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Deep dive into equity release mortgages

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8 May 2018

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Contents

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2. Solvency II matching adjustment and equity release
3. The no-negative-equity-guarantee

By the end of this session, you will:

- ***Understand the dynamics of the current equity release market and why insurers have been focused on them.***
- ***Why equity release has and continues to be a challenging investment class for insurers***

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The equity release mortgage market

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What are equity release mortgages

Equity release mortgages historically consisted of:

- Reversion mortgages: Fixed percentage of sale value of house is promised to lender on death or entry into long term care of the home owner in exchange for an upfront cash payment to home owner.
- Lifetime mortgages: Home owner borrowers against house, amount borrowed accumulates at a fixed rate and is repaid on death or entry into long term care with repayment capped at the sale value of the house.*

The market is currently dominated by lifetime mortgages ("LTMs") and the remainder of this presentation will focus on these.

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*Many variations on this example of a simple product exist.

Developments in the equity release mortgage market

Lifetime mortgage rates compared to swap rates

Recession

L&G enter market

Product innovation & market growth

Lifetime mortgage rates

9%
8%
7%
6%
5%
4%
3%
2%
1%
0%

Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08 Jan-09 Jan-10 Jan-11 Jan-12 Jan-13 Jan-14 Jan-15 Jan-16 Jan-17 Jan-18

LTM rates (sourced from historic mortgage book)
LTM rates (sourced from Equity Release Council)
15 year swap rate

Source: Swap rates sourced from Bank of England, LTM rates post 2011 sourced from Equity Release Council Spring Reports and LTM rates pre 2008 derived as the average rates on a historic book of mortgages originated during this period.

- Market exceeded £3bn in 2017 representing an annual growth of c.40%.
- High levels of competition, new products launched and increased flexibility to borrowers.
- Innovation and market growth expected to increase with new funders and growing consumer need.

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Equity release mortgages continue to represent an attractive investment opportunity

c. £3bn written in the UK in 2017 by annuity providers

c. £1bn funded in the UK in 2017 by annuity providers

c. £1bn Residential Real Estate was funded in the UK in 2017 by annuity providers

c. £2bn funded in the UK in 2017 by annuity providers

c. £500m funded in the UK in 2017 by annuity providers

Returns p.a.

5%
4%
3%
2%
1%
0%

Senior SME loan
Equity release mortgage loan
High yield bond
CRE loan
Infrastructure Loan
Student housing loan
Social housing loan
Ground Rent
EM Debt
Aviation bond
Private placement loan
UK RMBS AAA
BBB corporate bond
A corporate bond
Student loan
AA corporate bond
Trade finance
CMBS AA
AAA corporate bond
Gilt curve
Swap curve

0 5 10 15 20 25 30 35

Indicative Modified Duration

- Infrastructure loans
- Real estate backed loans
- Other asset backed securities
- Other unsecured assets

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Significant regulatory focus

BANK OF ENGLAND PRUDENTIAL REGULATION AUTHORITY

15 October 2014

Solvency II: matching adjustment

Paul Fisher letter - October 2014

PRA expects firms will need to restructure ERM to achieve MA eligibility.

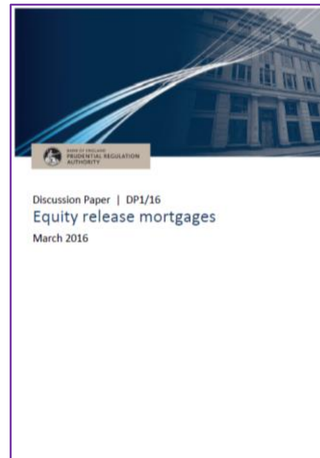
BANK OF ENGLAND PRUDENTIAL REGULATION AUTHORITY

20 February 2015

Solvency II: equity release mortgages

Paul Fisher letter - February 2015

Securitisation is likely to be an acceptable way to restructure ERM for MA.

