

Transition matrix for Indian non-life insurers

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Abstract

Premium, claims and expenses (including commissions) are the three major variates, which dictate the health and solvency of insurance companies. The time-series data of Incurred Claims Ratio and Expense Ratio are often used as indicators to analyze the same. The paper proposes a statistical distribution for Incurred Claims Ratio, which overcomes the limitations of widely used Wit and Kastelijn (1982) model. The distribution is illustrated with a dataset of Indian non-life insurance companies. Further, an attempt is made to derive the transition probabilities for the state space of this ratio with one year step period. The derived long-run steady state equilibrium is compared with the empirical data and the model estimates, which reveals interesting findings.

Keywords

Markov property, Stationary distribution, Incurred claims ratio, Transition probabilities, Standard deviation, Generalized beta distribution.

References

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