On some actuarial problems for the insurance risk model with thinning dependence

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Abstract

In practice, an insurance company usually has several classes of business which are more or less correlated with each other. In view of the complex nature of modern insurance products, research on modeling dependent classes of business has become an important topic in the actuarial literature. This talk discusses the so-called risk model with thinning dependence proposed by Wang and Yuen (2005) [Insurance: Mathematics and Economics, 36(3), 456-468]. A special case of this model is the frequently-used common shock risk model. Based on the thinning dependence, a few major actuarial issues including ruin analysis, optimal dividend and optimal reinsurance are considered.