INEQUALITIES FOR THE PROBABILITY OF RUIN IN A REINSURANCE RISK MODEL WITH $m$–DEPENDENCE ASSUMPTIONS

NGUYEN HUY HOANG, TRAN THI HAI LY AND NGUYEN QUANG CHUNG

Abstract. In this article, we investigate a discrete-time risk model. The risk model includes the quota – $(\alpha, \beta)$ reinsurance contract effect on the surplus process. The premium process and claim process are assumed to be $m$-dependent sequences of identically distributed non-negative random variables. Using Martingale and inductive methods, we obtained upper bounds for the ultimate ruin probability of an insurance company. Finally, we present a numerical example to show the efficiency of the methods.

Mathematics subject classification (2020): 91B30, 60K05, 60K10.

Keywords and phrases: Discrete time risk model, reinsurance, $m$-dependence random variables, ultimate ruin probability, Martingale process, recursive equation.

REFERENCES


