



SOCIETY OF ACTUARIES

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THE Actuary

E&E developments

by Bruce Moore

The Society's Education and Examination (E&E) system has changed and grown substantially over the past few years. In 1991, the Society administered 60,400 examinations on 52 courses. Nearly 500 Fellows, or 7% of all FSAs, are involved in E&E committees. Many others are involved in support roles as proctors and study note authors.

Over the past few years, the Flexible Education Methods (FEM) and Flexible Education System (FES) have been implemented for Fellowship and Associateship courses. They provide enhanced educational opportunities and flexibility in our system.

FEM developments

FEM programs have been expanded in several ways. The intensive seminars continue to play an important role at the ASA level. The Applied Statistical Methods seminar has been offered for four years to 789 students. A seminar on Risk Theory was added this year in August.

Credit for research papers is another FEM program. While not used by many students, it provides a valuable opportunity for some. It also has resulted in some impressive additions to actuarial literature. To date, 30 research paper proposals have been submitted. Ten candidates have submitted papers and seven have received credit.

We also have implemented procedures recognizing credit, where appropriate, for examinations of other professional organizations. We recently decided to give Course 220 credit for candidates who have a Certified Financial Analyst (CFA)

continued on page 5 column 2

Society announces election results

R. Stephen Radcliffe was elected President-Elect of the Society of Actuaries for 1992-93.

Radcliffe is senior vice president and chief actuary with American United Life Insurance Company, Indianapolis, Indiana. He served on the SOA Board of Governors from 1984-87 and as Vice President from 1987-89. He also served on the Board of Directors for the American Academy of Actuaries from 1989-91 and is currently an Academy Vice President.

Vice Presidents elected were Harry D. Garber, Sam Gutterman, and Diane Wallace. Garber, vice chairman with Equitable Life Assurance Society, New York, served on the SOA Board from 1985-88. Gutterman, director and consulting actuary with Price Waterhouse, Chicago, was an SOA Board member from 1988-91. Wallace,



R. Stephen Radcliffe

president of The D.B. Wallace Company, Tryon, North Carolina, has been an SOA Board member since 1989.

Elected to Board seats were Robert L. Brown, associate professor and director with the Institute of

continued on page 13 column 2

In this issue:

Society announces election results	1	Paper on group medical area factors available	
E&E developments Bruce Moore	1	Mark Alan Chesner	8
Editorial - Education: Maintaining excellence		Annuities structured for safety	
Anthony T. Spano	2	Felix Schirripa	9
Task force recommends major CE initiatives		Book review - Social Security: how sound, how desirable?	
Harry Panjer	3	Robert J. Myers	10
Disciplinary action for SOA candidates		Specialty guides represent opportunities	
Neville Henderson and Marta Holmberg	4	William H. Lewis, Jr.	11
Society continues to meet students' special needs		On the lighter side	12
Judy Bluder	6	The complete actuary: Paradigm shifts	
Amortization by a life annuity		Jon Rosenblith	14
Cecil Nesbitt and Marjorie Rosenberg	7	Letters to editor	16
		Actucroscopic	19
		Actucrossword	20

staff, and legal counsel represent the E&E Committee. The Society usually will call one or more of the staff education actuaries as expert witnesses and may call in the supervisor or proctor for the exam. The candidate also may call witnesses, and all present can question the witnesses. The hearing offers the candidate the opportunity to present his or her case and to allow the hearing panel members to determine if the charges are justified. Although not as rigorous as a trial, the session is recorded and transcribed. The decision of the hearing panel is final.

Cheating incidence

In 1991, as many as 17,500 candidates wrote SOA examinations in any one session. Examinations taken totalled 60,400 that year. Because so many opportunities existed for violations to occur, it is reassuring that only 29 candidates had one or more exams disqualified, with only 10 others banned from writing SOA exams for a period.

Three appeal hearings stemming from 1991 actions have been held this year. In one case, the hearing panel reversed the decision of the E&E Committee, based on evidence presented at the hearing. In the other two cases, affecting three candidates, the panel sustained the E&E Committee's decisions. One candidate was barred from writing for three years, and the other two have been banned for life from writing SOA examinations. As this article was being written, another hearing was pending.

