

Bounding the Ruin Probability under Force of Interest

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Abstract

For the ruin problem under interest force the Dubin's approach for martingale has been used to obtain an upper bound on the probability of ruin. The obtained estimate for the ruin probability in the compound Poisson risk model is appropriate when the adjustment coefficient of the individual claim size distribution does not exist. This upper bound is easy to use and does require less rigorous moment condition. Moreover, this estimate considers that the force of interest is nonzero. At least for few distributions this upper bound is tighter than the upper bound found elsewhere.

Keywords: Surplus process, ruin probability, Martingale, Cramér-Lundberg condition, pareto distribution.

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