NOTES ON OTHER ACTUARIAL JOURNALS

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GERMANY

Blätter der Deutschen Gesellschaft für Versicherungsmathematik, 11, 1974

RICHTER, H. Die historische und logische Verbindung zwischen Wettbegriff und Wahrscheinlichkeitsbegriff (The historical and logical connection between the concepts of betting and probability), pp. 481–90. The second part of this paper deals with the emergence of the concept of probability from the study of games of chance and its development to about the beginning of the nineteenth century but leaving the contribution of Thomas Bayes to the third part.

PFENNINGER, F. Eine neue Methode zur Berechnung der Ruinwahrscheinlichkeit mittels Laguerre-Entwicklung (A new method of calculating the ruin probability by means of a Laguerre development), pp. 491-532. It is shown that the ruin probability for a compound Poisson process with identically distributed positive claim amounts can be represented by a uniformly convergent series of Laguerre polynomials, suitable for its numerical evaluation by computer.

NEUBURGER, E. Zur Entwicklung sich erneuernder Bestände, pp. 533–52. This is the first part of a two-part paper dealing with the problem of forecasting the development of portfolios with new entrants. Special points of interest are the frequencies and time spans governing the attainment of the stationary state by a portfolio of constant size and the effect of new entrants with a given age distribution. The paper concerns itself only with the resulting distribution of the portfolio and this first part deals with the theoretical aspects.

GRZEMBA, G. Erwartungswert, Varianz und Schiefe der Leistungsverteilungsfunktion verschiedener Versicherungsbestände, pp. 553–64. Develops simple formulae for the calculation of the expected value, variance and skewness of the claims distribution function of an insurance portfolio and sets out a method for estimating variance and skewness.

LAUX, H. Der Anlaufeffekt im kollektiven Bausparen bei gleichbleibenden und steigenden Neuzugängen, pp. 565–604. This is a further contribution by this author to the discussion of the financial structure of collective savings and loan systems for housing purposes. It deals with the running-in effect, peculiar to new systems or new plans, of allowing initially shorter waiting periods than in the longer term. (Earlier contributions will be found in Blätter 10 and 11.)

HEUBECK, G. Mathematisch-technische Fragen aus dem neuen Gesetzgebungsentwurf zur Verbesserung der betrieblichen Altersversorgung (Bundestagsdrucksache 7/1281), pp. 605–22. This is a critical examination of the financial effect on employees and employers of certain recent and proposed German legislation for automatic vested rights under private pension arrangements.

STORCK, H. Mathematisch-technische Fragen zur Unverfallbarkeit bei Direktversicherungen, pp. 623-39. This paper deals with the same subject as the preceding one by Heubeck, but concentrates on assured pension arrangements.

NEUBURGER, E. Notiz über einen rechnerangepassten Algorithmus zur Berechnung von Prämien und Reserven, pp. 641–8. A description of methods of calculating premiums and reserves using matrix notation which are claimed to be specially suitable in dealing with frequently changing sets of benefits.
ITALY

Giornale dell'Istituto Italiano degli Attuari 34, 1971


Carusi, M. Su un problema di ottimo relativo alla costituzione di un capitale (On an optimisation problem related to capital redemption), pp. 27–34.

Di Lazzaro, M. Uno studio su un problema di controlli, atti a verificare l'efficienza di un sistema operativo, in vista di una ispezione esterna (A study of a problem of controls suitable for checking the efficiency of an operational system, in view of an external inspection), pp. 35–53.

Pistilli, G. Alcuni aspetti tecnici dell'assicurazione complementare di invalidità nel contratto di assicurazione vita (Some technical aspects of additional disability benefits in life assurance contracts), pp. 54–102. Includes statistics from Italian and international sources analysing claims distribution according to cause of disability. The particulars of social insurance benefits are incomplete in the case of U.K.

Ronchi, V. Sulla durata media di lavoro di una macchina sottoposta a controlli a istanti prefissati (On the mean duration of service of a machine subjected to predetermined periods of checking), pp. 103–14.

