes would be required due to changes in the UK regulatory framework, including those arising once any new arrangements with the European Union take effect.

2 Proposals

2.1 The proposals below are set out in draft changes to SS3/17, as contained in Appendix 1.

2.2 This chapter explains the PRA's proposals for:

- The approach to assessing NNEG risk for the purposes of the EVT;
- The calibration for assessing NNEG risk;
- The allowance for 'other risks';
- The implications should firms be unable to meet the EVT;
- ICAS Technical Provisions and TMTP; and
- Solvency II SCR calculated using internal models.

Approach to assessing NNEG risk for the purposes of the EVT

2.3 SS3/17 noted that the size of the MA benefit arising from re-structured ERMs depends both on: (i) the cash flows from and valuation of the notes, since these determine their overall spread; and (ii) the fundamental spread (FS) assigned to the notes. These, in turn, will be driven by an assessment of the risks associated with the underlying ERMs themselves. The PRA proposes changes to some of the early paragraphs of Chapter 3 of the SS to make it clear that it is not only the FS that is relevant to an assessment of whether the MA benefit arising from restructured notes is inappropriately large. Other factors referred to in (i) also need to be considered. The PRA considers that additional clarity is required on this point, because some firms had mistakenly thought that the PRA expected them to compare the assessment of NNEG under principles (ii)-(iv) only to the FS, which was not the intention.

2.4 The presence of an NNEG as a feature of an ERM may significantly increase its risk profile when compared to an equivalent product without an NNEG (as will other risks, such as prepayment risk). This is important in the context of an assessment of whether the MA benefit arising from restructured notes is inappropriately large, because this increase in the risk profile of ERM cash flows underpinning the restructure should be adequately reflected both in the valuation/spread relationship on any notes, and in the amount of the spread that is attributed to the risks retained within the MA portfolio.

2.5 Paragraph 3.8 of SS3/17 set out high level principles (principles (ii) to (iv)) for the assessment of risk arising from the NNEG in the context of the MA benefit but did not specify the exact approach or calibration that firms should use when determining the economic value of ERM cash flows for these purposes. The PRA now proposes to give further clarity in this area by confirming that all relevant firms assessing NNEG risk for the purposes of the EVT using the option valuation approach as set out in a new section 'The Effective Value Test' of SS3/17 will meet its expectations in this respect.

2.6 The PRA considers that there are multiple approaches that firms could take to assess NNEG risk whilst meeting expectations under the four principles set out in SS3/17. For example, firms could use appropriately-calibrated risk-neutral or real-world price deflator techniques. Firms should not infer that the PRA considers that the proposed approach is the only possible method for assessing whether NNEG risk has been properly taken into account for the purposes of the MA benefit being claimed consequent on a restructuring of ERMs. However, the PRA has seen approaches that calculate property forward prices assuming property growth in excess of the risk-free rate while simultaneously discounting at the risk-free rate, without also making a sufficient allowance for the risk in the assumed property growth (as envisaged by principle (iv) of SS3/17), and considers that such approaches are equivalent to assuming a negative deferment rate and would not meet principle (iii). The PRA considers that clearly articulating an approach which it considers to be consistent with principles (ii) to (iv) achieves a greater degree of clarity and transparency for firms as to how they may meet the PRA's expectations.

2.7 The approach set out in the 'Effective Value Test' section of the proposed updated text of SS3/17 uses an option valuation formula to determine the economic value of the NNEG. The PRA is aware, as noted by respondents to DP1/16,[1] that some of the assumptions that allow the mathematical derivation of the formula in paragraph 3.20 for option valuation are not met in the residential property market. However, the PRA has not seen evidence that the approach set out in the proposed updated text of SS3/17 would automatically over- or under-estimate the allowance for NNEG, compared to other methods that are consistent with the four principles. Also, the PRA considers that there are significant benefits from obtaining a consistent set of information from all affected firms where possible - see section 3 (PRA's consultation process) below.

2.8 The PRA proposes that, for the purposes of the EVT, firms should value the NNEG using a formula that estimates the forward price of the residential property providing collateral against each ERM. The forward price of a property is the sum agreed now to be paid in the future to secure possession of the property at the same future date. In the absence of deep and liquid markets in individual residential property forwards, firms would estimate that forward price from the deferment price. The deferment price of a property is the sum to be paid immediately to secure possession of the property at a specified future date, and it can be estimated from empirical data. The only difference between the price of the two contracts (forward and deferment) is the time value of money and so the forward price can be calculated given assumptions for the interest rate and deferment rate. Firms would use the Solvency II basic risk-free rate and the paragraphs below explain how the PRA has derived its assumptions for the deferment rate. Future expectations for house price growth are not required to price either the forward or deferment contract.

2.9 The PRA acknowledges that the market for residential properties is not complete and there is no unique forward price for any particular property. However, the PRA notes that many of the choices of forward price presented to it cannot be consistent with principle (iii) of SS3/17 because they implicitly assume negative deferment rates. The PRA also notes that any argument in favour of an alternative forward price would need to explain why a forward price higher than that determined with reference to the deferment price and risk-free rate as outlined above is not simply a consequence of including a spread over risk-free rate in the forward rate without properly allowing for the risks incurred in earning that spread.

