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Cai, Jun

On the time value of absolute ruin with debit interest. (English) Zbl 1141.91023

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This paper assumes the classical compound Poisson risk reserve process but allows, in the case of negative values, for borrowing of money at a certain debit interest rate. The insurer has to repay the debts continuously from the premium income. If he fails, absolute ruin occurs. The author studies absolute ruin questions by defining an expected discounted penalty function at absolute ruin, which includes the absolute ruin probability, the Laplace transform of the time to absolute ruin, the deficit at absolute ruin, and further quantities related to absolute ruin.

Reviewer: Bero Roos (Leicester)

MSC:

91B30 Risk theory, insurance (MSC2010)
60K05 Renewal theory
91B70 Stochastic models in economics

Keywords:

Compound Poisson process; defective renewal equation; key renewal theorem; absolute ruin; deficit at absolute ruin; Gerber-Shiu function; debit interest; subexponential

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