



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

new rationale. Discussion of the new rationale identifies an instructive analogy between the conventional actuarial estimator and a money-weighted rate of return in a financial transaction, and between the product limit estimator and a time-weighted rate of return. *Insurance: Mathematics and Economics*, October 1995, 17(2): 125-132. (Reprinted with permission of North-Holland Publishing Company.)



INSURANCE RATEMAKING

Community Rating and Equalisation, by Walther Neuhaus (University of Copenhagen and MIRA Consultants, Ltd., Sydney)

Several countries have made community rating mandatory for certain lines of insurance, particularly health insurance. This paper offers a theoretical solution to the problem of designing equalisation schemes to support community rating in a market where different insurers are selling different benefit plans. The criterion chosen is that an equalisation scheme should minimise the opportunities for arbitrage between insurers, which community rating otherwise would generate. Several possible measures of arbitrage are presented, and the optimal schemes are compared against data from Australian health insurers. Finally, the approach is extended to partial community rating, for example unisex rating. *Astin Bulletin*, November 1995, 25(2): 95-118. (Reprinted with permission of the *Astin Bulletin*.)



HEALTH AND RETIREMENT

The Task Force on Aging Research, established by Congress in 1990, has developed a comprehensive retirement data base known as the Health and Retirement Study (HRS.) In 1992, the HRS began to follow a cohort of men and women aged 51 to 61. This longitudinal study will interview respondents every other year for the rest of the decade and beyond. This first wave of data, which has just been released for public use, contains 12,564 respondents from 7,703 households. It contains an oversample of blacks, Hispanics, and residents of the State of Florida. Readers interested in the scope of the HRS are directed to a thorough analysis of its content and potential for research contained in *The Journal of Human Resources*, 1995, Vol. 30 (Supplement). This special issue provides a historical development of the project and a description of the data and each major section of the study (labor force participation and pensions, health conditions and health status, family structure of transfers, and economic status). Several papers give examples of uses of the HRS. Still other articles review the survey and assess the quality of the data.

The authors were privy to two preliminary versions of the data. Restrictions were placed on their ability to share the data to meet confidentiality guidelines because the HRS data will eventually be linked to the Social Security Administration master earnings file and master beneficiary records. The authors, however, are willing to send researchers the programs used in their analysis which, in most

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