NNEG risk assessment calibration

2.10 Principle (iii) of paragraph 3.8 of SS3/17 established the expectation that the minimum bound for the property deferment rate included in the NNEG risk assessment should be 0% but

1 March 2016: www.bankofengland.co.uk/prudential-regulation/publication/2016/equity-release-mortgages (CP48/16 includes a summary of responses to DP1/16).

did not specify any particular level for a positive rate. The PRA now proposes to clarify that firms should be expected to adopt a minimum calibration when assessing NNEG risk for the purposes of the EVT.

2.11 The new section entitled ‘The Effective Value Test’ in the proposed updated text of SS3/17 proposes a minimum non-zero calibration for the deferment rate. This was estimated after considering three methods: net rental yield, leasehold-freehold relativity, and the Sportelli formula.

2.12 The PRA analysed rental data from zoopla.co.uk as compiled by WhenFresh and transaction values from the Land Registry to calculate gross rental yields on buy-to-let properties. Adjustments were made for void periods, management costs and maintenance costs. The PRA also allowed for a term structure of deferment rates, informed by academic research that deferment rates tend to reduce as the outstanding term of a lease increases.

2.13 A recent academic paper[1] has assessed the relationship between the price of a property and the term of ownership, based on analysis of leasehold transactions. The paper built on the work outlined in Bank of England Staff Working paper No. 621.[2] The model described in this paper was used to estimate deferment rates. The PRA made adjustments to the model output to allow for the fact that, since 1993, leaseholders have had the right to extend the lease or purchase the freehold (under certain circumstances), and the option acts to increase leasehold values and so increase implied deferment rates. This option is not relevant to ERMs, so the PRA adjusted the deferment rate to remove the value of the option. The model output was also adjusted to allow for the fact that the data underlying the model cover a period when interest rates were higher than now.

2.14 The Sportelli formula has been used in land tribunals since 2005 to decide the premium payable by a leaseholder to extend the lease. The formula was based on a long-term real interest rate plus a risk premium less an allowance for real house price growth, and produced a deferment rate of 4.75% for houses. Subsequent judgements have led to adjustments being made to the deferment rates used in leasehold extensions. Because the rates used in tribunals are based on stable views of long-term real interest rates, rather than market long-term real rates, the PRA does not consider that it should use Sportelli as a reliable current estimate for the deferment rate, other than to note that it supports estimates greater than 0%.

2.15 After considering the three methods described above, the PRA concluded that a best view of the deferment rate would be 2% and that, while a range of judgments are possible, an assumption of less than 1% would be difficult to justify.

2.16 The PRA estimated a value for the property volatility parameter from analysis of residential property price index data. Nationwide, Halifax and Office for National Statistics index data were analysed and several time series models were fitted to the quarterly log-returns of data sets over a variety of historical time periods. The PRA selected a parsimonious model that fitted the data well, and extracted from the model the unconditional volatility for various holding periods, allowing for autocorrelation. Further adjustments were made to allow for concentration risk and basis risk between the changes in prices of individual properties and the index. The PRA’s central estimate is of a 13% volatility assumption for typical holding periods for ERMs, although use of alternative data choices gives a range of

1 March 2017: onlinelibrary.wiley.com/doi/abs/10.1111/ecoj.12501.
2 October 2016: www.bankofengland.co.uk/working-paper/2016/the-time-value-of-housing-historical-evidence-on-discount-rates.

13%-16%, and making an allowance for parameter uncertainty gives a range of 11%-18%. Estimates for property volatility provided to the PRA by firms are generally in the range 10%-15%.

Allowance for 'other risks'

2.17 Figure 1 of SS3/17 includes an allowance for 'other risks'. The PRA's view is that firms should determine this allowance themselves and does not propose to set expectations for minimum calibrations. However, the PRA does propose that firms would include an appropriate allowance for risks arising from the early pre-payment of ERMs within 'other risks' and be able to justify why it is appropriate.

Implications if the EVT is not met

2.18 As under the current version of SS3/17, the PRA proposes that, where firms are unable to meet the EVT using the updated approach, including the PRA's new expected minimum calibration, this would be an indication that they may be deriving inappropriately large MA benefit from restructured ERMs. This could be because some or all of: the contractual terms of the ERM re-structure; valuation of the restructured notes; or the rating (and hence credit quality step (CQS) mapping) applied to the restructured notes, would not adequately reflect the risk profile of the ERM cash flows that underpin the restructure. In such cases, firms would need to consider whether to adjust one or more of those components to properly reflect that risk profile.

2.19 The PRA recognises that the consequences of applying the new calibrations in the proposed updates to SS3/17 may be significant for some firms. In such cases, the PRA would consider making a proportionate allowance for that impact (ie as a result of these new proposals) on the firm. The PRA would expect this to be a short phase-in period, dependent on the circumstances of the firm, unlikely to exceed 3 years in any event. The PRA would not expect firms to require any phase in period in relation to the expectations in SS3/17 published in July 2017.

