



SOCIETY OF ACTUARIES

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*Papers Committee cont'd.*

to meet the review deadline, another reviewer will be found to complete the work.

Once the reviews have been returned to the senior reviewer, he will complete a comprehensive report of the paper. Both the senior reviewer and the Papers Committee chairperson will make certain that this final review is complete and consistent. Accomplishing this may sometimes require discussion among the reviewers, particularly if there is some disagreement between reviewers. In addition, the Papers Committee may sometimes request supplemental material on aspects of the paper which have been inadequately covered. In either case, when this has been done, the review process is complete. The next step is to communicate the decision to the author. This is done through the Society office.

Approval of the paper sets the publishing process in motion. If a paper has been refused, however, the reviewers may encourage the author to make some changes and resubmit the paper. If an author disagrees with the Papers Committee's decision, he/she may:

- 1) discuss it with the chairperson and ultimately ask for a reversal of the decision;
- 2) write a letter to the chairperson expressing the same sentiments; or
- 3) appeal to the President of the Society.

In summary, what are the primary changes from the past? First, in the previous structure, we did not have senior reviewers, and so the chairperson was responsible for coordinating all reviews. This meant that in most cases the chairperson was not an expert in the subject matter of papers, and so there was a greater chance of inadequate reviews. In fact, some criticism of the system also suggested that "leading edge" papers were sometimes not recognized because of a lack of subject expertise on the Papers Committee. This situation should be improved with the recruitment of experts as senior reviewers for each speciality.

Second, in the past, it was usual for the reviewers to communicate with each other. In the new structure this will be encouraged, particularly when trying to resolve differences in reviews. Third, when an author disagreed with the decision

rendered by the Papers Committee, the only recourse available was an appeal to the President. Now an author can appeal to the Papers Committee Chairperson and the senior reviewer. The latter will be knowledgeable on the subject and thus able to discuss the paper thoroughly.

We believe that the proposed system just described incorporates procedures which will assure both expert review and constructive communication with the author. I hope our members will have a much better idea of the review process we are striving to implement for the TSA, and that it will encourage them to put pen to paper and submit something in the near future.

Kenneth A. McFarquhar is an Actuary at Manufacturers Life Ins. Co. He is past chairperson of the Papers Committee, and current chairperson of the Ad Hoc Committee to restructure the Papers Committee.

## Conference Announcement and Call for Papers

The 23rd Actuarial Research Conference to be held August 25-27, 1988, at the University of Connecticut is intended to bring together practicing actuaries and academics to discuss the latest developments in the theory of insurance catastrophes. A particular emphasis of this conference is on the AIDS epidemic. A number of actuaries who have been active in this area will join statisticians and medical researchers to explore the current state of knowledge. There also will be sessions for contributed papers on other topics of interest in insurance catastrophes and various actuarial research work underway.

Individuals interested in presenting papers are invited to submit abstracts by July 1, 1988. Contributed talks will be 30 minutes each. The registration fee is \$75. The Conference is sponsored by the Casualty Actuarial Society, Society of Actuaries, Hartford Actuaries Club and the University of Connecticut's Department of Mathematics and Actuarial Science Program.

For more information and registration forms contact the Conference Coordinator, Dr. Charles Vinsonhaler, at the University of Connecticut in Storrs, Connecticut, phone (203) 486-3944 or 3923, or Mark G. Doherty, Director of Research for the Society of Actuaries, phone (312) 773-3010.

## Actuarial Sciences and Uncertainties

by Francisco R. Bayo

In many scientific disciplines, the processes of experimental observation and logical deduction have been applied successfully to reduce the realm of the unknown and the uncertain. Many diverse physical phenomena have been condensed into a few mathematical formulations, some deterministic and others stochastic. It is natural then for actuaries to seek to apply similar formulations more broadly in their discipline, hoping to reduce some of the uncertainties with which they must contend.

Many actuaries feel that merely to adopt a reasonable assumption in the midst of uncertainty is not sufficient. They must arrive at it in a rigorous way by creating a mathematical model — one that they feel brings us closer to certainty or at least helps us understand more fully the nature of the uncertainties. We must understand and accept, however, that true certainty will always elude us.

In recent years actuaries have applied stochastic models to mortality and other processes in order to get a measure of the inherent uncertainty. This is useful when we have a reasonable knowledge of the underlying parameters and their probabilities. But the temptation is to extend stochastic modeling into areas of unpredictable parameters and probabilities. What do some actuaries mean by stochastic projections of financial operations? Do they truly believe that the demographic and economic behavior of the population involved will proceed stochastically according to predetermined parameters and probabilities? Don't they realize that they are not referring to physical processes nor to animals in a carefully controlled laboratory? Their models refer to people with freedom to act under largely uncontrolled conditions.

