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UK RMBS FF Logistic Regression Model

Model Summary Document (MSD)

1. Model Purpose and Description

The UK RMBS FF logistic regression model is a criteria model which quantifies the relationship between a binary response variable (i.e. the default risk indicator) and a set of explanatory variables (i.e. risk driven factors), using logistic regression. Using publicly available loan-level data, estimated coefficients of the explanatory variables in the model output quantifies the risk relativity of the risk driven factors, providing an empirical basis for informing and determining the base foreclosure frequency FF assumptions and FF adjustments in the UK RMBS Rating Criteria.

2. Model Assumptions

Both redeemed and repurchases loans are excluded from the analysis of the pool at the end of the modelling period and potential effects are deemed to partially cancel each other.

3. Model Inputs

In total, 11 explanatory variables that are used in the UK RMBS criteria are investigated

- Borrower Sustainable Loan-to-Value (sLTV)
- Borrower Debt-to-income (DTI)
- Loan Purpose
- Origination Channel Group
- Payment Type
- Employment Status - Income Verification Group
- First Time Buyer
- Original Term to Maturity (OTM) Group
- County Court Judgement (CCJ) Value Group
- Prior Bankruptcy / Individual Voluntary Arrangement (IVA)
- Restructured Loan Group

4. Model Development Data

Data is retrieved from the European Data Warehouse (EDW) and the Bank of England (BoE) databases. The majority of the two data templates from the sources are the same, with the BoE template including some extra data fields. The model leverages the information that is available in both data sources.

For the development of the latest model with CLTV, we used two pool cuts, i.e. to use the CLTV (and other risk factors) of the pool of performing loans at time t_1 (i.e. Pool 1) to predict their account status at time t_2 (i.e. Pool 2). The time span between the two pool-cuts is the modelling period/window. There is a trade-off when choosing the length of this modelling period, since:

- the shorter modelling period, the more transactions available.
- the longer modelling period, the more observed defaults for the same transaction.

To increase the number of transactions in the regression modelling dataset given data availability from both sources, a modelling period of around 3 years is used. Additionally, several transactions which had very limited number of valid data points due to missing key information were combined into one transaction group for modelling purposes.

5. Model Limitations

Due to data limitations, only performing prime owner-occupied loans were used in the analysis.

6. Material Changes

The current model version is 1.1.1. Any future material changes will be disclosed in this section.

Contact Information

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