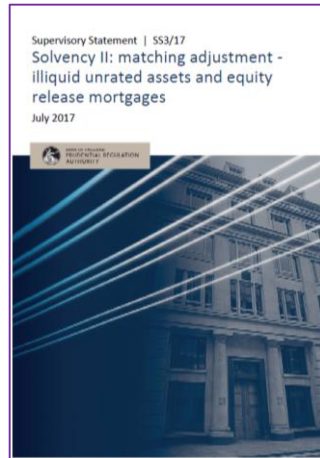

Discussion Paper | DP1/16

Equity release mortgages

March 2016

DP1/16 - March 2016

PRA gather market views on Solvency II treatment of ERM.


Supervisory Statement | SS3/17

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

July 2017

SS3/17 – July 2017

PRA require alignment to ECAI ratings, introduce effective value test and NNEG principles.

Consultation Paper | CP21/17

Solvency II: Matching adjustment

October 2017

CP21/17 - October 2017

PRA suggest high LTV ERM are not suitable for MA.

BANK OF ENGLAND

Speech

'An annuity is a very serious business'

Speech given by

David Rule, Executive Director of Insurance Supervision

Bulk Annuities – The Expanding Market, Westminster and City

26 April 2018

David Rule Speech – April 2018

ERM attract highest MA and risk profile of insurer's ERM books is increasing.

■ ■ ■

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Solvency II matching adjustment and equity release

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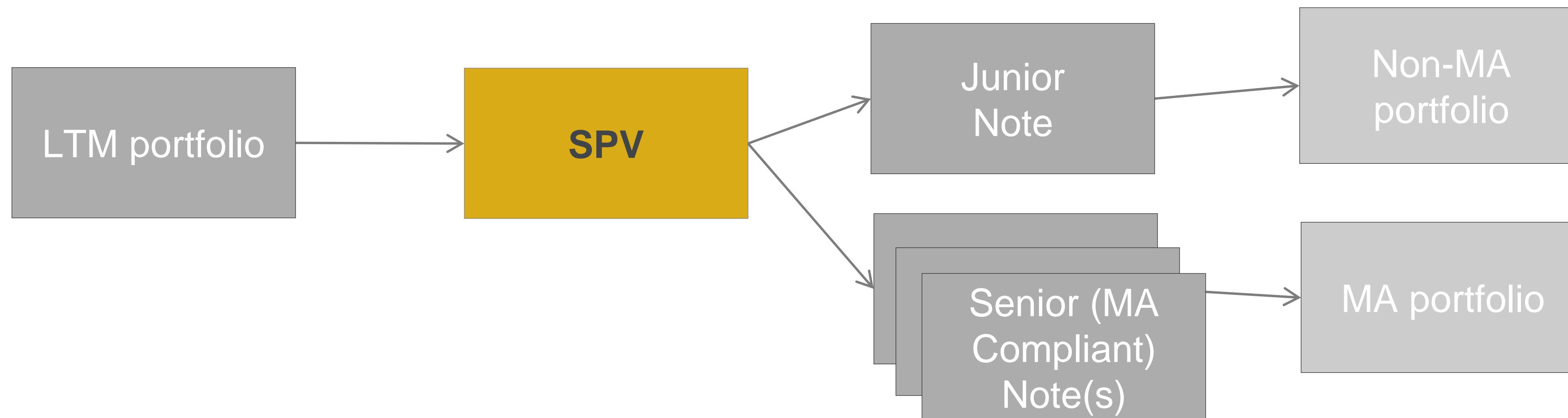
Structuring equity release for the matching adjustment

- LTMs do not meet the matching adjustment asset eligibility criteria given cash flow timing is uncertain.
- Insurers extract fixed matching adjustment eligible cash flows by structuring LTMs using internal securitisations.



- The senior notes are constrained by the desire to achieve (internal) investment grade ratings and in some cases by the matching adjustment liabilities.

