NOTES ON OTHER ACTUARIAL JOURNALS

NETHERLANDS

Het Verzekerings-Archief

DEEL **68**-1991-1

VAN DER BERGHE, L. A. A. *Strategische keuzes dringen zich op voor alle partners in de verzekeringsmarkt.* The author believes that insurers have more need than ever before of proper strategic planning and a marketing philosophy. He shows how various criteria can be used to decide between various options for growth, internationalisation, diversification, distribution strategy, etc.

BREVET, K. W. *De Tweede Richtlijn Schadeverzekering en het toepasselijk recht.* The author discusses the implications of the 2nd non-life directive for situations in which the conflict of national laws might apply. The paper concludes with a decision table.

DAMM, M. *Het renterisico in kaart gebracht; de rol van duration en convexiteit in het matching proces bij verzekeringbedrijven en pensionenfondsen.* The paper introduces the concepts of duration and convexity in the context of managing interest rate risk for pension funds. These ideas help to manage the risks and can lead to lower costs and higher returns.

DEEL **69**-1991-2

DUIJKERSLOOT, A. P. W. *EEG-kartelrecht en de verzekerings sector: groepvrijstelling in voordereiding.* The author highlights some implications of EEC competition law and considers certain circumstances in which a general exemption might be applicable.

KOK, W. C. A. *Op weg naar kansrijke activiteiten in het actuariat.* In his farewell address as Professor of Life Assurance at Amsterdam University, Prof drs Kok highlights the role to be played by actuaries in a variety of risk-related fields.

VAN KLINKEN, J. *Pensioenfinanciering en-beleid vanaf 1950; enkele opmerkingen.* In his farewell address as Professor of Social Affairs and Pension Funds the author surveys the management and financing of pension funds in the Netherlands since the Second World War. He also refers to the tax considerations, to the implications for contribution rates in the future and to the way in which provision is shared between the private and public sectors.

SMID, C. L. *Actuariele wardebepaling in het levensverzekeringsbedrijf.* In his inaugural address as Professor of Actuarial Principles of Life Assurance at Amsterdam University, the author looks at various ways in which actuarial concepts of value are applied in life assurance. He touches on the statutory valuation, certification of reserves and embedded values.

WOLTHUIS, H. *Actuariaat-leven, evolutie of revolutie?* In his inaugural address as Professor of Actuarial Principles of Life Assurance at Amsterdam University, the author illustrates the evolution of actuarial science by reference to successive Kuhnian paradigms. He then discusses principles for premium calculation and topics such as risk classification, selection, solidarity and underwriting, as well as more advanced notions such as Markov models, martingales and retrospective premium reserves. He concludes with a discussion of the philosophical framework.

VAN HUIZEN, H. J. G. *Enkele kanttekeningen bij de Wet Assuarantiebemiddelingsbedrijf.* The paper surveys certain aspects of a recent law revising the framework of operation of insurance intermediaries in the Netherlands, and discusses the position of the agent with unlimited powers.

SPAIN

Actuarios

Issue No. 1, July 1990

This is the first issue of a three-monthly publication which takes the place of the *Anales*, which was last published in 1988.

The format is similar to *The Actuary*, with actuarial news, official notices, technical articles, press comments on actuarial matters, and a list of appointments.

The technical articles of the first issue were the following:

VELASCO, C. P. *Planes de Pensiones. Tres años después.* (*The law on pension funds and plans—three years on*). The article covers the interpretation and rationale behind the 1988 Pensions legislation and subsequent regulations. The restriction in the legislation of no guaranteed minimum interest is looked at in detail, and the consequences for the plan explained. The article also compares the legislation with that in the U.S.A. and EEC countries.

ZALBIDEGOITIA, A. B. *Criterios actuariales.* (*Pending regulations 1—actuarial criteria*). Given the immenent prospect of regulations of the format of actuarial reports for pension funds, the author sees a need to agree common ground within the profession on the use of multiple decrement tables, the choice of mortality tables, the use of survival factors and the definition of benefits or contributions. Each of these items is treated in turn, and contrasted with market practice.

HERRERA, J. J. D. & FERNANDÉZ, P. L. *Evolución de los sistemas financieros.* (*Spanish study-the evolution of financial markets*). After an introduction to world financial markets over the past 20 years, the authors identify four overriding trends: towards a market without intermediaries, globalisation, deregulation, and innovation. The article concentrates on the innovations with particular reference to the Spanish experience. The historically lower level of innovation in Spanish financial products is seen to be due to various factors, among them being the dominance of the banks (and the early 1980s banking crisis), tight regulation (exchange controls, interest rate controls (until 1987) and the relatively late appearance (1989) of the futures and options regulations). The penetration of foreign groups means high competition and hence innovation.