ICAS Technical Provisions and TMTP

2.20 Some firms have approval to use the TMTP, which allows them to introduce over time the difference between their TPs calculated under Solvency II (including the benefit of any MA) and their TPs calculated in accordance with INSPRU 7 (including any illiquidity premium). In SS6/16 (updated in April 2017)[1], the PRA highlighted the importance of consistency between the pre- and post- Solvency II calculation bases for the purposes of TMTP calculations. The PRA therefore proposes that firms with approval to apply TMTP,[2] which also hold restructured ERMs on which they have approval to apply the MA,[3] would make an allowance for NNEG and other risks in their ICAS illiquidity premium calculations that is the same as the allowance that they make for NNEG and other risks for the purpose of their MA based on SS3/17, including the updates proposed.

2.21 The PRA also proposes that all firms that hold ERMs but do not have Solvency II approval to include them in the MA portfolio would also include an allowance for NNEG risk that takes into account the principles and approach in SS3/17, including the calibrations set out in the proposed updated text of SS3/17, for the purposes of the ICAS illiquidity premium that they factor into their TP calculations.

1 www.bankofengland.co.uk/prudential-regulation/publication/2016/maintenance-of-the-transitional-measure-on-technical-provisions-under-solvency2-ss.
2 Regulation 54 Solvency 2 Regulations 2015/575.
3 Regulation 42 Solvency 2 Regulations 2015/575.

2.22 The PRA considers principles (ii) – (iv) in SS3/17 to be as relevant to firms holding ERMs in their original form as they are to restructured ERMs.

2.23 The PRA considers that this approach would ensure that all firms holding ERM loans are not calculating their TMTP by reference to a level of ICAS TPs that is inadequate, as a result of attributing an inappropriately large amount of the spread on ERM loans to an illiquidity premium. The PRA considers that the approach to and calibrations for an assessment of the adequacy of the allowance made for NNEG and other risks as set out in SS3/17, including the proposed updates, addresses risks inherent to ERMs. These risks do not arise as a result of restructuring, nor have they arisen as a consequence of Solvency II. The PRA does not consider the purpose of TMTP to be to allow firms to transition an updated assessment of risk. Under INSPRU 7, firms were expected to take account of all material risks that might have an impact on their ability to meet their liabilities to policyholders.[1] Undervaluing the risks associated with the NNEG and other features of ERMs could have resulted in understatement of a firm's insurance liabilities through the application of an inappropriately large illiquidity premium.[2] INSPRU 7 also embodies the principle that the valuation of assets and liabilities should reflect their economic substance and that a realistic valuation basis should be used.[3]

2.24 The PRA does not, therefore, expect any increase in Solvency II TPs that may arise where firms adjust a component of their ERM restructuring and reduce the level of MA benefit claimed, as a result of meeting the expectations set out in SS3/17, including the proposed updates, to be automatically and fully offset by an increase in TMTP benefit. Similarly, where firms continue to hold ERMs in un-restructured form, without applying any MA benefit in relation to these ERMs, they would expect to reflect any adjustment to the illiquidity premium component of their ICAS TP calculation consequent on applying the approach and calibrations set out in SS3/17, including the proposed updates, in the ICAS TPs component of the TMTP deduction.

2.25 Although the PRA does not consider the purpose of TMTP to be a transitioning of an updated assessment of risk, the PRA does recognise that the consequences of applying the new calibrations in the proposed updates to SS3/17 may be significant for some firms. In such cases, the PRA would consider making a proportionate allowance for that impact on the firm. The PRA would expect this to be a short phase-in period, dependent on the circumstances of the firm, unlikely to exceed three years in any event. The PRA would not expect firms to require this phase in period in relation to the expectations in SS3/17 already published in July 2017.

Solvency II SCR calculated using internal models

2.26 Firms with approval to calculate their SCR using an internal model may consider making changes to their internal model in order to ensure that the internal model continues to reflect their risk profile, as measured using the approach to assessing the NNEG risks for the purposes of the EVT. At this time, the PRA does not propose to make any changes to SS3/17 to set additional expectations relating to internal models for ERMs, whether held directly on firms' balance sheets or as restructured notes.

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1 See INSPRU 7.1.15.

2 Actuarial technical standards in use prior to Solvency II expected an explanation of the rationale for the inclusion and the derivation of any illiquidity premium in the discount rate applied under ICAS for the purpose of calculating TPs and supporting guidance emphasised the importance of the discount rate assumption.

3 See INSPRU 7.1.36.

3 The PRA's consultation process

3.1 The PRA has a statutory duty to consult when introducing new rules and, when not making rules, as is the case here, has a public law duty to consult widely on any measures that significantly affect firms.

Cost benefit analysis

3.2 The proposals set out in this CP do not introduce new requirements for firms, but rather set out a calculation approach and minimum calibration that the PRA considers to be consistent with existing principles, and that the PRA intends to use to determine whether firms meet existing requirements. The diagnostic tool, along with its calibration, is designed to help the PRA to evaluate whether the firms' regulatory balance sheets adequately reflect risks to which they are exposed in investing in certain assets.

