

Validation of premium risk partial internal model

Client Situation

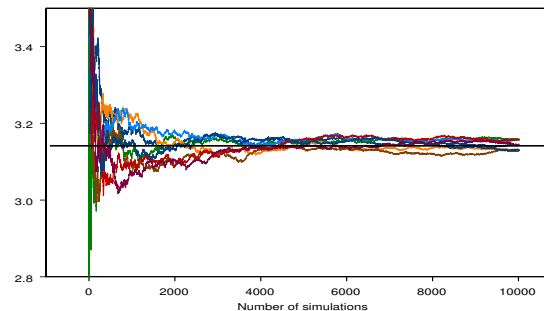
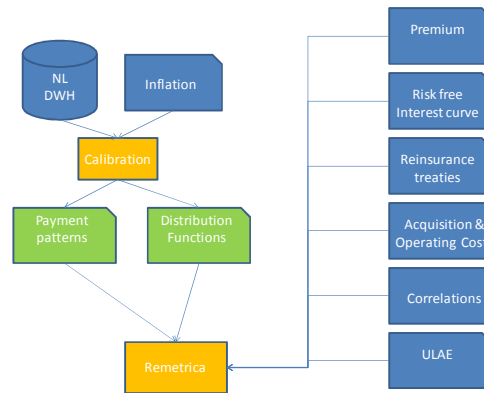
- Large multi channel insurance company
- Assessing the opportunity to enter an application process for their non-life underwriting risk
- Development of a partial internal model for premium risk
- Need of an independent validation of the model on a broad range of dimensions to assess their compliance level with regulatory requirements

Issues

- No sufficient experience on this topic in the validation department
- Strong wish to have a third party feedback on the developments in order to benchmark the model in the market
- Multi-disciplinary team needed as a broad validation was required (methodology, data, implementation, governance,...)

$$UWR = EP_{[0,1]} - Exp_{[0,1]} - \frac{S}{P} * EP_{[0,1]}(1 + ULAE) - \sum_{i=1}^N (C_i + ULAE.E[C_i])$$

Risk driver	Expected loss in model?	Unexpected loss in model?
Exposure risk	Y	N
Rating risk	Y	N
Claim frequency risk	Y	Y
Claim severity risk	Y	Y
Inflation risk	Y	N
Expense risk	Y	Partially (*)
Adverse timing risk	Y	N
Boni-Mali risk	N	N



Reacfin Contribution

- Identification of the risk drivers and their consideration in the model
- Recommendations on the improvement of the methodology and documentation
- Recommendations for the improvement of validation tools (sensitivity testing, back-testing,...)
- Check of the data quality criteria
- Recommendation on the calibration process
- Check of the Remetrics implementation

Results & Benefits

- Positioning of the model with respect to market best practices
- Clear recommendations and prioritisation of the improvements
- Practical examples of tests that could be performed to improve the validation tool
- Clear view on current status of compliance with requirements for partial internal models