Oliveri, G. Il metodo dei gradienti coniugati per la minimizzazione di funzioni a n variabili senza vincoli (The method of conjugate gradients for the minimisation of n-variable real independent functions), pp. 115–41. Describes a method now developed as a computer application.

Blasi, A. Techniche algebriche per la costruzione di insiemi di variabili aventi ben definite proprietà di simmetria per permutazione (Algebraic techniques for construction of groups of variables having well-defined properties of symmetry for permutation), pp. 142–75.

SCANDINAVIA

Scandinavian Actuarial Journal, 1971


Bohman, H. A risk theoretical model of insurance business, pp. 50–2. Bearing in mind rapid variations experienced in non-life business, the author modifies the classical ruin problem. He supposes that the insurer reacts to events by varying the net retention and the capital margin (equalization fund) which has to be exhausted to produce ruin.

Hald, A. The size of Bayes and minimax tests as function of the sample size and the loss ratio, pp. 53–73.


Sillitto, G. P. Estimation of the median and other percentiles of an unknown continuous univariate population, pp. 90–6.

Malmquist, S. A note on a property of beta-distributed variables with applications to ordered observations, pp. 97–101.

Thorin, O. Further remarks on the ruin problem in case the epochs of claims form a renewal process. Part II, pp. 121–42. See note above.

Grandell, J. and Segerdahl, C.-O. A comparison of some approximations of ruin probabilities, pp. 143–58. The incidence of claims in time is taken to be a Poisson process. The amounts are \( \Gamma \)-distributed.


Philipson, C. A note on transforms of renewal and other models applied to the collective risk theory, pp. 164–82.


Hoem, J., Ris, J. and Sand, R. Disability Income Benefits in group life insurance, pp. 190–203. The benefit considered is a disability annuity up to an agreed age or earlier recovery. Partial disability qualifies according to degree. Risk premiums are derived mathematically and some numerical results are calculated from Norwegian data.


1972


Dayananda, P. W. A. Optimal Reinsurance with Several Portfolios, pp. 14–24. An account of the author's research into a model office reinsuring \( n \) portfolios between its \( n \) departments.

Bohman, H. A Class of Risk Processes Where Explicit Formulas for the Ruin-probabilties can be obtained, pp. 25–7. Chooses a particular form of distribution function for the total claims amount which leads to explicit formulae for the chance of ruin.


Kharshikar, A. V. Comparison of Net Premiums from the Point of View of Minimum Variance: Two Approaches, pp. 57–64. Discusses a statistical model for comparing whole-life policies from the point of view of individual lives assured.

Streit, F. Probabilities for the Local Behaviour of Poisson Distributed Events, pp. 65–72.


Sanved, E. Ancillary statistics in Models without and with Nuisance Parameters, pp. 81–91.


Dayananda, P. W. A. Alternative Procedure for the Supervision of Insurance, pp. 113–27. A mathematical model subject to given parameters and boundary conditions leads to solvency criteria and a suggested rescue procedure.

Notes on Other Actuarial Journals

Prawitz, H. Limits for a Distribution, if the Characteristic Function is given in a Finite Domain, pp. 138–54.

Miller, R. B. A Decision Theoretic Formulation of Insurance Risk Theory, pp. 155–69. Borch's utility concept approach is combined with Bayesian probability criteria. Claim records form a basis for suitable projections. A numerical illustration concludes the paper.

Lwin, T. Estimation of the Tail of the Pareto Law, pp. 170–8.


Jagers, P. A Ruin Problem for the Insurance of Expanding Portfolios, pp. 187–90. 'The purpose of this short note is to demonstrate the power of very straightforward branching process methods outside their traditional realm of application.'


Brunner, E. Holm's Probability-paper Test in Relation to the Kolmogorov-Smirnov One-sample Test, pp. 199–201.


