Optimal proportional reinsurance for a risk model with dependent classes of insurance business

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Abstract

This research extends the work of Liang and Yuen (2014) [Liang, Z. and Yuen, K.C. (2014). Optimal dynamic reinsurance with dependent risks: variance premium principle. Scandinavian Actuarial Journal, DOI: 10.1080/03461238.2014.892899]. Under the expected value premium principle, we consider the optimal proportional reinsurance strategy for a risk model with dependent classes of insurance business. Specifically, we derive closed-form expressions for the optimal strategy and value function by maximizing the expected exponential utility, and present a numerical example to illustrate the impact of a model parameter on the optimal strategy.

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