Issue No. 2, October 1990

MARTINEZ, J. C. *Situación actual del seguro de automoviles.* (*Current situation in motor insurance*). The objective of the article is to analyse the current difficulties (mainly of profitability) in the market for private motor insurance. Firstly, with regard to the claim frequency and size of claims the author points out that:

—The average age of private cars is high, and many old vehicles are still not required to pass the ITV (MOT) test. This is despite significant new car sales.

—The road infrastructure has not kept pace with the number or speed of modern cars, or changing social habits.

—This is a society which does not value careful drivers, and one that in particular has major drink driving problems.

These factors and others contributed to a 46·6% increase in road traffic deaths since 1985.

Other problems are widespread fraudulent claims, problems in the distribution of motor insurance, structural problems in the insurance industry (financing of new business, inadequate profitability, inadequate numbers of technical staff), too many companies in the market, dumping, poor market information particularly between companies and clients.

SANS Y DE LLANOS, A. *Novedades en medición actuarial del mortalidad.* (*Developments in the*

measurement of mortality). The first part of this article presents some new mortality tables for Spain PEM80 (males), PEF80 (females) based on the 1981 census. The article details the choice of graduation method, compares the results with the previous tables (PEM70, PEF70) and also with foreign tables. This is an article of major importance by Agustin Sans, as the only previous table available based on Spanish data was from the 1970 census.

The second part of the article gives a few hints as to the trend in population mortality based on the provisional statistics of mortality for Spain for the years 1985–6.

The third part of the article is a résumé of the foreign tables available to actuaries for the calculation of annuities and pension annuities (for which there are no Spanish tables).

The last part of the article gives some ideas on suitable tables for disability benefits.

ROVIRA, C. S.-L. *Preparando una auditoria.* (*Preparing an audit*). The article opens with an analysis of which companies are subject to obligatory audit, based on the various laws which control insurance companies (Company Law, Insurance Law, Audit Law). The author then details the necessary steps to choosing an auditor and the registers in which the choice must be inscribed. She recommends, for companies subject to their first audit, that the auditors do an in-depth study of the company, preferably before the first year which is subject to audit, so that any problems can be identified and corrected before the year in question.

FERNANDEZ, L.B. *Provisiones tecnicas de las entidades aseguradoras.* (*Technical Provisions for Insurance Companies*). This article, written by the technical advisor to the Director General of Insurance, deals with the interpretation of the Real Decreto 1042/1990, which deals with, amongst other topics, the calculation of, and tax deductibility of, different types of reserves. The reserves are:

—for premiums due but not collected,
—for variations in claims (from the premium basis), and
—for IBNR claims.

The Real Decreto clarifies that the condition for tax deductibility is that the reserve is obligatory and that it is the statutory minimum amount. The article then summarises the in-force regulations regarding the calculations of these provisions.

ISSUE No. 3, January 1991

Entrevista: Guillermo Kessler. (*Interview with Guillermo Kessler* (Director General de Seguros)). Señor Kessler answers questions in this article, the major part of which are current topics of discussion within the industry. Topics covered include:

—Are there too many insurance companies in Spain?
—Do you agree with the foreign penetration or do you think that Spanish insurance companies cannot meet the requirements of the public?
—How will the 'Concorcio' work in the future? (QUANGO which covers some catastrophic risks).
—How can the Single Premium business (Primas Unicas) have been illegal when the Technical notes were approved by the DGS?
—Is the DGS going to change the rules regarding asset valuation, following the fall in the stock market?
—What do you think about the current problems with the government regarding the status of the actuary?

VICENTE, A. *El presupuesto de la seguridad social 1991.* (*The social security budget for 1991*). This article covers in some detail the social security budget for 1991, covering both the receipts and expenses. Each are broken down by source. The overall budget increases by 10·37%.

PIRLA, J. M. F. *¿Economia de la demanda o economia de la oferta?* (*The economy of Demand or the economy of Supply?*). This article explains, in a historical perspective, the various economics theories in use and disuse today. Keynes, Roosevelt's New Deal, Friedmann, Reaganomics, the oil price, Laffer and the current policies which are being followed today are covered.

LAMOTHE, P., PRIETO, F. & CERRANCEJA, A. *Las opciones sobre instumentos financieros:Su implementación en el mercado español. (Options and the Spanish Market)*. A technical article covering types of options, pricing and valuing them, uses to which they can be put, and an analysis of the state of the Spanish option market.

