



## Life Board and Life Research Committee

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### Equity Release 2019 Working Party

#### Overview

The expansion of insurers investing in equity release mortgages (ERMs), and the asset's long term use to back annuity portfolios, brings ERM into scope of the "matching adjustment" (MA) of Solvency II. In an interconnected move the PRA has issued PS31/18 on equity release which, among other matters, questioned the amount of matching adjustment UK based insurers should be holding on their balance sheets for ERMs and put forward the Economic Value Test (EVT) concept as a "diagnostic test" to help the PRA establish if insurers were potentially claiming too much MA. The PRA has launched a consultation (CP 7/19) on how the EVT will be applied under the Solvency Capital Requirement (SCR).

The IFoA's Actuarial Research Centre has also recently published a report on "UK Equity Release Mortgages: a review of the No Negative Equity Guarantee" by R. Tunaru in March 2019. The paper proposed an alternative method for valuing the NNEG using an ARMA-EGARCH approach, including suggesting that the volatility assumption for modelling NNEG should be in the range 4-6% before adjustments for idiosyncratic risk. Another key point raised was the challenge with estimating a deferment rate and the possibility of it being negative. There are a number of unanswered questions in the research such as:

1. What is the appropriate adjustment for idiosyncratic risk?
2. Consider if there is an alternative model to Black-Scholes (eg ARMA-EGARCH) that is a better fit to historic data. Explain why the Esscher transform is an appropriate method of risk-neutralisation.
3. Consider the use of ARMA-EGARCH models within pricing, valuation and capital models.
4. Consider if Black 76 is still an appropriate method for valuing NNEG if calibrated correctly or whether there are alternative methods with closed-form solutions that would be more appropriate e.g. closed form models with less constraints than Black-Scholes, such as Heston models.
5. Consider the financial impacts on economic capital, IFRS and SII balance sheets of the existing and alternative approaches available.
6. Consider for what purposes a risk neutral measure is reasonable and when a real world measure might be reasonable. For risk neutral approaches, consider whether there are appropriate techniques which do not require a deferment rate parameter.
7. Consider how deferment rates should be estimated. This work should cover whether or not rental yields, leasehold-freehold differentials and Lands Tribunal cases are appropriate ways of assessing a deferment rate and, if so, what adjustments need to be made eg how does the cost of borrowing effect it?
8. Consider how model parameters should be set in a low interest rate and low volatility environment, given the long term nature of the NNEG risk, which potentially extends through multiple economic cycles.

#### Working party objective / aims:

1. To assist the Life Board, Life Research Committee and Finance and Investment Research Committee in any matter relating to ERMs.

2. Preparation for any future consultation responses in relation to ERMs to the PRA and FCA including consideration of appropriate mechanisms for considering the EVT under stress.
3. To address the unanswered questions from the ARC research mentioned above
4. Consider if alternative approaches to modelling the NNEG such as using an economic scenario generator of residential house prices would be a suitable alternative approach to modelling the NNEG.
5. Consider the competitiveness of UK based insurers in the equity release market relative to offshore funded providers.
6. To present at IFoA Conferences such as Life Conferences and regional societies.
7. To write an article for the actuary on ERMs.
8. To produce a final report on actuarial practice in respect of (3), (4), (5) and (6) and revisiting concepts such as the EVT in the light of the CP7/19.

**Expected timeframe:**

1. Paper to be ready for peer review by December 2019.

**Suggested sections of paper (core content):**

- a. Review of recent literature (Tunaru, Smith).
- b. Review of parameters, particularly deferment rate and vol. Robustness of those parameters in different economic cycles (not to be written in a way that can be considered as guidance from the IFoA)
- c. Alternative approaches to modelling NNEG eg use of ESG
- d. Analysis of sample portfolios and balance sheets (base)
- e. Consideration of ERMs under stress (EVT under stress and economic models)
- f. Competitiveness of insurers in the current market