

XXI ASTIN COLLOQUIUM
NEW YORK, NOVEMBER 14-18, 1989

The XXI ASTIN Colloquium was held in the New York Hilton Hotel in central Manhattan. The colloquium was attended by about 235 participants and 85 accompanying persons, coming from 22 countries. Approximately 25% of the participants were from the U.S.A., which is extraordinary but not surprising when one considers the location of the colloquium. The number of papers presented and contributions to the Speakers' Corner totalled 43.

The colloquium started informally with registration and a welcome drink in the evening of November 14. The official opening of the colloquium on November 15 coincided with the closing session of the 75th Jubilee Meeting of the Casualty Actuarial Society (CAS), and was held in the famous Waldorf Astoria Hotel. Kevin M. Ryan, President of CAS, held the opening address, followed by Jean Lemaire, Chairman of ASTIN. Jean Lemaire handed over a congratulatory gift from ASTIN to Kevin M. Ryan on the occasion of the Casualty Actuarial Society's 75th jubilee. The Academy of Actuaries and the Conference of Actuaries in Public Practice, both actuarial associations in the U.S.A., had conveyed their welcome greetings to ASTIN, which were then read by Jean Lemaire.

The first panel discussion of the session was on the *Past, Current and Future Role of Non-Life Actuaries Around the World*. Being videoed simultaneously, the discussion gave the audience an excellent opportunity to observe some eminent personalities in the actuarial profession at close range: LeRoy Simon the moderator, and Sidney Benjamin, Hans Bühlmann, Charles C. Hewitt and Jean Lemaire in the panel. Bühlmann gave a lucid account of the evolution of the actuarial species, culminating in the actuary of the third kind. Quite another kind of evolution was invoked by Hewitt, who described the impact of individual variations in mortality on population mortality rates, thus giving a plausible explanation of observed phenomena. Lemaire focused his speech on future challenges and opportunities of the actuarial profession; developments within the European Community (notably the planned recognition of actuarial qualifications across national boundaries); and the general decline of interest in mathematical studies, the traditional source of new recruits to the profession; and last but not least, the need to equip new actuaries with basic business skills.

Benjamin sketched what one may call a code of conduct for the professional actuary with a special view to general insurance. The four panelists succeeded in giving quite a comprehensive view of actuarial preoccupations: Historical, strategic, technical and ethical issues were touched.

After the panel discussion the CAS meeting was ended officially with Kevin M. Ryan handing over the Presidency to Michael Fusco. Members of CAS and ASTIN now reconvened to concurrent panel discussions with the following topics:

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1. Insurance Pricing: Return on Equity vs. Return on Sales. Yehuda Kahane, Bernard Pelletier, Richard Woll and David Hartman (moderator).
2. Pricing Tort Reform. Robert Buchanan, Claus Metzner, Philip Miller and Paul Liscord (moderator).
3. Practical Applications of Determining Loss Development Factors for Casualty Excess-of-Loss Business. Harold Clarke, Dan Lyons, Ben Zehn-wirth and James MacGinnitie (moderator).

A delicious luncheon was then served at the New York Hilton Hotel, where the rest of the ASTIN Colloquium also was to take place. Kevin M. Ryan addressed the participants at lunch, telling about the Casualty Actuarial Society's work in educational matters.

After lunch the traditional working sessions started. The referee would hardly be doing justice to the contributions by giving a one-sentence abstract of each paper. Thus I shall restrict myself to naming the contributors and the moderators of each session in chronological order, departing from this rule only when additional information seems interesting. Likewise I shall only name the presenting author of multi-author papers. A complete list of papers and other contributions is given at the end.

The first working session was moderated by Harri Lonka and Lionel Moreau. Papers were presented by Bob Alting von Geusau, Bob Buchanan, John Cozzolino, Chris Daykin, Bill Jewell and Stuart Klugman. Several papers presented in this session were results of cooperative effort. Buchanan's paper is a follow-up of a paper presented by Neuhaus at the 1985 ASTIN Colloquium in Biarritz. Cozzolino, Klugman and Meyers presented their respective parts of work for the Insurance Services Office (ISO). The work presented by Daykin has connections to similar work done in Finland. Jewell's paper is part II in a trilogy on IBNYR reserving, part I of which was presented to the 1987 ASTIN Colloquium in Scheveningen.

