NOTES ON OTHER ACTUARIAL JOURNALS


BELGIUM

Association Royale des Actuaires Belges: Bulletin, 70, 1975

Consael, R. La régime actuel des pensions légales—Problèmes de financement (The present system of social security pensions—financing problems).

De Vylder, F. Maximum de vraisemblance et moindres carrés pondérés dans l’ajustement des tables de mortalité (Maximum likelihood and weighted least squares in the graduation of mortality tables). Discusses the comparative merits of maximum likelihood and least squares methods in the context of a Makeham graduation and puts forward a ‘weighted least squares’ method.

Gemine, R. Comportement asymptotique du solde bénéficiaire conservé par l’assureur dans un modèle simple d’experience-rating décès (Asymptotic behaviour of the profit retained by the insurance company in a simple model of experience-rating for death benefits).

Lemaire, J. Si les assurés connaissaient la programmation dynamique . . . Consider the effect of bonus-nalus motor premiums on the insured’s propensity to claim.

Lemaire, J. Sur l’emploi des fonctions d’utilité en assurance (On the use of utility functions in insurance).

Jaumain, C. Technique de la transformation des contrats d’assurance sur la vie. Discusses actuarial aspects of life policy alterations.

FRANCE

Bulletin Trimestriel de l’Institut des Actuaires Français, 87, 1976


Damiani, P. Introduction du calcul matriciel dans la théorie des assurances sur la vie. Develops a matrix notation for life assurance, which could provide an alternative approach to computer programming of life business.

Thomas, A. Théorie élémentaire d’une compatibilité en pouvoir d’achat constant (Elementary theory of constant purchasing power accounting).

Petauton, P. La sommation approchée par une intégration (Summation approached via integration).


Pizzo, J. L’expansion naturelle et l’inflation dans une Compagnie-Vie (Natural expansion and inflation in a life office context).

GERMANY

Blätter der Deutschen Gesellschaft für Versicherungsmathematik, 12, 1976

Forster, E. and Steinmüller, H. Gleichgewicht bei Moralischem Risiko. Examines the effect of moral risk equilibrium.
of the claims behaviour of grantees of policies on the level of claims and thereby on the premiums, starting from the assumption that increased premiums cause increased claims.

HELTEN, H. Die Aufgaben des Mathematikers bei der Lösung ökonomischer Probleme der Versicherungsunternehmung (The tasks facing the mathematician solving economic problems in insurance).

GESSNER, P. Modell zur Analyse der Gewinnreserve eines Bestandes. A rate of interest is determined for a portfolio for which present asset values and future income balance the expected outgo, allowing for the shares of different types of policies in reserves for future bonuses. It is suggested to calculate this rate annually and use it as a standard for judging the development of the reserve for bonuses.

LAUX, H. Bausparen trotz Baukostenerhöhungen. Discusses contribution systems for saving and loan plans for building purposes as operating in Germany to overcome the problems raised by inflationary increases in land and building costs.

NEUBURGER, E. and VON CHOSSY, R. Vorschlag eines mathematischen Modells der Risikotheorie (A mathematical model of the theory of risk). The paper is structured on Bühlmann's book Mathematical Methods in Risk Theory, concentrating on a presentation of the mathematical framework of risk theory, as opposed to its practical application. An example is, however, given of the determination of a credibility premium with the help of the model.

ITALY

Giornale dell'Istituto Italiano degli Attuari, 36, 1973

PISTOA, A. Sulla dinamica di operazioni finanziarie non necessariamente certe (On the dynamics of financial operations not necessarily predetermined). If positive or negative payments due at time $t_k$ are denoted by $\alpha_k$, $k = 0, 1, \ldots, n$, then the zeros of $F(i, \alpha) = \sum_{k=0}^{n} \alpha_k e^{ik}$ give the internal rate of return. The behaviour of the function $F$ for various patterns of the $\alpha_k$'s is studied in the first section.

BALDESSARI, B. and FINOCCHIARO, M. C. Valore attuale di processi aleatori, (Present values of stochastic processes).

RIZZI, B. Considerazioni sui metodi per la risoluzione dei sistemi e le operazioni che essi comportano (Considerations on methods for solving systems and the operations they involve). The systems referred to are simultaneous linear equations and the operations are computer methods.

FEDELE, U. Sui contratti a prestazioni variabili nell'assicurazione sulla vita (On life policies with variable sums assured) The type of policy considered is a generalized increasing assurance.

