Modelling Mortgage Insurance as a Multi-State Process

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The paper recognizes that a mortgage insurance claim usually occurs as the final state of a multi-state process. The states of the mortgage insurance policy involved in the process are: healthy, in arrears, property in possession, property sold, claim.

A policy often proceeds through this whole sequence of states to generate a claim. The progress is not always one-way. For example, policies in arrears may be cured, and return to the healthy state.

The paper explores the use of a cascaded model for mortgage insurance claims. Each of the sub-models in the cascade is a GLM. The model is applied to the forecast of future arrears and claims experience, including loss reserving.

The use of GLM sub-models renders the cascaded model fully stochastic. This property is exploited to obtain the full distribution of any forecast derived from the model.