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Multidimensional insurance model with risk-reducing treaty. (English) Zbl 1237.91137
Stoch. Models 27, No. 3, 363-387 (2011).

Summary: A multidimensional insurance model is proposed in terms of Skorokhod problem in an orthant, to describe the dynamics of d companies operating under a risk-reducing treaty. Investment in risky assets and fluctuations can also be incorporated into the model. No assumptions on moments of claims are needed. The coefficients can depend on the “pushing part” also. Wellposedness of the model is established. In the case of some Markovian examples, the infinitesimal generators are identified; an interesting aspect is the appearance of the linear complementarity problem in the generator.

MSC:

91B30 Risk theory, insurance (MSC2010)
60H30 Applications of stochastic analysis (to PDEs, etc.)
60J35 Transition functions, generators and resolvents

Cited in 2 Documents

Keywords:

amount needed to avert ruin; Cramér-Lundberg model; dispersion; drift; Feller property; infinitesimal generator; linear complementarity problem; pure jump process; pushing part; multidimensional risk process; reflection; SDE; Skorokhod problem in an orthant; spectral radius; strong Markov property; surplus

Software:

QRM

Full Text: [DOI](#)

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