



SOCIETY OF ACTUARIES

Article From:

The Actuary

March 1983 – Volume No. 17, Issue No. 3



The Actuary

The Newsletter of the Society of Actuaries

Vol. 17, No. 3

MARCH, 1983

THE SOCIETY SYLLABUS

by Robert W. Batten

Ed. Note: These are excerpts from the author's presidential address to the Southeastern Actuaries Club in November 1982. The full text is available from Prof. Batten at his Yearbook address.

The thrust of these remarks will center about the question of actuarial education—where it is heading, and the appropriateness of its present direction. I speak as a concerned Fellow who feels that all other Society members should be aware of recent developments in the formal educational processes which all prospective actuaries must follow. . . .

How Curriculum Changes Evolved

The Education Policy Committee recommended in 1981 that three task forces be chosen in order to present and reflect a broader range of opinion than that of those who had developed the proposals then under consideration. Of a total of 33 task force members, 15 were selected from the academic ranks, generally a very small population whose academic training and interests are largely centered in the broad area of mathematical statistics. The 2,631 Society members who were consulting actuaries were totally without representation; perhaps some consultants were asked to serve and declined. . . .

In August 1982, the Education Policy Committee approved every proposal which the Task Forces and the General Officers submitted, with indications of preliminary approval of more to come in 1983. Each of these proposals involved either introduction of additional materials in statistical theory or replacement of current materials by those incorporating heavy statistical content. Justification was simply stated—we, as a profession are being threatened by inability to ward off invasions by CPA's, MBA's, demographers, applied mathematicians

(Continued on page 3)

FAILING?

“Resolved: The Society of Actuaries is Failing to Equip its Members to Fill the Role that their Clients and Employers Should Expect of Them”.

Sounds provocative, doesn't it? Just such a debate is planned at our opening General Sessions in Chicago and Vancouver this spring. Richard Daskais and Daniel J. McCarthy will square off in Chicago—Thomas P. Bowles and Robin B. Leckie in Vancouver.

Each debate will be followed by commentary of an observer from outside our profession: in Chicago, Robert L. Posnak, famed Audit Guide authority; in Vancouver, the Hon. William Hamilton, life company chairman and a Cabinet member in Canada's Diefenbaker government.

This event was conceived by our Committee on Planning which is studying issues related to its topic, such as the actuary's role, the Society's role, and accreditation, the aim being to stimulate wider discussion of these matters. Our Board of Governors must make important decisions on these issues in the years ahead; such discussion will surely help them to reflect our members' informed opinions.

D.K.B., III

LIVING LIFE INSURANCE POLICY

by Douglas S. Magnusson

Ed. Note: This is excerpted from the author's address to the Winnipeg Actuaries Club in September 1982.

In May 1982, my company introduced a version of Universal Life quite different from such products offered previously in the United States and latterly in Canada. My remarks today are first about Universal Life in general, and then about

(Continued on page 7)

RIISING HEALTH CARE COSTS— A CHALLENGE TO ACTUARIES

by Daniel W. Pettengill

Health care costs that continue to rise at a faster pace than most other market basket items raise havoc with premiums and with claim reserves for health insurance, and challenge the actuarial profession to study the numerous causes and to devise practical means for modifying their effects.

Because hospital bills constitute nearly half the total health care expenditures, they are a logical first target for study. The high cost of good research and the limited funds available suggest a multi-step approach.

Step One, if not already accomplished in a given state, would be for actuaries to prod and assist the health insurance business and others to secure state legislation requiring hospitals to adopt standard cost accounting practices, uniform financial and statistical reports, and the use of state prospectively approved budgets and charges.

Step Two, for states with such legislation, would be a non-partisan review of annual reports to find out which hospitals deviate sufficiently from model costs to warrant closer study.

Step Three would be for actuaries to work with physicians and hospital administrators to develop a short list of diagnoses and conditions which, in combination, are reasonably representative of the case load of most hospitals in the state, and for which the incidence can be roughly measured. If there's a strong and cooperative State Hospital Association, it may be feasible to conduct Step Three independently of and concurrently with Steps One and Two. A good list will be one that permits the careful observer to identify a hospital that validly has a markedly skewed case mix, and to tolerate cost variations rationally related to

(Continued on page 7)

Society Syllabus

(Continued from page 1)

and statisticians because of lack of development of our statistical skills. Though there may be truth to these fears, the question remains—Will the penetration of advanced statistical theory throughout the Associateship syllabus make us better able to serve our various publics? Or will it tend to attract theoreticians into our system with little appreciation of the actuary's traditional role in a real-life business environment? . . .

