

ASYMPTOTIC OPTIMAL INVESTMENT FOR MINIMIZING RUIN PROBABILITY

Lin XU *Anhui Normal University*. E-mail: xulinecnu@yahoo.com.cn

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Abstract: In this talk, an insurer with perturbed classical risk process and stochastic premium income has the possibility of investment into a risky market. The price process of the risky market is assumed to follow a geometric Brownian motion. The aim of this paper is to obtain the asymptotic behavior of the ruin probability under the optimal strategy in the small claims. The constant (denoted by A^*) maximizing the Lundburg exponent is founded. It turns out that the optimal investment level convergence to the constant A^* as the initial surplus tends to infinity. That is to say, the constant we found is the asymptotic optimal strategy. From actuarial viewpoint, this results indicates that minimizing the ruin probability is an extremely conservative approach for “rich” insurers.