

Supervisory Statement | SS3/17

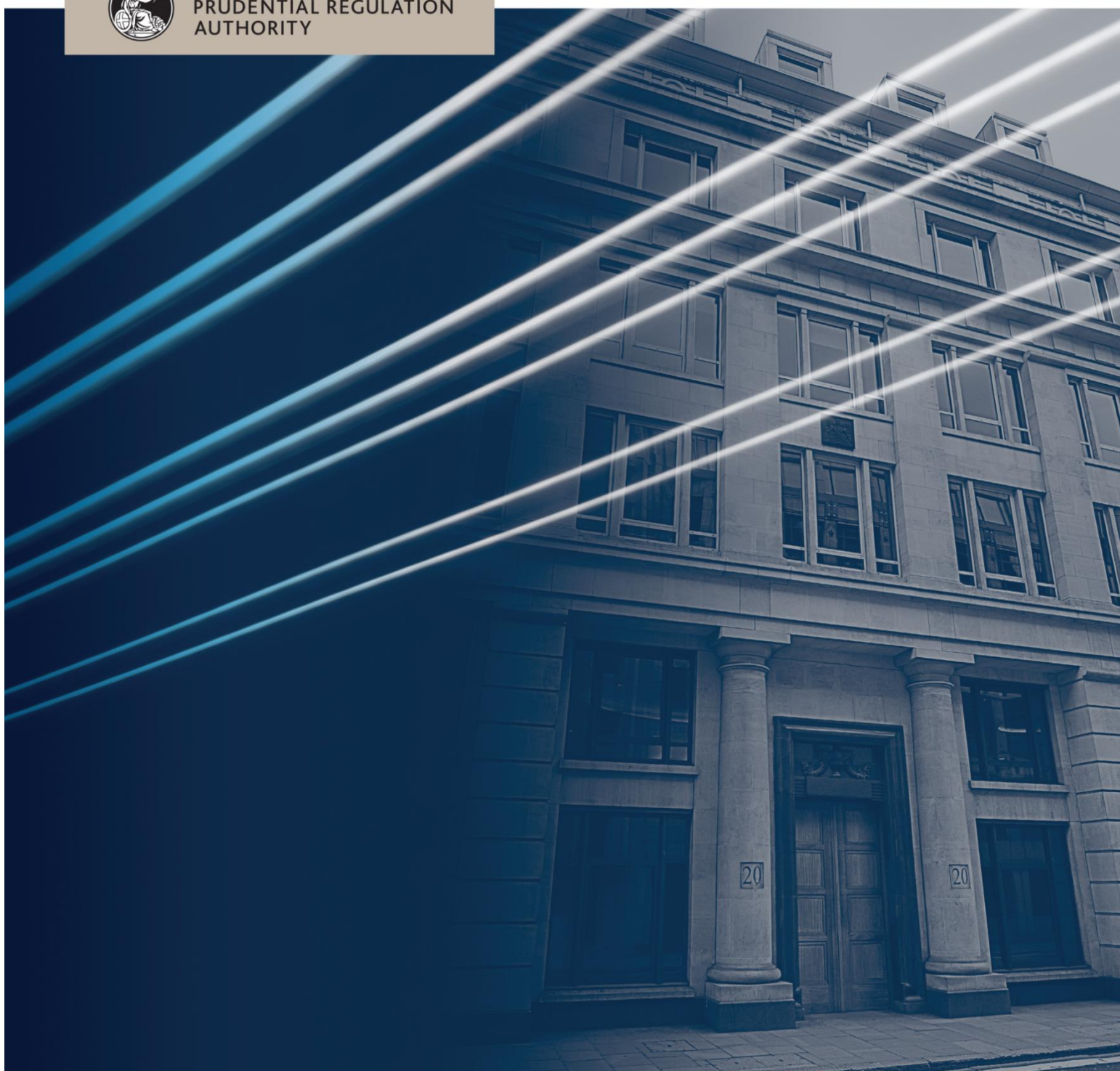
# Solvency II: matching adjustment - illiquid unrated assets and equity release mortgages

July 2018

(Updating July 2017)



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## 1 Introduction

1.1 This supervisory statement (SS) sets out the PRA's expectations in respect of firms investing in illiquid, unrated assets within their Solvency II matching adjustment (MA) portfolios. It is relevant to life insurance and reinsurance companies holding or intending to hold unrated assets (including restructured equity release mortgages (ERMs)) in an MA portfolio.

1.2 This statement should be read in conjunction with Chapters 6 and 7 of the Technical Provisions Part of the PRA Rulebook.

1.3 As part of firms' MA applications, they are required to explain how they will group the assets in the MA portfolio credit quality step (CQS), asset class and duration for the purposes of determining the fundamental spread (FS). For assets with credit ratings provided by External Credit Assessment Institutions (ECAIs), the CQS and hence FS assignment process is relatively prescriptive, with the only judgement being over the categorisation by asset class. In contrast, for internally-rated assets there is more judgement involved in determining which CQS and hence which FS should apply.