3.3 As a result, some firms may make changes that result in them taking less MA benefit from restructured ERMs than they currently do, resulting in higher Solvency II TPs. Some firms may also derive less ICAS liquidity premium from un-restructured ERMs, resulting in higher ICAS TPs and lower TMTP. The impact is likely to be higher for riskier ERMs and lower for less risky ERMs. The exact impact on any firm will depend on its risk profile and the extent to which it includes ERMs in its ICAS illiquidity premium calculation. Any change in the relative attractiveness of ERMs with different risk profiles (customer age and loan-to-value (LTV) are key ERM risk factors) as investment assets for insurers could lead to changes in the volume and price of ERMs that will be sold to customers by insurers.

3.4 The proposed calibration helps ensure that firms' regulatory balance sheets accurately reflect the risks to which they are exposed, and helps ensure against incorrectly overstated own funds – due to inappropriately large MA benefits. In addition, by being transparent about the calibration the PRA will expect firms to use to assess whether their regulatory balance sheets adequately reflect risks to which they are exposed, the proposals help make clear existing regulatory requirements and how insurers can meet them and leads to more effective competition between firms due to a common minimum basis for assessing ERM risks.

Compatibility with the PRA's objectives

3.5 The proposals are intended to ensure that insurers investing in ERMs to match annuity liabilities can consistently assess whether they have appropriately allowed for the risks arising from those loans and have not understated their technical provisions or overstated their own funds. This helps advance the PRA's objectives of promoting the safety and soundness of firms and securing an appropriate degree of protection for policyholders.

3.6 The PRA also has a duty to facilitate effective competition as a secondary objective subordinate to its general safety and soundness and its policyholder protection objectives.[1] The PRA considers that the proposals may facilitate effective competition by ensuring that all insurers providing ERMs properly assess and price the risks.

1 Section 2H(1) Financial Services and Markets Act 2000 (FSMA).

Regulatory principles

3.7 In developing the proposals in this CP, the PRA has had regard to the regulatory principles.[1] Four of the principles are of particular relevance, as follows:

3.8 The principle that a burden or restriction which is imposed on a person, or on the carrying on of an activity, should be proportionate to the benefits, considered in general terms, which are expected to result from the imposition of that burden or restriction. As explained under the cost benefit analysis section above, the PRA considers that any impact on firms that results from steps they take in response to the proposals, including phase-in proposal, is proportionate, considered in the context of the expected benefits from the increased confidence that firms are meeting existing requirements.

3.9 The desirability of sustainable growth in the economy of the United Kingdom in the medium or long term. ERMs are a key investment asset for some insurers providing pension products. Those same insurers are also key providers of long-term investment to the UK economy. The PRA has tried to balance any potential short-term impact of the proposals on the supply of ERMs with the medium and long-term risk of solvency to UK insurers.

3.10 The principle that the regulators should exercise their functions as transparently as possible. The proposals contained in this CP build on the 2016 discussion paper and consultation, and the 2017 policy statement[2] and supervisory statement.[3] Chapter 2 of this CP sets out the PRA's reasoning for the approach and calibration proposed for assessing the Effective Value Test.

3.11 The desirability, where appropriate, of exercising functions in a way that recognises differences in the nature of, and objectives of, businesses carried on by different persons (including, for example, mutuals). The PRA considers that the impact of the proposals on mutuals is expected to be no different from the impact on other firms.

HM Treasury recommendation letter

3.12 HM Treasury has made recommendations to the PRC about aspects of the Government's economic policy to which the PRC should have regard when considering how to advance the PRA's objectives and apply the regulatory principles.[4]

3.13 The aspects of the Government's economic policy most relevant to the proposals in this CP are: Competition; Growth; and Better outcome for consumers.

3.14 These aspects have been considered in the 'compatibility with the PRA's objectives' and 'regulatory principles' sections above.

1 Section 3B FSMA.
2 www.bankofengland.co.uk/prudential-regulation/publication/2016/equity-release-mortgages.
3 July 2017: www.bankofengland.co.uk/prudential-regulation/publication/2017/solvency-2-matching-adjustment-illiquid-unrated-assets-and-equity-release-mortgages-ss.
4 Information about the PRC and the recommendations from HM Treasury are available on the Bank's website at https://www.bankofengland.co.uk/about/people.

Equality and diversity

3.15 The PRA is also required by the Equality Act 2010[1] (the EA 2010) to have due regard to:

- the need to eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under the EA 2010;
- the need to advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it; and
- the need to foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

3.16 One of the purposes of this consultation is to allow the PRA to identify and assess the likely impacts of a decision on the proposals set out on persons who share protected characteristics and the PRA seeks views on the impact of the proposals on such groups. Of the protected characteristics in the EA 2010, the PRA has identified age as the most relevant protected characteristic. ERMs are seen by some as a key UK retirement product, typically only sold to those aged 55 and older. One possible result of the proposals could be that more risky ERMs (typically those sold to younger customers and with higher amounts lent relative to the price of the house providing collateral) might become less attractive as investment assets for insurers. Any such significant change in regulatory approach that had the effect of ERMs being less available or more expensive would have a disproportionate impact on that those aged over 55. This consideration is balanced because a similar demographic group may have, or wish to buy, an annuity and would therefore have an interest in the prudential soundness of insurance companies providing annuities back by ERM assets.

1 Section 149.

Appendix: Draft amendments to Supervisory Statement 3/17 – Solvency II: matching adjustment – illiquid unrated assets and equity release mortgages

This appendix proposes changes to Supervisory Statement 3/17. Underlining indicates proposed additions and striking through indicates proposed deletions.

