Ruin with Insurance and Financial Risks Following a Special Dependence Structure

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Recently, Chen (2011) studied the finite-time ruin probability in a discrete-time risk model in which insurance and financial risks form a sequence of independent and identically distributed random pairs following a common bivariate Farlie-Gumbel-Morgenstern distribution function with parameter $-1 \leq \theta \leq 1$ governing the strength of dependence. For the subexponential case, when $-1 < \theta \leq 1$, a general asymptotic formula for the finite-time ruin probability was derived. However, the derivation there is not valid for $\theta = -1$. In this paper, we complete the study by extending Chen's work to $\theta = -1$. It turns out that the finite-time ruin probability behaves essentially differently for $-1 < \theta \leq 1$ and $\theta = -1$.

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