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Internal rating requirements

- Insurers typically use internal ratings rather than public ratings to assign ratings to the senior notes of their LTM securitisations for the purpose of assigning fundamental spreads in the matching adjustment.
- PRA Supervisory Statement SS3/17* requires internal ratings on senior notes used in the matching adjustment to be broadly equivalent to public ratings.
- Public rating agencies assign ratings to LTM securitisations notes by assessing whether they default under prescribed stress scenarios.
- The rating process can indicatively be simplified to testing whether the securitisation senior notes pay out under the following two scenarios calibrated to different confidence levels depending on the rating targeted:
  - Late cash flows: low mortality, entry into long term care and voluntary early repayments.
  - Early cash flows: high mortality, entry into long term care and voluntary early repayments.

This rating process is illustrated on the following slide.

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*https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/supervisory-statement/2017/ss317.pdf?la=en&hash=0C0D02A6FA2BA5B355A47AD29936C937D229E773

Sculpting senior note cash flows

Best estimate cash flows for a notional portfolio of LTMs.

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69

Best estimate cash flows

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Sculpting senior note cash flows

Senior note payments still need to be made where:

- Cash flows are deferred due to decreased mortality, entry into long term care and voluntary early repayments.
- Return is diminished due to increased likelihood of NNEG biting.

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69

Best estimate cash flows — Stress 1: Late cash flows

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Sculpting senior note cash flows

Senior note payments also need to be made where:

- Cash flows are accelerated due to increased mortality, entry into long term care and voluntary early repayments.

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69

Best estimate cash flows — Stress 1: Late cash flows — Stress 2: Early cash flows

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Sculpting senior note cash flows

Aligns to minimum cash flows in early years.

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69

Best estimate cash flows | Stress 1: Late cash flows | Stress 2: Early cash flows | Senior note cash flows

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Sculpting senior note cash flows

Aligns to minimum cash flows in early years.

Funded directly from LTM cash flows under late cash flow scenario <u>or</u> from accumulated reserve under other scenarios.

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69

Best estimate cash flows — Stress 1: Late cash flows — Stress 2: Early cash flows — Senior note cash flows

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Sculpting senior note cash flows

Aligns to minimum cash flows in early years.

Funded directly from LTM cash flows under late cash flow scenario <u>or</u> from accumulated reserve under other scenarios.

Senior note cash flows constrained by limited reserve account cash early scenarios and revert to these.

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69

Best estimate cash flows
Stress 1: Late cash flows
Stress 2: Early cash flows
Senior note cash flows

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Sculpting senior note cash flows

And then:

- Senior note cash flows can be accelerated using a liquidity facility.

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69

Best estimate cash flows · Stress 1: Late cash flows · Stress 2: Early cash flows · Senior note cash flows

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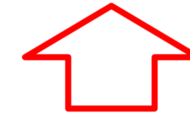
Sculpting senior note cash flows



And then:

- Senior note cash flows can be accelerated using a liquidity facility.
- Increased by optimising investment returns on reserve account.

Additional optimisation and future developments

Multiple senior notes can be created to reduce fundamental spreads and manage downgrade risk.

How can the securitisations cater for future drawdowns and new business?

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Additional optimisation and future developments

Multiple senior notes can be created to reduce fundamental spreads and manage downgrade risk.

How can the securitisations cater for future drawdowns and new business?

Structures exist with:

- Senior notes accounting for anywhere between 75% and 99% of the total value of the notes issued.
- Anywhere between 1 and 4 senior notes.
- Highest rated senior note anywhere between BBB and AAA.

Source: EY Benchmarking

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The no-negative-equity-guarantee

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When does the NNEG bite?

NNEG illustration (70 year old, 35% LTV, 5% rate)

70 75 80 85 90 95 100 105 110 115 120

Age

Loan balance — House price (0% HPI) — House price (2% HPI) — House price (4% HPI)

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How does the NNEG interact with the matching adjustment?