1973

Hassanein, K. M. and Sebauch, J. L. Estimation of the parameters of the logistic distribution from grouped samples, pp. 1–10.

Prawitz, H. Ungleichungen für den absoluten Betrag einer charakteristischen Funktion (Inequalities for the absolute amount of a characteristic function), pp. 11–16.

Mäki, D. P. Some special cases of describing distribution functions by moments, pp. 17–22.

Martin-Löf, A. A method for finding the optimal decision rule for a policy holder of an insurance with a bonus system, pp. 23–9.


Jung, J. A note on a classical result in the collective risk theory, p. 61.

Kemp, A. W. On gamma function inequalities, pp. 65–9.

Bohman, H. Insurance business described by a mathematical model, pp. 70–99.

Thorin, O. The ruin problem in case the tail of the claim distribution is completely monotone, pp. 100–19.

Chan, L. K. and Chan, N. N. On the optimum best linear unbiased estimates of the parameters of the normal distribution based on selected order statistics, pp. 120–8.

SWITZERLAND

Mitteilungen der Vereinigung schweizerischer Versicherungsmathematiker, 74, 1974

Heywood, G. Evolution des régimes de retraite au Royaume-Uni, pp. 23–8. This lecture given by the President of the Institute of Actuaries at a meeting of the Swiss Actuarial Association describes the most recent development of pension provision in the United Kingdom,
Notes on Other Actuarial Journals

including the legislation which was due to come into force in April 1975, but which has since been set aside.

Kaiser, E. Die dynamische Relativität: ein Zentralproblem der Sozial- und Wirtschaftsmathematik, pp. 29-62. The paper summarises the results of thirty years research by the author into the mathematics of social and economic systems. It deals with the evolution of the most important wage-related macro-economic and macro-social variables.

Menzel, H. Irrfahrten in höheren Dimensionen, pp. 63-6. For random walks in IR^n, n ≥ 2, some results are summarized which concern the asymptotical behaviour of the renewal measure of certain sets in IR^n.

Müller, H. Ein Portfolio-Modell—Marktgleichgewicht bei subjektiven Preiserwartungen, pp. 67-114. The paper presents a mathematical treatment of a market in money and speculative goods, evaluating portfolios by Neumann utility functions and proving the existence and conditional Pareto optimality of a market equilibrium. The introduction of a price mechanism leads to system stability in the case of a single speculative commodity.

Frischknecht, M. Untersuchungen über den Kapitalisationsgrad in der obligatorischen Alters- und Hinterlassenenvorsorge in der Schweiz, (Examination of the degree of capitalization of the compulsory old age and dependants' provision in Switzerland), pp. 115-29.

Gerber, H. On Iterative Premium Calculation Principles, pp. 163-72. A follow-up of E. Straub's paper in vol. 71 (see J.I.A. 97, 356). The Principle of Zero Utility is iterative if and only if the underlying utility function is linear or exponential, and the class of all iterative premium calculation principles satisfying a certain regularity condition is identical with the class of the Mean Value Principles.


Jewell, W. S. Exact Multidimensional Credibility, pp. 193-214. Attempts to show that for the multidimensional case exact credibility can only be required in certain special cases.

Gagliardi, B. AND Straub, E. Eine obere Grenze für Stop-Loss Prämien (An upper limit for stop loss premiums), pp. 215-21. If an integrated Poisson-distributed overall loss variable is replaced by one with degenerate distributed individual loss, it becomes easy to calculate stop loss premiums which, in addition, form an upper limit for the stop loss premiums belonging to the original overall loss.

Hösl, K. Grenzwertsätze für Warteschlangen, Dämme und Risikotheorie (Limit Theorems for queues, dams and risk theory), pp. 223-38.

Kupper, J. Die Entwicklung der Sterblichkeit in der schweizerischen Kollektivversicherung, pp. 239-68. Outlines the results of investigations into the experience of Swiss assured pension and life assurance schemes in the years 1966-70.