The participants and their companions spent the evening on Broadway, or the Imperial Theater to be precise. The play of the evening was "Jerome Robbins' Broadway", a cavalcade of songs from musicals which Robbins staged over a period of 20 years. Listening to old favorites and watching a performance full of American precision, zest and humour made the evening thoroughly enjoyable.

The following morning brought us back to the realm of actuarial mathematics. Edwin J. Elton, Nomura Professor of Finance at the Graduate School of Business, New York University, gave an invited survey lecture on the mathematical theory of investment. The lecture was held in a very clear and concise style, giving the audience a glimpse of a vast new area for actuarial work, practical as well as theoretical.

Thursday morning's working session was moderated by Marc Goovaerts. Jean Lemaire, Glenn Meyers and Ragnar Norberg presented their papers. Lemaire's paper, challenging actuaries to acquaint themselves with Fuzzy Set Theory, set off a lively debate involving Zehn-wirth, Jewell, Norberg, Bühlmann and Hachemeister.

The ASTIN General Assembly followed. The minutes of the 1988 General Assembly, the Editor's report and the Treasurer's report were approved. Robert Baumann of the Swiss Association of Actuaries announced the 1990 ASTIN Colloquium in Montreux, and Alf Guldberg of the Swedish Society of Actuaries announced the 1991 ASTIN Colloquium in Stockholm. A lengthy debate was generated by two suggested amendments to the ASTIN rules; both amendments were rejected with a clear majority vote. In the statutory elections Giovanna Ferrara and Ragnar Norberg withdrew from the ASTIN Committee and were replaced by Greg Taylor and Eddy Levay.

The first of the afternoon's working sessions was moderated by Richard Gauthier and Lars Austin. Teivo Pentikäinen, Bjørn Sundt, Hans Gerber, Maria de Lourdes Centeno and Erhard Kremer presented their work. Pentikäinen described the approach taken in the report *Insurance Solvency and Financial Strength* (abbr. *The Blue Book*), a monumental work on insurance solvency done in Finland. The Finnish solvency group has cooperated with the "Solvency Working Party" of the Institute of Actuaries (cf. Daykin's paper).

Charles Levi and Gary Patrik moderated the next afternoon session during which Lawrence Vitale, John Narvell & Peter Licht, Greg Taylor, Gary Venter and Walther Neuhaus presented their papers.

Friday was devoted entirely to working sessions. Eddy Levay moderated the first session with contributions from Gary Patrik, Steven Haberman, Yehuda Kahane, Charles Levi & Christian Partrat and Ermanno Pitacco.

Peter Johnson and Richard Gauthier moderated the second morning session with contributions from Mette Rytgaard, René Schnieper, Dirk Stiers, Bob van der Laan, and Alfred Weller.

The Friday morning sessions were strongly dominated by loss reserving, this being the subject of Kahane, Schnieper, Stiers and Weller. The lively discussion which arose between the advocates of elaborate models and the advocates of simple methods was all too often curtailed for lack of time. The referee feels that the subject would have deserved a more thorough discussion which could have resolved at least superficial misunderstandings.

Maurice R. Greenberg, Chairman of the American International Group was the guest speaker during the luncheon. Greenberg conveyed an executive view on issues like environmental liability, proposing an alternative to current practice.

Friday afternoon was devoted to the Speakers' Corner. Bill Jewell and Jean Casanova moderated the first session where papers were presented by João Manuel Andrade e Silva, Heikki Bonsdorff, Marc Goovaerts, Erhard Kremer and David Skurnick. Bonsdorff actually had two papers analyzing experience rating by exponential smoothing.

John Narvell and Charles Hachemeister moderated the XXI ASTIN Colloquium's last working session. Presentations were made by Ernesto Volpe, Robert Miccolis and Eugenio Prieto Perez. On a lighter note, Gunnar Benktander made a trendsetting remark, and Sidney Benjamin uttered "only one sentence" (sic). Martti Pesonen and Heikki Bonsdorff made further

comments on *The Blue Book*; Bjørn Sundt proposed to systematise loss reserving acronyms. Teivo Pentikäinen, one of ASTIN's grand old men, struck the proper closing note by his stubborn pledge to carry on working. May all our ASTIN colleagues be so stubborn!