CASTELLANOS, A. T. & PEÑA, A. L. *El Actuario ante la Auditoria. (The role of actuaries during an audit)*. This article studies the role of an auditor of insurance companies in Spain, in particular that of the member of the auditing team responsible for actuarial matters, normally an actuary. The various responsibilities of the auditor are covered, together with the legal bases for those responsibilities. The topics covered are: sufficiency of premiums, sufficiency of mathematical reserves, sufficiency of the reserve for current risks, and for claims pending payment, and IBNR. Other items to be checked are reserve for unexpired risks, for premiums pending payment, and that the reserves have been invested according to the regulations, whether reassurance is sufficient, and whether the solvency margin and guarantee fund have been correctly calculated.

NATHANSKY, A. F. *Seguros de vida ligados a fondas de inversión (Gran Bretaña). (Life insurance linked to investment funds (Great Britain))*. An explanation for Spanish readers how a unit linked life contract works.

CORDON, P. *La Necessaria Techificacion del Ramo de Salud. (The necessary technical development in private health insurance)*. An article by a doctor/lawyer arguing that the available hospital expense policies do not meet the needs of the public. The trend towards maximum amounts in order to control claims costs may leave the patient with no cover. The right of the insurance company to rescind cover at the end of the year also may result in a patient being without cover. Also because the contracts are renewable annually, the premiums rise with age, resulting in prohibitive cost just when the need is the greatest. He recommends a contract of at least 3 years.

SWITZERLAND

Swiss Association of Actuaries

Mitteilungen–Bulletin

HEFT 1, 1990

DUBEY, A. *Credibility-Modell und Schadenrucksteilungen. Einige Bermerkungen zu einer schwierigen (Zwangs-) Ehe*. The credibility model sets a mathematical framework for the premium calculation. Under certain assumptions as to the expected value and variance of the observed claim rates the most credible estimate of the risk is deduced. In non-life insurance the claim rates are themselves in part estimates, given the nature of claims development. In the article the question is raised if, and how, both estimates can be realised simultaneously in the same model.

EICHORN, W. & VOGT, A. *Gemeinsames bei der Messung von Ungleicheit, Streuung, Risiko und Information*. The notions of inequality, dispersion, risk and information are compared and their qualitative assessment is discussed. This reveals that the inherent structures are almost identical. The Gini-measure of inequality, and the coefficient of variation are applied to mortality tables, income distributions from the Swiss Federal Social Security Scheme and medical costs per patient in health insurance. It turns out that the inequality increases in that order, i.e. that individuals' lifetimes are more regularly distributed than incomes, and that these in turn more regularly than medical cost.

GISLER, A. *Credibility Theory Made Easy*. It is shown that under some basic assumptions the credibility estimator is a weighted mean, the weights being the precisions with respect to the quantity to be estimated. Based on this principle and the fact that credibility estimators are projections onto linear subspaces of the Hilbert space of square integrable random variables, the authors neatly derive the credibility estimators in a fundamental model as well as a class of

evolutionary models in the semi-linear case and in the hierarchical model. The precisions of the estimators can be easily obtained.

MARAZZI, A. *Restricted Minimax Credibility: Two Special Cases.* The restricted Bayes and Minimax principles are used in order to derive robust credibility estimates of a risk parameter in the simple case where the claim is the sum of this parameter and an error term. Two examples are considered, and approximate solutions and possible extensions are discussed.

MÜLLER, H. H. *Price Equilibria and non linear Risk Allocations in Capital Markets.* The theory of risk exchange is applied to a model of financial risk, using Buhlmann's notion of a price equilibrium. For a special class of utility functions the equilibrium price density and risk allocations are analysed in detail.

SCHEIPER, R. *Insurance Premiums, the Insurance Market and the Need for Reinsurance.* A simple model of an insurance company is presented, and this leads to the theoretically required risk premium for a given portfolio. Commercial considerations do not permit the company to charge this premium, and this can be reconciled by reinsuring the portfolio.

MÜLLER, T. *Berechnung der Gesamtschadenverteiligung nach dem individuell Modell.* The paper shows connections between different algorithms (Panjer, Kornya and de Pril) for the calculation of the aggregate claims distribution in both individual and collective models. This is a new approach to the individual model, using power series expansions of the exponential and logarithmic functions. An error estimate is derived.

CONSUL, P. C. *A Model for Distribution of Injuries in Auto-Accidents.* The General Poisson distribution is applied to six observed data sets on injuries in auto-accidents as a plausible model, and a possible interpretation has been given to the value of the two parameters in different cases.

DE SCHEPPER, A. & HEIJNEN, B. *Hierarchical Models in Insurance.* This paper develops the chain of reinsurance concept, allowing for multi-company links using a tree structure. Based on exponential utilities, the optimal risk exchange is calculated.