

Loeffen, R. L.

An optimal dividends problem with a terminal value for spectrally negative Lévy processes with a completely monotone jump density. (English) Zbl 1166.60051

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The author considers a modified version of the classical optimal dividends problem of de Finetti by adding to the objective function an extra term which takes account of the ruin time of the risk process, the latter being modeled by a spectrally negative Lévy process. It is shown that, in general, a barrier strategy is an optimal strategy under the condition that the Lévy measure has a completely monotone density. As a prerequisite, it is shown that under the latter condition, the q -scale function of a spectrally negative Lévy process has a derivative which is strictly non-convex.

Reviewer: [Marius Iosifescu \(București\)](#)

MSC:

[60J99](#) Markov processes
[60G51](#) Processes with independent increments; Lévy processes
[93E20](#) Optimal stochastic control

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[Levy process](#); [stochastic control](#); [divident problem](#); [complete monotonicity](#)

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