



SOCIETY OF ACTUARIES

Article from:

The Actuary

September 1992 – Volume 26, No. 7

Research papers for Fellowship credit

by Roy Goldman

The Education and Examination Research Papers Committee has awarded 30 Fellowship credits to Virginia R. Hosler for her paper, "The Application of Fuzzy Sets to Group Health Underwriting." This is the sixth paper approved for Fellowship credit under the Flexible Education Methods (FEM) program.

The abstract for this paper is as follows:

Fuzzy sets are used to model the process of selection in group health insurance. In general, fuzzy set theory is implemented to describe collections of objects whose boundaries are not precisely defined, as in the judgment of what constitutes a good risk group. First, single-plan underwriting is considered; then the work is extended to multiple-option plans.

Copies of Hosler's paper are on file in the Society library. Members interested in reading this paper can contact Donna Richardson, the staff librarian.

The committee thanks Krzysztof Ostaszewski, Brian Schott, and Jean Lemaire, who refereed this paper, and acknowledge Joseph W. Michel, who served as Hosler's supervisor and provided the committee with a review.

Students interested in the research papers program should consult Appendix 2 of the Fellowship catalog. Applications for research papers can be obtained from the Society of Actuaries' office.

Roy Goldman is Examination Chairperson of the Research Paper Committee and vice president and actuary, The Prudential Insurance Company.

Society awards Ph.D. grants

The Society of Actuaries recently awarded \$10,000 grants to four Ph.D. candidates conducting research on actuarial science topics for the 1992-93 academic year. The new grant recipients are James Carson, University of Georgia; Shuxun Wang, University of Waterloo; and Hal W. Pedersen, Washington University, St. Louis, Missouri. Margie Rosenberg, University of Michigan, a new grant recipient in 1991-92, was awarded the grant for a second year. Grants are renewable up to three additional years.

Carson's thesis topic is on the early identification of life insurer financial distress. Wang is using linear recurrence equation theory as a basis for his thesis topic to clear up some concerns in modern risk theory, such as instability and inefficiency in numerical evaluation of insurance claim distributions. Pedersen's research involves using option pricing theory and term structure of interest rates, two areas at the core of modern financial theory.

The deadline for Ph.D. grant applications for the 1993-94 academic year is March 15, 1993. For more information, call Warren Luckner, research actuary, at the Society office, 708-706-3572.

Meeting needs cont'd

of the historical savings share from life insurance. Considering life insurance and nonqualified deferred annuities as "personal" insurance, the industry has not significantly increased penetration of the market beyond the "3% barrier" in nearly a half century. Barring significant increases in the share of income allocated to life insurance, prospects for growth in the life insurance market appear to be tied to growth in the economy, specifically, growth in disposable income.

Some observers have written that life insurance is a mature industry, and rates of growth will be limited in the future as a result. An alternative conclusion supported by the data is that growth in the life insurance industry historically is tied to growth in disposable personal income. Regardless of what people believe about the "go-go" 1980s, the rate of growth in disposable personal income was higher in the 1970s than it was in the 1980s. The challenge of the life insurance industry is to increase the share of income directed toward our products and services. In the past, growth in personal income sustained growth in the industry. In the future, growth will result from improving the ways in which we define and meet consumer needs.

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Position paper available

The Society of Actuaries' Board of Governors has charged the Annuity Valuation Table Committee with developing a recommendation for a new Group Annuity Mortality Valuation Standard.

The committee has met on an ongoing basis, studied the available data, and discussed how to complete its charge. As a result, it believes a new approach is warranted: that is, generational mortality should be explicitly incorporated in any new standard eventually adopted.

Because the decision to incorporate generational mortality is ground-breaking, especially when

compared to previous efforts, the committee produced a position paper. It is designed to explain the reasons for selecting the generational mortality approach and to encourage comments and suggestions from industry professionals about the suggested use of this approach.

The paper also briefly discusses some developmental steps being considered by the committee. They include:

- Determining the sensitivity testing approach and coverage considerations appropriate for the development of margins for the new standard

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