

ON DISTRIBUTIONS OF SOME ACTUARIAL QUANTITIES IN DISCRETE TIME RISK MODEL

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Abstract

The compound binomial model, as a discrete time version of the classical compound Poisson model in risk theory, is of special importance in actuarial mathematics. In the classical compound binomial model, the number of claims arrived up to a specific period follows a binomial distribution. In this paper, we study distributional properties of some actuarial quantities associated with a compound binomial model. We obtain recursive equations to compute the distributions of the corresponding quantities. We illustrate the theoretical results for particular claim size distributions.

Key words: *Compound binomial model; Claim size distribution; Surplus process*