Højgaard, Bjarne (DK-ALBG); Taksar, Michael [Taksar, Michael I.] (1-SUNYS-S)
Controlling risk exposure and dividends payout schemes: insurance company example. (English summary)

The paper represents a model for the management of an insurance company, and optimizes the actuarial value of the dividends paid out to stockholders until the ruin time. Additionally, at any time, the company has an option to reduce the risk exposure through cheap reinsurance with the same safety loading as the one of the company. Beautiful closed form solutions are presented, and the paper is reader-friendly. The reviewer thinks that there could be many possible studies originating from this research. The approach presented here is non-standard. Usually a reinsurance level is imposed, at least partially, by some insurance law to make the business safer for an insured individual. This could lead to qualitatively different models than the classical diffusion approximation of the surplus, which is Brownian motion with drift. Another question is if similar results could be obtained in the case of more expensive reinsurance. Even in the case of the proportional one, there is probably no cheap reinsurance in the market if it is to be accessible at any time and any level. Additionally, in modern risk theory a zero level of the surplus does not always mean bankruptcy. If the surplus hits zero, the company can borrow money and still operate (with smaller expected gain).

Wojciech Szatzschneider

© Copyright American Mathematical Society 2018