…

3 Assessing the risks from ~~embedded guarantees in~~ equity release mortgages

3.1 This chapter sets out the PRA's approach to assessing the ~~appropriateness of the FS applied to restructured ERM notes. The size of the MA benefit arising from restructured ERM notes depends on the:~~ risks to which insurers that invest in ERMs are, directly or indirectly, exposed. The assessment covers the appropriateness of the amount of MA benefit arising from restructured ERM notes. It is also relevant to the appropriateness of the allowance for risks in relation to ERM cash flows when calculating illiquidity premium under ICAS for the purposes of determining the Transitional Measure on Technical Provisions.

Assessing the size of MA benefit from restructured ERM notes

3.1A The size of the MA benefit arising from restructured ERM notes depends on the:

- Contractually-agreed cashflows of the notes and the value placed on those notes; which will determine their spread; and
- FS assigned to the notes. The FS must reflect the risks that the firm retains in relation to the cash flows of the notes, including default and downgrade risk. These, in turn, will be driven by the risks presented by the underlying assets.

3.2 ERMs are complex assets that often have embedded features such as 'no negative equity guarantee' (NNEG) and no fixed maturity date. Restructuring them to produce MA-eligible notes with fixed cash flows adds a further layer of complexity. And there are typically no ECAI ratings or observable market prices for restructured notes on which firms and the PRA could place reliance.

3.3 As with any securitisation, there is a risk that the valuation and/or credit assessment of the MA-eligible notes is not aligned with their true risk profile, leading to a spread that is too high or an FS that does not reflect all of the risks retained by the firm. As noted in paragraph 2.6, the PRA will apply a higher supervisory intensity where it considers that there is a risk that the FS on internally-rated assets may be inappropriate. For restructured ERM notes, this increased oversight will include both an assessment of the quality of the firm's internal credit assessments (see paragraphs 2.10 to 2.17), and a verification that the risks arising from the embedded NNEGs have been appropriately allowed for, as described below.

3.3A Where firms hold all of the tranches of a securitisation, the economic substance of their aggregate exposure remains the same regardless of the form of the securitisation. Understanding the risks posed to a firm by holding ERMs, in particular the NNEG, and how these risks have been distributed between the various tranches of restructured notes (for example in the FS of MA eligible notes and the spread or valuation of the junior and senior notes), is an important part of ensuring that the MA does not arise from risks retained by the firm.

3.3B The approach to assessing NNEG risk set out under the heading 'The Effective Value Test' (below) is not the only method that could be used for these purposes but it is consistent with principles (ii) to (iv) in paragraph 3.8 and firms using this approach to demonstrate that they are not taking inappropriately large MA benefit from restructured ERM cash flows will meet the PRA's expectations for this assessment. Any alternative approaches that calculate property forward prices assuming property growth in excess of the risk-free rate whilst simultaneously discounting at the risk-free rate, without also making a sufficient allowance for the risk in the assumed property growth (as envisaged by principle (iv) of SS3/17), are equivalent to assuming a negative deferment rate and would not meet principle (iii).

Assessing the NNEG risk

3.4 The NNEG guarantees that the amount repayable by the borrower under the ERM need never exceed the market value of the property collateralising the loan at the repayment date. As such it is an important source of risk for an ERM. As part of the review of the amount of MA benefit being claimed by a firm ~~adequacy of the FS~~, the PRA will assess the extent to which the contractual terms, value and rating of restructured notes ~~it~~ properly reflect the underlying NNEG risks and the extent to which these underlying risks flow through to the notes held within the firm's MA portfolio (and as such are effectively retained by the firm for these purposes).[1] Compensation for these NNEG risks should not lead to an MA benefit. For example, assuming future house price growth in excess of risk-free rates should not lead to a lower valuation of the NNEG and hence higher MA, because firms are fully exposed to the risk that the excess house price growth will not be achieved.

3.5 Assets such as ERMs generally do not have directly observable market prices, and so nor do they have directly observable spreads. Instead a spread must be derived, having first determined both a fair value for the ERM using alternative valuation methods as well as assumptions about cash flows.

3.6 The presence of an NNEG will increase the derived spread on an ERM versus an equivalent loan without such a guarantee. It will also increase the amount of spread that should properly be attributed to risks retained by the firm.

3.7 When determining the fair value of an asset for the purposes of deriving its spread, it is important that any embedded guarantees are valued consistently with the rest of the asset (ie on fair value principles).[2] Otherwise, the component of the asset's spread that is assumed to represent compensation for the risks arising from the guarantee may be underestimated. Further, it is not sufficient simply to ensure that the value placed on the asset as a whole represents a fair value, since there could still be an incorrect attribution of value between the NNEG and the other components driving the valuation.

1 The focus on the NNEG should not be taken to imply that other risks (eg prepayment risk) are not considered material by the PRA and indeed Chapter 2 is clear that these other risks should all be considered in the internal credit assessment and FS mapping.