CUNDARI, A. M. Su una nozione di convergenza per successioni di variabili aleatorie reali (On a notion of convergency for successions of real random variables).

ROSSI, C. Sulle curve di livello di una superficie di ripartizione in due variabili (On contours of a partition surface in two variables).

RAGANELLI, V. Alcune possibili applicazioni della teoria del rischio alla meccanica quantistica (Some possible applications of risk theory to quantum mechanics).

RAMAGLIA, A. Rischi matematici di una obbligazione di età $z$ loro andamento in un caso particolare (Mathematical risks of a bond issued $z$ years ago and their progression in a particular case).
SCANDINAVIA

Scandinavian Actuarial Journal, 1974

SEAL, H. L. The numerical calculation of U(w, t), the probability of non-ruin in an interval (0, t).
"A formula for U(w, t), the distribution function of the waiting time . . . was derived . . . for queues by Beneš (1960). Here we use it to calculate the probability of non-ruin in risk theory. . . . The difficulties encountered are described in some detail."

RAO, B. R. A note on some properties of the hypergeometric function with the last argument unity.

BASU, A. K. and WASAN, M. T. On the first passage time processes of Brownian motion with positive drift.

CHAN, L. K. On the asymptotic normality of some unbiased estimates.

HUFF, B. W. A comparison of sample path properties for the inverse Gaussian and Bessel processes.

DILLNER, C. G. New bases for long term sickness insurance in Sweden from 1973. The former bases, described by the author in SAJ 40, 1969, depended on the sickness annuity technique. Since then, due to a bad claims experience, the premium system has been modified. Risk premiums are used, and can be changed on renewal. The main conclusion is that cases of sickness tend to last longer, especially at higher ages.

BOHMAN, H. On the use of simulation technique, with comments by Ove Lundberg, Experiments with an insurance company.

BLOCK, W. and RAO, B. R. Some generalized distributions based on Stacy's generalized gamma distribution.

VON BAHR, B. Ruin probabilities expressed in terms of ladder height distributions.

NATH, G. B. On sums and products of truncated exponential variates.

GOEL, P. K. A note on the consistency of maximum likelihood estimators.

LWIN, T. Empirical Bayes approach to statistical estimation in the Paretoian law.

BOHMAN, H. Rule of thumb for the determination of a sufficient risk reserve.

1975

SCHAFER, D. B. A note on a simple test function for the Weibull distribution location parameter.

VON BAHR, B. Asymptotic ruin probabilities when exponential moments do not exist.

TAYLOR, G. C. On the radius of convergence of an inverted Taylor series with particular reference to the solution of characteristic equations.

PRAWITZ, V. H. Weitere Ungleichungen für den absoluten Betrag einer charakteristischen Funktion (Further inequalities for the absolute amount of a characteristic function)

PENTIKÄINEN, T. A model of stochastic-dynamic prognosis.


BOHMAN, H. Sufficient distance to the barrier during random walk.

TAKÁCS, L. On a formula of Harald Cramér.

NORBERG, R. Credibility premium plans which make allowance for bonus hunger.

THORIN, O. Stationarity aspects of the Sparre Andersen risk process and the corresponding ruin probabilities.

BASU, A. K. and WASAN, M. T. First passage time process of a standard Brownian motion.
GOEL, P. K. Consistency and asymptotic normality of maximum likelihood estimators.

WIKSTAD, N. A numerical investigation of Bohman's rule of thumb for the determination of a sufficient risk reserve.

BOHMAN, H. Numerical inversions of characteristic functions.

HOEM, J. M. and BERGE, E. Some problems in Hadwiger fertility graduation.

PRAWITZ, H. On the remainder in the central limit theorem.

LARSSON, G. and PETTERSSON, Y. The technical bases of staff pension insurance in Sweden.

NATH, G. B. Unbiased estimates of reliability for the truncated gamma distribution.

HUANG, J. S. A note on order statistics from Pareto distribution.


GEBSKI, V. J. Solving the maximum likelihood equations of the Poisson-Pascal distribution using inverse interpolation.

HASSANEIN, K. M. and LEGLER, W. K. On minimum variance stratification for estimating the mean of a Weibull population.

JENSON, D. R. The use of efficient estimates in multiple tests for goodness of fit.

