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Pricing short-term XL contracts using timeline simulation

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Abstract

This thesis looks at a sample problem of pricing a short-term excess of loss contract, valid only during the last three months of the year. We fit (annual) claim frequency and severity distributions to a dataset of historical losses, using the Peaks Over Thresholds (POT) model. The POT model is extended to allow additional distributions. The limited duration of the contract means that we have to take seasonal variation of claim occurrence rates into account. This seasonality is estimated from external data sources, since our own data are too meagre. Finally, we use Monte Carlo timeline simulation to estimate the total loss.

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