

Truncated distributions for the modeling of solvency in non-life insurance

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Abstract

In many solvency and Basel loss data events we find a threshold or deductibles that affect the analysis capability and the development of the model. However, the different modeling methods proposed by regulations do not consider losses based on missing, truncation and censoring. In this paper, we propose the use of truncated versions of the log-normal and Birnbaum-Saunders distributions in order to consider these aspects. The probability density functions, cumulative distribution functions and moments of these distributions are proposed. Typical properties used in financial industry such as effect inflation and raise to a power are also studied in each of these distributions. An example of application based on real loss data of insurance companies is carried out like illustration.

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