Asymptotic Ruin Probabilities for a Bidimensional Renewal Risk Model with Constant Interest Rate and Dependent Claims

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Abstract：This paper considers a bidimensional renewal risk model with constant interest rate and dependent regularly varying claims. We assume that the total initial surplus of an insurance company is proportionally allocated to two kinds of insurance businesses. The dependence among claim sizes stems from two aspects: one is that the two kinds of claims share a common renewal claim-number process, and another one is that each vector of claims follows a general dependence structure given in terms of (survival) copulas containing both asymptotic independence and asymptotic dependence cases. Under certain technical conditions, we derive precise asymptotic formulae for the finite-time and infinite-time ruin probabilities.

*This talk is based on a joint work with Dr. Haizhong Yang