



RUIN THEORY

Some Stable Algorithms in Ruin Theory and Their Applications, by David C. M. Dickson (University of Melbourne), Alfredo D. Egídio Dos Reis (ISEG, Lisbon), and Howard R. Waters (Heriot-Watt University, Edinburgh)

In this paper we present a stable recursive algorithm for the calculation of the probability of ultimate ruin in the classical risk model. We also present stable recursive algorithms for the calculation of the joint and marginal distributions of the surplus prior to ruin and the severity of ruin. In addition, we present bounds for these distributions. *Astin Bulletin*, November 1995, 25(2): 153–175. (Reprinted with permission of the *Astin Bulletin*.)

The Effect of the Retention Limit on the Risk Reserve, by Maria De Lourdes Centeno (Technical University of Lisbon)

This paper is devoted to the study of the initial reserve, as a function of the retention limit, needed to assure that the probability of ruin, at the end of a certain period of time, is not higher than an agreed value, for an excess of loss treaty. To assess the probability of ruin, the normal and the normal power approximation are used. It is shown that the initial reserve is not in general an increasing function of the retention, having a minimum under fair assumptions. *Astin Bulletin*, May 1995, 25(1): 67–74. (Reprinted with permission of the *Astin Bulletin*.)

Does Markov-Modulation Increase the Risk? by Søren Asmussen (Aalborg University, Denmark), Andreas Frey (University of Ulm, Germany), Tomasz Rolski (University of Wrocław, Poland), and Volker Schmidt (University of Ulm)

In this paper we compare ruin functions for two risk processes with respect to stochastic ordering, stop-loss ordering, and ordering adjustment coefficients. The risk processes are the Markov-modulated environment and the associated averaged compound Poisson model. In the latter case, the arrival rate is obtained by averaging over time the arrival rate in the Markov-modulated model and the distribution of the claim size is obtained by averaging the ones over consecutive claim sizes. *Astin Bulletin*, May 1995, 25(1): 49–65. (Reprinted with permission of the *Astin Bulletin*.)



MORTALITY RISK

A Reappraisal of the Principle Underlying the Conventional Actuarial Estimator of q_x by Anthony S. Puzey (City University, London)

This paper considers the principle underlying the conventional actuarial estimator of q_x . A new rationale of this estimation method is described, providing an alternative to the rationale set out by Cantelli (1914), from time to time the focus of controversy. It is pointed out that the product limit estimator also conforms to this

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