

Analysis of the Generalized Gerber-Shiu Function in Discrete-time Dependent Sparre Andersen Risk Model

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Abstract

This talk focuses on analyzing the generalized Gerber-Shiu function studied by Cheung et al. (2010b) in the dependent Sparre Andersen risk model under the discrete setting. Various joint defective discounted probability functions of risk theoretic quantities are derived under the specific dependent structure with a combination of geometric interclaim times. Also, we briefly discuss the independent case assuming a combination of geometric claim amounts. Furthermore, the discrete-time delayed risk model is considered. Finally, numerical examples with different joint probability functions for the interclaim times and the claim severities are given in the ordinary (Sparre Andersen) and delayed risk models.

Keywords: Generalized Gerber-Shiu function, Discrete-time dependent Sparre Andersen risk model, Joint defective discounted probability functions, Delayed risk model.