Some problems in a discrete semi-Markov risk model

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Abstract

This talk discusses some problems for a discrete semi-Markov risk model, which assumes individual claims are influenced by a Markov chain with finite state space. Our semi-Markov risk model is similar to the one studied in Reinhard and Snoussi (2001,2002) without the restriction imposed on the distributions of the claims. In particular, the model of study embraces several existing risk models such as the compound binomial model (with time-correlated claims) and the compound Markov binomial model (with time-correlated claims). Recursive formulae with initial values for computing survival probabilities and the discounted free penalty functions with randomized dividends are derived in the two-state model.