Science is an ever-improving field. Today's discovery makes yesterday's "knowledge" imperfect. I am concerned that, in our zealous rush toward more rigorous modeling, we will bargain away our professional actuarial judgment in exchange for a false sense of security. Why don't we just openly proclaim with a sense of

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*Uncertainties cont'd.*

dignity and respect that, in spite of all our accumulated knowledge and all our intensive efforts, the principal ingredient in our recommendations is our judgment?

Some may fear a misunderstanding by the users of our services and, therefore, conceal uncertainty with a screen of precision. Others may be afraid of using their best judgment and, therefore, try to hid behind that screen. These are futile attempts; uncertainty is here to stay.

Francisco R. Bayo is Deputy Chief Actuary in charge of long-range projections and economic and demographic research for actuarial purposes at the Social Security Administration. He has been with Social Security for 28 years. Mr. Bayo is also a former Pension Section Council member, author of several TSA papers, and winner of the Triennial Prize.

## AERF Selects Monograph Author

The AERF is pleased to announce that Charles L. Trowbridge has been selected to write a monograph on the intellectual foundations of the actuarial profession. Mr. Trowbridge is the retired Senior Vice President and Chief Actuary of The Principal Financial Group.

Mr. Trowbridge's other activities during his distinguished career include service as Chief Actuary of the Social Security Administration, as Professor of Actuarial Science at the University of Michigan, as Editor of *The Actuary* and as SOA President.

The need to define fundamental actuarial concepts moved the Interim Actuarial Standards Board to promote

such a monograph under AERF sponsorship. The monograph will be a broad-brush portrait of the profession, not a textbook. One goal is to stress that actuarial science derives from certain ideas or concepts used by *all* actuaries. The monograph is intended to help unify and coordinate the profession, and be a foundation for building actuarial standards. Our profession suffers from being little known to the public. A clear statement of fundamental actuarial concepts can do much to better define the actuarial profession for others.

As the monograph is being written, a distinguished panel of reviewers will be employed to ensure that all areas of practice are appropriately covered. AERF intends to publish the monograph in time for the centenary celebration scheduled for Washington, D.C., in June 1989.

## Dear Editor:

### Medicine in the Year 2000

I found Harry M. Oliver, Jr.'s, article in the January 1988 *Actuary*, "What Medicine Will Look Like in the Year 2000," both interesting and thought provoking. I would like to add a few comments.

In most fields, research and improved technology lead to certain efficiencies and cost reductions. Medicine, however, is unique. Research and improved technology seem to result in additional services and improved quality of care. Just think how many routine procedures done today were virtually unheard of only a few years ago. Who knows what will be (or could be) routine medical care in the year 2000?

Obviously, one of the well recognized causes, is the third party reimbursement mechanism. Other contributing causes are the nature of doctors' training (cure the patient regardless of cost), and the fact that the traditional economic supply and demand theories do not appear to apply to health care even in the absence of the third party payor system.

With the expectation that health care will continue to grow at a faster rate than the overall economy and the continued aging of the U.S. population, it would seem that the nation will eventually need to seriously address the possibility of health care rationing in some form.

Raymond J. Marra

### Travel Time

As a 1987 FSA who plans to remain close to the plight of actuarial students, I would like to challenge some of the points made by M. David R. Brown in "Travel Time Under the New Examination System" from the November 1987 issue of *The Actuary*. He states that students taking the new parts of old Part 5 in May 1987 were affected favorably overall by the introduction of FES. I contend that they were unfavorably affected.

Mr. Brown states that of the 608 students (767 - 159) who sat for all four parts in May 1987, 191 (88 + 103) would have become ASAs under the old system. This translates to a pass rate of 31.4%, which is significantly below the pass rates of the May 1986 (42.9%) and November 1986 (40.0%) Part 5 exams. It is possible the number of candidates who failed one or more of the sub-parts but would have passed the old Part 5 was underestimated. Mr. Brown does not indicate how this was calculated — were the results of all 608 candidates combined and a pass score determined on a basis consistent with prior years? It is also possible that it is indeed more difficult to pass all parts of the exam, and therefore travel time for candidates will increase considerably in the aggregate.

I would argue the latter, for the following reasons:

1. Of the 159 candidates who did not write all the exams for which they were registered, presumably most, if not all, would have written Part 5 if it were still an all-or-nothing exam. Very likely, some of them would have passed. One cannot assume that since they did not sit for 1 or more exam(s) that they would not have at least attained a minimum standard on the part(s) in question and passed the exam as a whole.
2. It is more difficult for a candidate to be as well prepared for each of the four exams as candidates who are only taking (or taking seriously) one, two or three of them. I am concerned that candidates good enough to have passed Part 5 the first time under the old system will now require at least two exam sessions to get through the four parts, thus adding time as well as frustration to their actuarial student journey.

On the whole, I am in favor of FES. However, the concerns expressed here bother me. Perhaps the set of candidates writing all four exams should be considered separately in determining their pass mark.

Mark S. Selit