The Colloquium Dinner took place on the 106th floor of the World Trade Center, with a spectacular view of New York and its suburbs. Jean Lemaire held the closing speech, thanking the American organisers for arranging the Colloquium in a superb way. Robert Baumann invited all ASTIN members to attend the XXII ASTIN Colloquium in Montreux. After dinner those who wished could dance to the orchestra. The largest ASTIN Colloquium to date, and one of the most interesting ones, had come to an end.

For Saturday a tour of Manhattan, the United Nations and the Statue of Liberty had been arranged.

WALTHER NEUHAUS

LIST OF PAPERS AND OTHER CONTRIBUTIONS
TO THE
XXI ASTIN COLLOQUIUM

Risk Theory

- Alting Von Geusau, B.: The Application of Additive and Multiplicative General Linear Interactive Models (GLIM) in Health Insurance
- Buchanan, R.A., Heppell, I., Neuhaus, W.A.: A Hierarchical Credibility Model
- Cozzolino, J.M.: Consistency of Risk Loaded Premiums
- Daykin, C.D., Hey, G.B.: A Practical Risk Theory Model for the Management of Uncertainty in a General Insurance Company
- Jewell, W.S.: Predicting IBNYR Events and Delays. II. Discrete Time
- Klugman, S.A.: Measuring Uncertainty in Increased Limits Factors — A Bayesian Approach
- Lemaire, J.: Fuzzy Insurance
- Meyers, G.G.: A Supply Side Premium Calculation Principle
- Norberg, R.: Outline of a Strategy for Solvency Control of Insurers
- Pentikäinen, T., Bonsdorff, H., Pesonen, M., Rantala, J., Ruohonen, M.: Evaluation of the Financial Strength of Insurers, Examples of Risk Theoretical Application
- Willmot, G.E., Sundt, B.R.: On Evaluation of the Delaporte Distribution and Related Distributions
- Gerber, H.U.: More Fun without Ruin Theory

Reinsurance

- Centeno, M. de L.C., Simões, O.A.: Combining Quota-Share and Excess of Loss Treaties on the Reinsurance of n Independent Risks
- Kremer, E.: The Asymptotic Efficiency of Largest Claims Reinsurance Treaties
- Narvell, J.C., Licht, P.: Actuarial Involvement in the Liquidation of Insolvent Reinsurers
- Taylor, G.C.: Optimal Reinsurance Structures
- Venter, G.: Premium Calculation Implications of Reinsurance without Arbitrage
- Vitale, L.A.: A Paper on the RAA Development Study
- Neuhaus, W.A.: Mutual Reinsurance and Homogeneous Linear Estimation
- Patrik, G., Mashitz, I.: Credibility for Reinsurance Excess Pricing

Empirical Studies

Haberman, S., Renshaw, A.E.: Fitting of Loss Distributions using Generalised Linear Models

Kahane, Y.: A Modern Approach to Loss Reserving in Long-Tail Lines. The Case of Automobile Insurance.

Levi, C., Partrat, C.: Analyse statistique de catastrophes naturelles aux Etats-Unis

Pitacco, E.: Adjustment Problems in Permanent Health Insurance

Rytgaard, M.: Estimation in the Pareto Distribution

Schnieper, R.: A Pragmatic IBNR Method

Stiers, D.: Applications de méthodes d'évaluation des réserves

Van der Laan, B.S., Hop, J.P.: Probability Distributions for the Amount of Damage

Weller, A.O.: Generalized Bondy Development

Silva, J.M.A. e: An Application of Generalized Linear Models to Portuguese Motor Insurance

Speakers' Corner

Bonsdorff, H.: On Changing the Parameter of Exponential Smoothing in Experience Rating

Bonsdorff, H.: A Comparison of the Ordinary and a Varying Parameter Exponential Smoothing

Goovaerts, M.: An Algorithm for a Multi-Level Hierarchical Credibility Model

Kremer, E.: On the Probable Maximum Loss

Skurnick, D.: Price Monitoring for Liability Insurance

Volpe, E.: Large and Catastrophic Risks

Benktander, G.: A Trendsetting Remark

Benjamin, S.: Only One Sentence!

Miccolis, R.: Premium Principles based on Supply and Demand for Capital

Prieto Perez, E.: Preventive Measures. An Analysis from the Point of View of their Efficiency

Pesonen, M.: Comments on the "Blue Book"

Bonsdorff, H.: More Comments on the "Blue Book"

Sundt, B.R.: Comments on Loss Reserving Terminology