2 The PRA's rules on valuation are set out in rule 2.1 of the Valuation Part in the PRA Rulebook.

3.8 The PRA will assess the allowance made for the NNEG risk against its view of the underlying risks retained by the firm. This assessment will include the following four principles, which are explained in more detail below:

(i) securitisations where firms hold all tranches do not result in a reduction of risk to the firm;

(ii) the economic value of ERM cash flows cannot be greater than either the value of an equivalent loan without an NNEG or the present value of deferred possession of the property providing collateral;

(iii) the present value of deferred possession of property should be less than the value of immediate possession; and

(iv) the compensation for the risks retained by a firm as a result of the NNEG must comprise more than the best estimate cost of the NNEG.

~~3.9 The best estimate cost of the NNEG mentioned in paragraph 3.8 is not the present value of the cost of the guarantee if the future were to develop as per the firm's central expectation. Instead, it is the mean of a stochastic distribution of possible future guarantee costs, where the random variables used in the stochastic projection have been calibrated based on a best estimate of their true distributions~~. ~~[1]~~[deleted]

3.9A Principles (ii)-(iv) are as relevant to firms holding ERMs in their original form as they are to restructured ERMs. The PRA expects firms to apply those principles when making an updated allowance for ERM risks under ICAS when determining the illiquidity premium arising from investing in ERMs.

(I) Securitisations where firms hold all tranches do not result in a reduction of risk to the firms

3.10 Where firms hold all of the tranches of a securitisation (as is generally the case for correctly restructured ERM portfolios), the economic substance of their aggregate exposure remains the same regardless of the form of the securitisation. Understanding the risks posed to a firm by the NNEG, and how these risks have been distributed between the various tranches of restructured notes, is an important part of ensuring that the FS appropriately reflects all of the NNEG risks that are retained by the firm in relation to the cash flows on the MA-eligible notes.

3.11 Some of the exposure to the risks posed by the NNEG will remain in the junior tranches outside of the MA portfolio. Nevertheless it is important to verify that the combination of the junior tranche values and the FS of the MA-eligible tranche(s) have appropriately covered all of the risks retained by a firm that holds the ERMs until maturity, including those that arise from the NNEG. For this reason the PRA will assess the overall 'Effective Value' of the restructured ERM against the components of the value of the un-restructured ERM (the 'economic value decomposition'), as described below and illustrated in Figure 1 below.

3.12 The 'Effective Value' of restructured ERMs is the total value of all tranches of the restructured ERMs on the asset side of the balance sheet, plus the MA benefit arising from the restructured ERMs on the liability side of the balance sheet. The right-hand side of Figure 1

~~1~~ This SS makes no statement regarding implementation approaches (e.g. between a simulation based method or a closed-form solution), which should follow the principle of proportionality.

illustrates the construction of Effective Value, alongside an illustration of one way in which the value of un-restructured ERMs can be made up. The total value of the securitisation tranches is illustrated as being somewhat lower than the value of the un-restructured ERMs, to reflect the frictional costs of restructuring, on the assumption that an equation of value holds.

3.13 On the left-hand side of Figure 1, the value of un-restructured ERMs has been illustratively decomposed into:

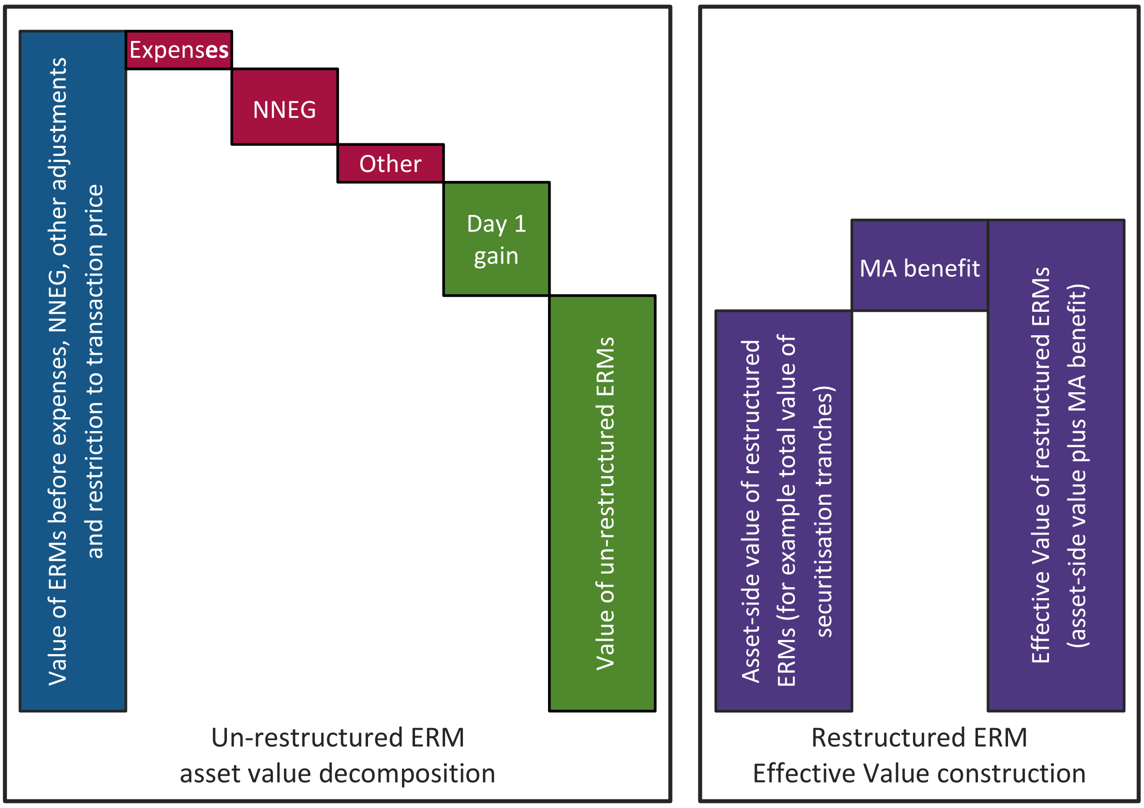
- the value of expected ERM cash flows prior to deductions (ie as a risk-free loan on expected decrements) (in blue),
- expenses (in red),
- NNEG (in red),
- any other adjustments (for example to allow for pre-payment risk) (in red).

