

Abstract

In this paper, we investigate the approximate ruin probabilities under financial constraints (interest rate, inflation, and taxation). We formulate a risk process whose premium inflow is influenced by the economic effects of inflation and interest rate. Thereafter we invoke the Albrecher-Hipp loss-carried-forward tax scheme from which an exact formula for the ruin probability for exponentially distributed claims is derived. Finally, an explicit asymptotic formula when the claims have sub-exponential distribution is also derived using the Pollaczek-Khintchine formula.