1.4 Firms need to have confidence that the risk management of these more complex credit exposures, in particular the CQS mapping process and the size of the MA benefit claimed on them, is fit for purpose. It is therefore expected that firms will be able to provide strong evidence to support the CQS mapping for those internally-rated assets that present the greatest complexity and/or risk exposure.

1.5 The PRA reminds firms of the responsibilities resting with Senior Management Functions under the Senior Managers Regime (SMR). Specifically the:

- Chief Actuary is responsible for advising the board about the reliability and adequacy of the calculation of the technical provisions;
- Chief Risk Officer is responsible for reporting to the board on the risk management strategies and processes in relation to credit assessments; and
- Head of Internal Audit is responsible for independent assurance on the adequacy and effectiveness of these processes and the firm's accounting and reporting procedures.

Where material reliance is being placed on the CQS mapping for internally-rated assets, the Chief Actuary and Chief Risk Officer will need to be satisfied that an appropriate FS is being applied and the Internal Audit function will need to be satisfied that appropriate processes and procedures have been followed.

1.6 Chapter 2 of this SS clarifies the PRA's expectations where internal credit assessments are used as part of determining the FS, including some expectations that are specific to restructured assets (including ERMs). Chapter 3 then sets out some principles to be applied when assessing the risks from guarantees embedded within ERMs, for the purposes of verifying the appropriateness of the FS for restructured ERM notes.

## 2 Use of internal credit assessments for assigning fundamental spreads

2.1 Firms are reminded that performing an internal credit assessment and mapping an asset onto a CQS are two distinct processes. Generally, a CQS mapping for an exposure should reflect all of the sources of credit risk relevant to that exposure. This is particularly important when the CQS is used for the purposes of deriving an FS, because the FS should reflect the risks retained by the firm, as per Technical Provisions 7.2(2) in the PRA Rulebook.

2.2 As part of the initial MA approval process, the PRA requires firms to obtain proportionate independent assurance reviews of the internal credit assessment processes used for assets within the MA portfolio.<sup>1</sup> These reviews generally focus on providing assurance on the processes themselves based on the opinion of the reviewer, as opposed to the outcome CQS and FS that firms assign to their assets as a result of those processes.

2.3 The overarching aim of the FS is to determine how much of the spread on an eligible asset should be taken to reflect the risks retained by the firm on the assumption that the asset is held until maturity. To serve as a useful starting point for that calculation, an internal credit assessment should consider all possible sources of credit risk, both qualitative (eg due to strength of the terms and conditions in the loan agreement or a lack of default data) and quantitative (eg due to economic stresses), and how these may interact.

2.4 An internal credit assessment will then need to be mapped onto a CQS. The PRA's view is that the CQS to which an internal credit assessment maps should lie within the plausible range of CQSs that could have resulted from an issue rating given by an ECAI. Broad consistency between the CQSs resulting from firms' internal assessments and ECAI issue ratings will help to mitigate the risk of undue bias in the resulting FSs.

2.5 Once a CQS and asset class has been assigned, firms are required by Article 77e(3) of the Solvency II Directive to use the corresponding FS set out in the technical information published by the European Insurance and Occupational Pensions Authority (EIOPA), where this information has been adopted in an Implementing Technical Standard (ITS). Firms should not alter the CQS mapping of an asset on the grounds that they disagree with the technical information adopted in the relevant ITS, eg if a firm's opinion on the appropriate recovery rate for that asset differs from that specified in Article 54(2) of the Delegated Regulation.

2.6 To determine whether these expectations are being met, the PRA will seek assurance on firms' CQS mappings in a proportionate way, focusing on the exposures which in its view present the greatest risk and potential for inappropriately large MA benefit. In assessing the risk of an exposure to a particular asset class, the PRA will consider both the proportion and the absolute amount of the spread that is being claimed as MA benefit, as well as the materiality of the exposure. Specifically the PRA will focus on assets which present some or all of the following features:

- they are more complex (eg because they have been restructured);
- the absolute amount of MA benefit derived from the asset is material to the firm; or

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<sup>1</sup> As previously communicated to firms in 'Solvency II: matching adjustment', March 2015: [www.bankofengland.co.uk/prudential-regulation/publication/2015/solvency-ii-matching-adjustment](https://www.bankofengland.co.uk/prudential-regulation/publication/2015/solvency-ii-matching-adjustment)

- the MA benefit (expressed as a proportion of the total spread on the asset) is high either in its own right or when compared to the benefit from a comparable reference instrument.

2.7 The PRA will calibrate thresholds around these features using data on firms' asset exposures. For assets that exceed these thresholds, the PRA will seek additional assurance that the FS resulting from the assigned CQS and sector are appropriate, taking into account the specific risks posed by the assets.

