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Compound binomial model with batch Markovian arrival process. (English) Zbl 1459.60188
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Summary: A compound binomial model with batch Markovian arrival process was studied, and the specific definitions are introduced. We discussed the problem of ruin probabilities. Specially, the recursion formulas of the conditional finite-time ruin probability are obtained and the numerical algorithm of the conditional finite-time nonruin probability is proposed. We also discuss research on the compound binomial model with batch Markovian arrival process and threshold dividend. Recursion formulas of the Gerber-Shiu function and the first discounted dividend value are provided, and the expressions of the total discounted dividend value are obtained and proved. At the last part, some numerical illustrations were presented.

MSC:

- 60K25 Queueing theory (aspects of probability theory)
- 60K10 Applications of renewal theory (reliability, demand theory, etc.)
- 60J28 Applications of continuous-time Markov processes on discrete state spaces

Full Text: [DOI](#)

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