



Institute  
and Faculty  
of Actuaries

# Long-term property risk modelling: call for submissions

Equity Release Mortgages Working Party

June 2021

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## **Introduction**

The Institute and Faculty of Actuaries (IFoA) Equity Release Mortgages working party ([ERM WP](#)) is inviting participants to submit model outputs for the purpose of analysing the long-term property risk associated with equity release mortgage assets. The ERM WP would welcome responses from both industry and academia in the UK, but also outside the UK where international modelling perspectives can be shared.

The modelling is based on a notional portfolio of ERM assets, covering a range of different variables relevant to properties collateralising ERMs. However, the key focus of the exercise is house price simulation, so may be of wider academic interest.

## **Modelling considerations**

The output variable being modelled for each mortgage loan is the house price at maturity, where the maturity is at a known future date. The modelling exercise is to produce a set of ten thousand house price values, where each value represents a single randomised simulation.

There are no specific constraints applying to the models used, except that simulations must be stochastic. For example, models can be econometric, time series based, or based on theoretical probabilistic distributions.

The model outputs will be analysed by the ERM WP in an upcoming study on the long-term risk and tail risk associated with property collateral and the No Negative Equity Guarantee (NNEG). This study will analyse and compare different approaches for modelling property risk, and the implications for holders of equity release mortgage assets.

The sample portfolio explores how projected property value at loan maturity differs by projection term, location, property type, date of origination and property value.

## **Submission**

The submissions will take the form of completed Excel spreadsheet templates, with any accompanying notes. Submissions will be anonymised by the IFoA before being handed to the ERM WP to analyse.

Participants are encouraged to submit background information on the model methodology, expert judgments involved and parameter choices. This is on a voluntary basis.

The names of the participants will be acknowledged in the subsequent ERM WP study. In order to preserve commercial confidentiality, participants will not be linked to the model outputs in the research. However, where model methodology references academic research, this will be credited.

The anonymised data will be published on the IFoA's website. The initial research findings will be shared with you for agreement before it is published.

## **Time frame**

Submissions are encouraged by the 30th September 2021.

## **Description of template**

- The "Notional Assets" worksheet contains the sample ERM portfolio data for modelling.
  - The "Sim Output" worksheet contains the table in which modelling output is recorded.
  - For the Total Portfolio Value, this is the sum of the value at maturity of the properties specified in "Notional Assets".

- For the portfolio level “total ERM cash flows” output, participants should calculate this as the sum of cash flows due to the ERM holder at maturity, after any deductions due to the No Negative Equity Guarantee biting.
- No Negative Equity Guarantee is assumed to bite if the projected property value is less than the loan balance at maturity. In this case, the contribution to portfolio cash flow is limited to the property value.
- For consistency, no allowances should be made for dilapidation or sales costs
- The “Sim Output – dilapidation” worksheet is an optional additional set of outputs that include modelling of the effect of dilapidation on the projected property value.

### **Publication of research**

We plan to disseminate the research via the holding of a webinar and potentially a sessional meeting, subject to sufficient interest.

### **Research team and contact details**

The lead contact at the IFoA is Caroline Winchester, email: [caroline.winchester@actuaries.org.uk](mailto:caroline.winchester@actuaries.org.uk)

Submissions will be received by the following email address: [research@actuaries.org.uk](mailto:research@actuaries.org.uk)

The members of the ERM WP working on this piece of research are:

- Raj Saundh (chair)
- Alex Mockridge (work stream lead)
- Thomas Kenny
- Lloyd Jones



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