2.8 The detailed scope of the assurance will be set by the PRA in each case but should, without limitation, include:

- a detailed description of all the risks affecting each asset and how the insurer has satisfied itself that it has considered all potential sources of default and loss;
- the methodology for assessing and quantifying these risks, including the scope of qualitative and quantitative factors considered and the calibration of any stresses;
- the availability, appropriateness, and quality of the data over the credit cycle on which these risk assessments and calibrations are based, including how the firm has allowed for partially available or missing data in the internal credit assessment and the CQS mapping;
- justification of expert judgements;
- evidence that the credit assessment and CQS mapping have been performed by individuals with relevant asset-specific credit risk expertise, who are free of conflicts of interest, be they internal or external to the firm;
- validation of the results of the CQS mapping process. For example, how the insurer has satisfied itself that the internal credit assessment used as a starting point will provide an accurate assessment of credit risk, and how the overall CQS mapping process has allowed for all of the sources of credit risk, whether qualitative or quantitative;
- the process for ongoing review of the credit assessment and FS mapping, including how the firm has satisfied itself that these will remain appropriate over time and under a range of operating experience. It is expected that the credit assessment and CQS mapping will be reviewed at regular intervals, as well as in response to changes in relevant economic conditions; and
- how any previously identified shortcomings in the firm's internal credit assessment process (including any that were identified as part of the independent reviews mentioned in paragraph 2.2 above) have been addressed.

2.9 If the PRA judges that a firm is unable to provide satisfactory assurance using its own internal resources, it may choose to commission an independent review, which may take the form of a report commissioned from a skilled person under Section 166 of the Financial Services and Markets Act 2000 (FSMA).

### **Assurance on internal credit assessments for restructured assets including equity release mortgages**

2.10 The PRA expects that internal credit assessments for restructured ERM notes will be anchored on a risk analysis of the legal documentation between all parties concerned. This includes, for example, the original loan agreement between the borrower and the lender, the



contract between the originator and the insurance firm, and the legal structure of the notes issued by the special purpose vehicle (SPV).

2.11 As mentioned in paragraph 2.3, firms should consider both qualitative and quantitative sources of risk in their credit risk assessments. The PRA expects that all of the risks to which the senior notes are exposed (including combinations of risks) will be considered in the internal credit assessment, the assigned CQS and therefore the FS derived.

2.12 In respect of ERMs some of the quantitative features the PRA would expect to be considered explicitly include (but are not limited to):

- underwriting terms of the underlying ERMs (eg prepayment terms, interest rate at which the loan will accrue, conditions attaching to the borrowers, conditions attaching to the property);
- exposures (eg loan to value ratios, ages of borrowers, health of borrowers);
- strength of security (eg location, state and concentration of the properties used as collateral, rights of the SPV to substitute underlying ERMs);
- leverage, including a full analysis of the cash flow waterfall between the loan receivables and the cash flows paid to the senior noteholder; and
- stress and scenario testing of the amount and timing of receivables, for instance as a result of:
  - changes in the value of the properties that collateralise the ERMs, both in the immediate and longer term, including allowance for additional costs (eg dilapidation costs, transaction costs relating to sales);
  - demographic risks relating to the borrowers under the ERMs (eg longevity trend and volatility, morbidity); and
  - prepayment risk.

2.13 Where these exposures involve a large number of homogeneous retail exposures, as would be expected in the case of most ERM securitisations, statistical approaches could be an acceptable proportionate method for assessing exposures and risks. However we note this is unlikely to be acceptable for wholesale exposures (corporate lending and specialised lending) which tend to be large and heterogeneous.

2.14 Where a firm has restructured an asset, eg an ERM portfolio, into a range of tranches, the spread on a given tranche should be commensurate with the level of risk to which that tranche is exposed. The more junior the tranche, the greater the spread would be expected to be in order to reflect the higher exposure to risk.

2.15 Likewise the PRA would expect to see evidence that the securitisation structure provides loss absorbency to protect the senior note payments, eg a proportion of the cash flows accruing to the junior note in the early years of the transaction being kept in reserve in case of subsequent losses that reach the senior notes.

2.16 Reliance on any credit-enhancing or liquidity-enhancing features should be carefully justified, taking into account the availability of these facilities over the expected lifetime of the SPV, including under stressed scenarios such as those referred to in paragraph 2.12.

2.17 Qualitative factors that a firm may need to reflect in the internal credit assessment could include:

- uncertainty over the quantitative risk factors above resulting from a lack of data;
- the terms and conditions of the legal agreement(s) between the insurer and the SPV (eg cross-default provisions, covenants);
- uncertainty about the recoverability of the receivables when they become due (eg due to legal rights or practical considerations); and
- quality of loan servicing (eg ability to monitor properties and maintain knowledge of exposure and risk).