BEKKMAN, J. A. Compound Poisson processes, as modified by Ornstein-Uhlenbeck processes.

BERG, S. A note on the connection between factorial series distribution and zero-truncated power series distribution.

EKHULT, H. Disability insurance with a special model of loading for costs of sale.


1976

POHL, P. Description of MCV, a pseudo-random number generator. MCV stands for 'multi-cyclic vector', which the author describes as a fast generator with extremely good statistical properties.

JEWELL, W. S. Two classes of covariance matrices giving simple linear forecasts.

BEKKMAN, J. A. Compound Poisson processes, as modified by Ornstein-Uhlenbeck processes, Part II.


KNUDSEN, A. Gross loading and cost analysis in Norwegian life insurance 1970-73. "The Statistical Bureau of the Norwegian Life Insurance Offices has worked out cost analyses for most of the years since 1944."

BOHMAN, H. How to live with inflation in [non-life] insurance business.

BÜHLMANN, H. Minimax credibility.

LWIN, T. Optimal linear estimators of location and scale parameters using order statistics and related empirical Bayes estimation.

NORBERG, R. A credibility theory for automobile bonus systems. A correction note appears later in the same Journal.

KARLSSON, J. E. The expected value of IBNR-claims.

BOHMAN, H. Solvency and profitability standards.

SEAL, H. L. When does a renewal, or other stationary point process, start?
Notes on Other Actuarial Journals

DE VYLDER, Fl. Geometrical credibility.

KEIDING, N. and HOEM, J. M. Stochastic stable population theory with continuous time. I.


SWITZERLAND

Mitteilungen der Vereinigung schweizerischer Versicherungsmathematiker, 76, 1976

DE VYLDER, F. Optimal Semilinear Credibility.

CHUARD, P. La formule de récurrence pour l'effectif des invalides dans le modèle pratique. Gives an alternative to the recurrence formula commonly used for the collective of disabled persons, to facilitate calculations.

KAISER, E. Versicherungsmathematische Analyse des Obligatoriums der beruflichen Pensionsversicherung (Zweite Säule der AHI-Vorsorge). Describes the mathematical basis of an actuarial report published by the Swiss Social Insurance Office in connection with the planned introduction of compulsory occupational pensions.

BÜHLMANN, H. and TAYLOR, G. C. Claims Mortality and the Existence of Moments of the Claim Size Distribution. Proves an interesting connection between the asymptotic behaviour of the claims mortality and the existence of all moments of the claims distribution. 'Claims mortality' is a term due to Benktander.

STAUBER, K. Numerische Methoden der Zinsrechnung in der Versicherungsmathematik. Defines discount factors and rates of mortality in matrix terms for computer use and gives examples of the calculation of actuarial functions for constant and time-variable rates of interest.

LOEFFEL, H. Über die Anfänge der Wahrscheinlichkeitsrechnung. Sketches the contribution of Girolamo Cardano (1501-76) to the history of the theory of probability.

SCHMID, H. and VOLKMER, J.-P. Morbiditätsstatistik KKB 1974, Describes the computer evaluation of data provided by the Sickness Assurance Company for the Canton of Berne to construct an up-to-date basis for the insurance of medical and hospitalization costs and sickness benefits.

KUNZ, P. Die Dynamisierungsquoten verschiedener Rentenanpassungsmethoden der AHV. Measures, by way of dynamization ratios, the relationship between the pensions payable under the Swiss Government Pension Scheme and price and salary indices.

CHUARD, P. Note sur les valeurs actuelles de base pour des prestations variant en progression géométrique (Note on basic actuarial values for geometrically changing payments).

MARAZZI, A. Minimax Credibility. Suggests a method for the computation of optimal (minimax) credibility estimates when the structure function is not exactly known.

DE VYLDER, F. Combinatorial Summation, The author proves a main theorem on symmetric functions on the basis of the generalized Kronecker δ. Craig's theorem on quadratic forms of normal variables results as an application of the above main theorem.

COURANT, S. Invaliditätsversicherung von Frauen. Investigates the reasons for higher inception rates for disability benefits for females than for males and concludes that they are not medical.

FRISCHKNECHT, M. Zielfehler bei der obligatorischen 2. Säule? Examines the suitability of the assumptions relating contributions and pensions under the proposed Swiss Law for Occupational Pensions.

LAMSON, J. Réflexions sur l'évolution des taux d'intérêt (Reflections on the development of interest rates).