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LIFE ANNUITIES

Extra Randomness in Certain Annuity Models, by John A. Beekman and Clinton P. Fuelling (Ball State University)

An alternative model is presented which can be used when interest rates and future lifetimes are random, for certain annuities. The Wiener stochastic process is a major component in the model, and provides much more randomness than an earlier model. Expressions for the mean values and the standard deviations of the present values of future payment streams are obtained and illustrated. Extensive boundary crossing probabilities for the Wiener stochastic process are given. Numerical comparisons with the earlier model are provided. *Insurance: Mathematics and Economics*, Vol. 10, No. 3 (December 1991), pp. 275-87. (Reprinted with permission of the North-Holland Publishing Company).

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INSURER MANAGEMENT

An Empirical Analysis of Sales-Force Compensation Plans, by Anne T. Coughlan (Northwestern University) and Chakravarthi Narasimhan (Washington University)

Among the array of direct and indirect methods of motivation and control available to the sales manager is sales-force compensation. In this article, we summarize theoretical predictions from the economics, marketing, finance, and accounting literatures on the structure of optimal sales-force compensation plans. Guided by these insights, we then construct empirical models to quantify the effect of various sales-force factors, firm and product factors, and market factors on compensation. Using data from 286 firms in 39 industries, we examine determinants of incentive components and total pay and the optimal horizon for incentive pay. *Journal of Business*, Vol. 65, No. 1 (January 1992), pp. 93-121. (Reprinted with permission of the *Journal of Business*).

Executive Compensation in the Life Insurance Industry, by David Mayers (Ohio State University) and Clifford W. Smith, Jr. (University of Rochester)

Alternative theories imply differential compensation levels between executives of mutual and stock insurance companies. Evidence from the life insurance industry indicates (1) the compensation of mutual executives is lower than that of stock executives, (2) the compensation of mutual-subsidiary executives is lower than that of stock-subsidiary executives, and (3) the compensation of mutual executives is less responsive to firm performance than that of stock executives. This evidence is consistent with the existence of differences in corporate investment opportunity sets and resulting differences in required managerial discretion between mutual and

stock life insurance companies. *Journal of Business*, Vol. 65, No. 1 (January 1992), pp. 51-74. (Reprinted with permission of the *Journal of Business*).

Insurers' Profits in the Third-Party Liability Insurance, by Nico Dellaert, Hans Frenk (Erasmus University, Netherlands) and Bob van der Laan (Goudse Verzekeringen, Netherlands)

In this note we derive the expected total discounted profit of an insurer due to a single policy holder within a third-party liability insurance. We consider both a policy holder claiming optimally and non-optimally. *Insurance: Mathematics and Economics*, Vol. 10, No. 3 (December 1991), pp. 165-72. (Reprinted with permission of the North-Holland Publishing Company).

LIABILITY RULES

Canadian Medical Malpractice Liability: An Empirical Analysis of Recent Trends, by P. C. Coyte, D. N. Dewees, and M. J. Trebilcock

The determinants of the frequency of Canadian malpractice claims, the proposition of claims that result in payment, and the severity of these claims are examined. Interspecialty variation in the frequency of malpractice claims is almost entirely related to the differential performance of major surgery. Various legal doctrines concerning both compensation and liability appear responsible for approximately half of the upward trend in the propensity to initiate malpractice litigation. The authors believe that the remaining explanations for growth in claims frequency are changes in social attitudes toward risk-bearing, increasing social distance between patients and physicians, and innovations in medical technology. *Journal of Health Economics*, Vol. 10, No. 2 (July 1991), pp. 143-68. (Reprinted with permission of the *Journal of Economic Literature*).

SAFETY AND LOSS CONTROL

Evaluating the Safety Function: A Conceptual Model, by Anthony Veltri (Oregon State University)

Evaluation is becoming recognized as an important management practice of the Safety Function. What is it, then, that makes for effective safety function evaluation? This paper provides a framework for evaluating the efficacy of the Safety Function. The need for a model to evaluate the efficacy (i.e., intended effectiveness and efficiency) continues to build among a distinct group of safety practitioners who are required to justify their continued organizational existence in a strict economical sense. Specifically, the paper focuses on (a) a definition and purpose of safety