### **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:

- contractually-agreed cash flows 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.

3.2 ERMs are complex assets that often have embedded features such as a '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.

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 retained by the firm as a result of the embedded NNEGs have been appropriately allowed for, as described below.

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 adequacy of



the FS, the PRA will assess the extent to which it properly reflects the NNEG risks retained by the firm.<sup>1</sup> Compensation for these NNEG risks should not lead to an MA benefit.

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).<sup>2</sup> 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.

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.<sup>3</sup>

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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 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.

### **(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 ERM 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 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).

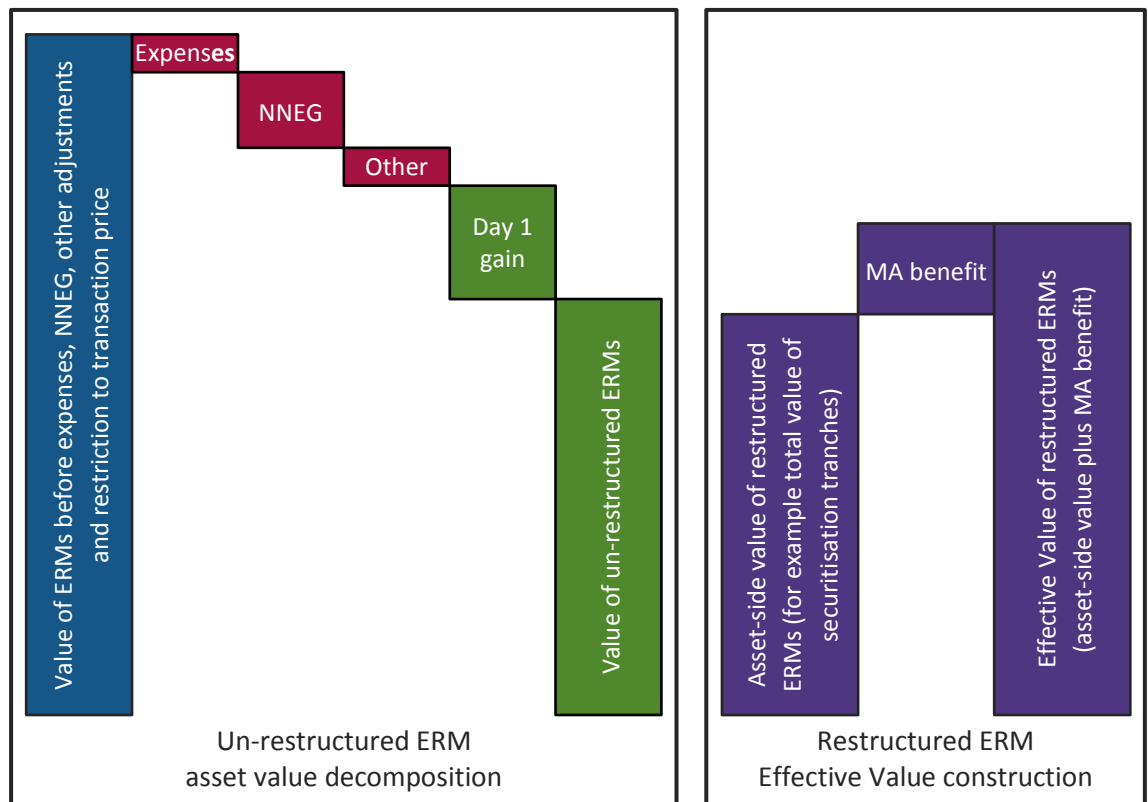
For the purposes of this SS, the remainder (in green) is referred to as the economic value of ERM cash flows. The PRA expects the Effective Value to be less than this amount.<sup>1</sup>

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.

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<sup>1</sup> 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.<sup>1</sup> 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<sup>2</sup> 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’)

<sup>1</sup> ‘Equity release mortgages’ March 2016: [www.bankofengland.co.uk/pru/Pages/publications/cp/2016/dp116.aspx](http://www.bankofengland.co.uk/pru/Pages/publications/cp/2016/dp116.aspx).

<sup>2</sup> 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.

whenever the exit occurs. The only difference between these contracts is the value of 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 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.

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.

## Annex

### Updates

#### July 2018

- This SS has been updated to reflect changes in terminology as a result of the publication of PS15/18 ‘Strengthening individual accountability in insurance: extension of the SM&CR to insurers’.<sup>1</sup>

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<sup>1</sup> [www.bankofengland.co.uk/prudential-regulation/publication/2018/strengthening-individual-accountability-in-insurance-extension-of-the-smcr-to-insurers](https://www.bankofengland.co.uk/prudential-regulation/publication/2018/strengthening-individual-accountability-in-insurance-extension-of-the-smcr-to-insurers).