For the purposes of this SS, the remainder (in green) is referred to as the economic value of ERM cash flows. The PRA expects the Effective Value to be less than this amount.[1] Calculation of the economic value should use methods and calibrations that are consistent with the other three principles.

3.14 This assessment will be carried out on a firm-by-firm basis to provide assurance that all of the risks to which the firm is exposed have been appropriately reflected, either in the value of the securitised assets or in the FS assigned to those assets in the MA portfolio.

1 The economic value has been broken down into the value of un-restructured ERMs and the restriction on the value to a transaction price, (labelled as 'Day 1 gain' in Figure 1 for brevity). The MA benefit has been illustrated in Figure 1 as partially offsetting the elimination of the Day 1 gain.

Figure 1: Illustration of the construction of Effective Value



(II) The economic value of ERM cash flows cannot be greater than either the value of an equivalent loan without an NNEG or the present value of deferred possession of the property providing collateral

3.15 This concept was introduced as the first proposition of paragraph 4.9 of Discussion Paper (DP) 1/16.[1] It is derived from the following considerations:

(i) Given the choice between an ERM and an equivalent loan without an NNEG, a market participant would choose the latter, since either the guarantee is not exercised, in which case the ERM and the loan have the same payoff, or it is, in which case the ERM pays less.

(ii) Similarly, a market participant would prefer future possession of the property on exit to an ERM, given that the property will be of greater value than the ERM if the guarantee is not exercised, or the same value if it is.

(III) The present value of deferred possession of a property should be less than the value of immediate possession

3.16 This statement is equivalent to the assertion that the deferment rate[2] for a property is positive. The rationale can be seen by comparing the value of two contracts, one giving immediate possession of the property, the other giving possession ('deferred possession') whenever the exit occurs. The only difference between these contracts is the value of

1 'Equity release mortgages' March 2016: www.bankofengland.co.uk/pra/Pages/publications/cp/2016/dp116.aspx.
2 By deferment rate, the PRA means a discount rate that applies to the spot price of an asset resulting in the deferment price. The deferment price is the price that would be agreed and settled today to take ownership of the asset at some point in the future; it differs from the forward price of an asset in that the forward price is also agreed today, but is settled in the future.

foregone rights (eg to income or use of the property) during the deferment period. This value should be positive for the residential properties used as collateral for ERMs.

3.17 It is important to note that views on future property growth play no role in preferring one contract over the other. Investors in both contracts will receive the benefit of future property growth (or suffer any property depreciation) because they will own the property at the end of the deferment period. Hence expectations of future property growth are irrelevant for this statement.

(IV) The compensation for the risks retained by a firm as a result of the NNEG must comprise more than the best estimate cost of the NNEG

3.18 As noted in paragraphs 3.10 and 3.11, the purpose of the assessment of Effective Value is to verify that all risks that have been retained by the firm on the assumption that it holds the ERMs until maturity have been appropriately reflected in the value assigned to the different tranches and the FS derived for those tranches in the MA portfolio. The NNEG component of the economic value decomposition should capture all of the risks to which the firm remains exposed as a result of giving this guarantee. The PRA's view is that the compensation for the risks that have been retained by the firm as a result of giving the NNEG will comprise more than the best estimate cost of the guarantee. This is consistent with the fact that ~~because~~ the FS captures more than the expected cost of defaults: it also includes additional components for the cost of downgrades (eg calibrated as the cost of rebalancing the portfolio to maintain a certain probability of default), as well as a floor to allow for other sources of uncertainty in the cash flows. When considering the fair value of the ERMs, a rational investor would require compensation above and beyond the average outcome based on their best estimate assumptions, to reflect the risk of loss in adverse scenarios. The same analysis applies to securitised notes: the junior note should be held at fair value and the more a junior note is structured to absorb the risk from the NNEG (and other risks), the higher its spread should therefore be.

