The distribution of the total dividend payments in a MAP risk model with multi-threshold dividend strategy

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Abstract

Recently there have been several studies on the dividend payments prior to ruin in various risk models. By employing some new obtained results in the actuarial literature, we analyze the distribution of the total dividend payments in a risk model with multi-threshold dividend strategy, where the claim arrivals are modeled by a Markovian arrival process (MAP). A piecewise integro-differential equation in matrix form is derived and solved analytically for the moments of present value of the total dividends prior to ruin. In this presentation, we will also discuss the differences between our method and other existing ones. An example with exponentially distributed claim amounts is illustrated numerically.