NNEG impacts the matching adjustment through the internal rating process as outlined in the previous section, but also through the PRA “effective value” test set out in SS3/17:

Value of ERM before allowance for expenses, NNEG and elimination of day one gains. (i.e. best estimate ERM cash flows discounted at risk free with no allowance for NNEG)

Expenses

Other

e.g. allowance for uncertainty of cash flows or lack of annuity liabilities available for mortgages to back.

NNEG

Day 1 gain

Current LTM portfolio fair valuation

Structure costs.

Current total fair value of structured ERM notes

MA benefit

Reduction in best estimate liability as a result of MA.

Cap on MA benefit

Effective value

Interpretation of Figure 1 in SS3/17

Increasing the NNEG allowance lowers the effective value cap and potential reduces the matching adjustment benefit.

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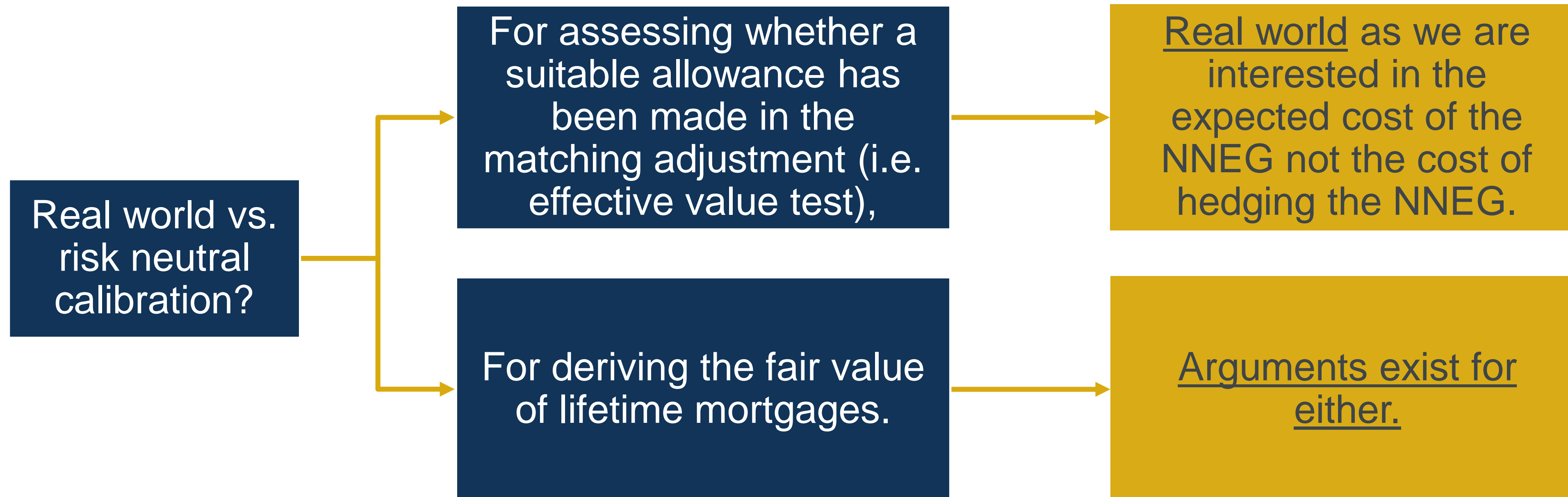
Methodology for deriving the NNEG allowance

Stochastic models (or closed form solutions of stochastic runs) are used to capture the downside property scenarios.

A key considerations is whether these stochastic models should based on a real world or risk neutral calibration…



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Conclusions

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Conclusions

Funding lifetime mortgages is not easy with significant operational challenges and uncertain impacts on the Solvency II balance sheet.

Despite this, the market continues to grow, but how long will this go on for if rates continue to fall and regulation tightens?

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Questions

Comments

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