To illustrate one major aspect of these changes, let me tell you about a new text approved for the 1983 syllabus, *Survival Models and Data Analysis*. . . (It was represented by the Society Office as a "state of the art" textbook in demography. It is nothing of the sort. Clear evidence is found in one sentence of its introductory chapter, "We do not study . . . the general province of demography". . . A few minutes with the text makes it clear that its mathematical level exceeds that of any text which has ever appeared on the syllabus. . . .

Actuaries' Views

As one who has registered lack of approval with recent developments, I have outlined my concerns, a primary one being that practicing actuaries as a group, rightly or wrongly, are not evolving in an increasingly mathematical direction. My request of the Society was a simple one—Don't accept my opinions, but try to find out, from a questionnaire to a random sample or even all of the membership, whether or not the direction of actuarial education is following the desirable course. I feel reasonably sure that this was not seriously considered.

After the proposals were approved, I belatedly sent my own questionnaire, about 100 forms randomly distributed to Associates and Fellows who had studied at Georgia State or had participated in one or more of our seminars. These recipients were spread over 25 states; about 60% had never taken a course for credit at Georgia State. . . . Not only were there 86 responses but many contained handwritten comments. Many expressed frustration with what they perceived as lack of realism by the Society.

The E & E Committee's justification for the sharp change in direction has been that the syllabus has become seriously deficient, as has the actuary's ability to

handle practical problems without the benefit of the latest statistical techniques. Asked to comment, five respondents agreed, a dozen failed to answer definitively, the rest disagreed with the statement wholly, some couching their disagreement in explicit terms.

Respondents were asked to comment on the extent to which the Associateship syllabus of 1982 and earlier had prepared them for the mathematical demands of their careers. Two indicated reservations because of insufficient statistical content; two answered negatively without elaboration; all others expressed complete satisfaction, twenty volunteering that they felt over-prepared.

Another question asked about respondents' most recent opportunity to use a non-trivial statistical technique in their work. Over 60% simply answered "never"; ten said it was so many years ago that they had forgotten; fifteen had done statistical work in the past year, but the topics included calculating a correlation coefficient, fitting a least squares curve, and determination of a 99% confidence interval. Only eight reported ever having undertaken a truly statistical application. . . .

Asked which Associateship subjects had been most useful in their careers, 72 mentioned life contingencies while 60 mentioned compound interest theory. Probability, numerical analysis, and graduation were next, but far down the list with a dozen responses each; statistics was mentioned three times. As least useful subjects, demography led with 38 votes. Statistics and risk theory finished second and third with 31 and 23 mentions.

What, if anything can be concluded from these responses? Are they significant? Indeed, is it proper to base syllabus development on opinions and experiences of a sample of practitioners? The General Officers have in effect responded negatively. I agree that many of us are not as aware as we should be of new tools that may be of great value in specific cases, but I submit that the E & E Committee's response is too severe and leaves little continuity between the present and recent past.

Syllabus Revision Principles

Evolutionary revision of the syllabus is appropriate once it has been demonstrated that practitioners are making widespread use of statistical techniques,

but the current extension to such heavy statistical content flies in the face of perceived needs. . . . Creation of an optional specialty exam covering advanced statistical techniques for types so inclined, would be a major step in the right direction. But frontiers of knowledge in all facets of our profession have developed too rapidly for all actuaries to become highly specialized mathematicians at the expense of much more practical topics. Foundation knowledge, after all, is the essence of education. Several of my respondents volunteered the comment that, as statistical or other specialized knowledge becomes necessary in their work, it is obtainable through their own initiative.

. . . .
85% of my respondents felt strongly that the actuary is primarily a businessman, not a mathematician working in a business environment. Written justifications of the Society's position pay lip service to this philosophy, but its actions are not consistent with that line of thought. □

RESPONSE OF THE EDUCATION AND EXAMINATION COMMITTEE

by Michael J. Cowell
1981-82 General Chairman

Professor Batten challenges the wisdom of current trends in the Society's educational program, particularly introduction of advanced statistical methods in the Associateship syllabus. He criticizes the Education Policy Committee for relying too heavily on academicians; as a result, he contends, the syllabus changes don't properly reflect the needs of practicing actuaries.

Why These Syllabus Changes?

We consider the changes in the syllabus' mathematical content to be evolutionary rather than revolutionary. For the most part, those in Parts 3, 4 and 5 are more in approach than content; they introduce analytical and computational tools that enable the actuary to evaluate contingencies from a risk-theoretic approach as well as in the traditional deterministic fashion. Experience has shown that students adapt readily to this; we see no evidence that it attracts theoreticians with little appreciation of the actuary's traditional role. Quite to the contrary, an understanding of modern analytical techniques will equip tomorrow's actuaries even better than their prede-

(Continued on page 6)