~~3.19 The PRA is not at this stage expressing a view on the specific calibration of adjustments that should be made to the best estimate cost of the NNEG to ensure that it would be appropriate in the economic value decomposition. Nevertheless the PRA's view is that an unadjusted best estimate cost cannot be sufficient for this assessment. As part of its reviews of restructured ERM notes, the PRA expects firms to be able to explain how they have ensured that all of the risks they have retained have been allowed for in the valuation of the notes and the selection of the FS for those notes in the MA portfolio.~~ [deleted]

The Effective Value Test

3.20 Firms can demonstrate that the Effective Value is less than the economic value of ERM cash flows ('the EVT') using the following approach for calculating NNEG risk. Firms should calculate the allowance for NNEG risk for the portfolio of loans as the sum of a series of allowances for each ERM for each annual period during which ERM cash flows could mature, each allowance being multiplied by an exit probability appropriate to the annual period determined using best estimate assumptions for mortality, morbidity and pre-payment. Firms should calculate the allowance for each loan and period using the Black-Scholes option pricing formula shown below with the specified assumptions:

$$e^{-rT}\left[KN(-d_2) - Se^{(r-q)T}N(-d_1)\right]$$

where $d_1 = \frac{1}{\sigma\sqrt{T}}\left[ln\left(\frac{S}{K}\right) + \left(r - q + \frac{1}{2}\sigma^2\right)T\right]$ and $d_2 = d_1 - \sigma\sqrt{T}$

and N() is the standard Normal cumulative distribution function

- S = Current reasonable estimate at the balance sheet date of the value of the property providing collateral against the ERM,
- T = term to maturity as described above,
- K = loan principal and expected accrued interest at time T,
- r = published Solvency II basic risk-free interest rate for maturity T, adjusted for use on a continuously-compounded basis,
- σ = 13%,
- q = 1%.

3.21 Based on the PRA's assessment of available empirical data, its best estimate is that the deferment rate q should be set equal to 2%. The PRA recognises that there is uncertainty in this estimate and firms may legitimately reach lower or higher estimates, however the PRA considers that an assumption of less than 1% would be difficult to justify. The PRA will expect firms to conduct the EVT with q=0% immediately, which is consistent with PRA policy as set out in principle (iii) of this SS. However, where a firm needs to make significant changes to conduct the EVT on the basis set out in paragraph 3.20 the PRA will consider making a proportionate allowance for the impact on the firm. This allowance will be a short phasing-in period, dependent on the circumstances of the firm, of up to three years.

3.22 Where firms are unable to meet the EVT using the above approach and cannot offer appropriate and credible explanations (or alternatives that are consistent with principles (ii) to (iv), as explained in 3.3B above) this will be an indication that they may be deriving inappropriately large MA benefit from restructured ERMs. This could be because some or all of: the contractual terms of the ERM re-structure, valuation and spread of the restructured ERM notes or the rating (and hence CQS mapping) of the restructured ERM notes, do not adequately reflect the risk profile of the ERM cash flows that underpin the restructure. In such circumstances, firms will need to consider whether to adjust one or more of those components in order to properly reflect that risk profile.

3.23 Figure 1 shows an allowance for 'other' risks in the decomposition of economic value of ERM cash flows. The PRA will not assess each firm's allowance for other risks using a single specified approach, because the size and nature of the allowance is likely to depend on the specific contractual terms and risk profile of each firm's ERM cash flows. However, the PRA will expect firms to demonstrate that they have made a realistic and credible allowance for other risks when assessing the economic value of ERM cash flows. In particular, the PRA expects firms to include an allowance for the likelihood and potential impact of early pre-payment of ERMs.

Transitional measure on technical provisions

3.24. The 'Consistency of the Solvency I and Solvency II bases' chapter of supervisory statement 6/16[1] sets out the expectation that firms should continue to review their best estimate basis and ensure that, where they have permission to use the Transitional Measure on Technical Provisions, their INSPRU 7 basis reflects up-to-date and credible information.

1 April 2017; 'Maintenance of the 'transitional measure on technical provisions' under Solvency II'; www.bankofengland.co.uk/prudential-regulation/publication/2016/maintenance-of-the-transitional-measure-on-technical-provisions-under-solvency2-ss.

Consistent with that approach, the PRA expects firms with approval to apply TMTP that also hold restructured ERMs, in respect of which they have approval to apply the MA, to make an allowance for NNEG and other risks in their ICAS illiquidity premium calculations that is the same as the allowance for NNEG and other risks made for the purpose of their MA, based on the approach set out above. The PRA also expects firms holding ERMs that do not have approval to apply the MA in relation to their ERMs under Solvency II to include an allowance for NNEG risk that reflects the approach and calibrations set out above for the purposes of any ICAS illiquidity premium they factor into the INSPRU 7 TP calculations. Assessing NNEG and other risks in this way reflects the economic fundamentals of ERM cash flows and is not a consequence of restructuring or of Solvency II, and therefore should not be a source of TMTP.

3.25 Although the PRA does not consider the purpose of TMTP to be a transitioning of an updated assessment of risk, the PRA does recognise that the consequences of applying the new calibrations in the proposed updates to SS3/17 when calculating their ICAS illiquidity premium may be significant for some firms. In such cases, the PRA would consider making a proportionate allowance for that impact on the firm. The PRA would expect this to be a short phase-in period, dependent on the circumstances of the firm, unlikely to exceed three years in any event. The PRA would not expect firms to require this phase in period in relation to calculating their ICAS illiquidity premium consistently with principles (ii)-(iv) in SS3/17 already published in July 2017.