An important point is that the E&E Committee's primary concern is to provide all candidates with fair and consistent treatment. That is one reason for the considerable attention given to examination violations. Despite the very low incidence of such violations, it is important to ensure that candidates do not gain an unfair advantage through major or minor rule violations. Anyone who becomes aware of a violation should call or write the SOA office immediately. The integrity of the examinations is critical to the reputation and success of our profession.

Neville Henderson is Education and Examination General Chairperson and a vice president at Manulife Financial. Marta Holmberg, Ph.D., is education executive at the Society of Actuaries.

E&E developments cont'd

designation. A few candidates have received that credit.

Our policy on granting credits for exams of other bodies is restrictive, so it does not provide an easier route for students seeking exam credit. By waiving exam requirements for people who clearly have shown mastery of the subject, these procedures should help us attract new types of members to the profession.

We also have provided for elective credit for Casualty Actuarial Society (CAS) exams at both the ASA and FSA level. That, combined with CAS's segmentation of its exams, will make it much easier for students to learn about property and casualty subjects. This should be of particular interest to actuaries working for employers active in both areas.

FES developments and results

The FES system has been fully implemented for Fellowship exams. As with the Associateship exams, we will monitor results under this program and monitor its effect on travel time to the FSA designation.

The FES approach offers students much greater flexibility in structuring their study time to be compatible with varying career pressures and goals. It also provides the Society flexibility to change the education structure easily, without the transition problems common in the past. Some examples of this include:

- Restructuring the individual life and annuity courses to allow Canadian students to be tested more extensively on valuation subjects. FES allowed us to adjust only those parts of the syllabus that were affected, leaving the others undisturbed.
- We have added new electives on important emerging topics. For example, the health policy elective and three new investment elections recently were added to the group track. Two additional investment electives now are near completion.
- We are restructuring the core exams to remove property and casualty materials and substantially increase the investment content.
- We also are adding a new finance track to the existing three tracks.

Other education developments

With a shift to the FES system, a separate education committee structure was developed to focus on

maintaining and upgrading the syllabus. In the past, this work sometimes lagged because of the more pressing demands of administering examinations.

Several steps have been taken to upgrade investment education. Many of these steps have been suggested and endorsed by high-level Society task forces, such as the Task Force on the Actuary of the Future and the Investment Track Task Force. The changes include updating and strengthening Course 220 material and adding 15 more core credits on investments. Six advanced investment electives were developed on a very fast track by the Investment Course Content Committee. One of those has been adopted to strengthen the core, and two others will be used to form the new finance track to be introduced this year.

The Fellowship Admissions Course (FAC) is another important innovation. Its use of case studies on integrated problem solving and ethics has enabled important subjects to be covered that are difficult to address well in self-study examinations. The contact with other new Fellows and with senior members of the profession will help preserve the values of our profession.

Other examination developments

We have experimented with several creative approaches to make the examination process focus more on conceptual questions and less on memory. Long case-study questions have been introduced on a few exams. In some cases, text material is reproduced and distributed with the exam to move away from pure memory questions.

Substantial efforts have been made to improve the examination grading and pass-mark setting processes. New training programs for volunteer members of the E&E committees have been developed. Modern approaches to analyzing exam results and equating results of different examinations have been adopted where practical.

Future directions

We will continue to strengthen the E&E system and to enhance its value to the profession. New courses will be introduced, and significant changes in courses will be made where appropriate. We also need to review our examinations and consider pruning those

continued on page 16 column 2

Annuities cont'd

ability to manage assets and liabilities. Face-to-face meetings are the best way for plan sponsors to evaluate an insurer's capabilities and commitment to this line of business.

Felix Schirripa is vice president, Metropolitan Life Insurance Company.

TSA cont'd

tax laws and statutory requirements that tend to push statutory liabilities and tax basis liabilities further apart.

Planning activities that bring tax basis liabilities and statutory liabilities closer often are valuable tools. Many companies would find certain tax planning activities desirable except for the statutory surplus strain that such activities often cause. This paper attempts to provide a means of evaluating those strategies for both stock and mutual life insurance companies under current law by computing an internal rate of return to measure their value. It provides guidance in computing a standard against which to measure that rate of return.

"A Practical Algorithm for Approximating the Probability of Ruin" by Colin M. Ramsay

A simple and practical algorithm for approximating the probability of ruin is developed. The approximation has an attractive feature in that it uses only the first four sample moments of the claim size distribution and the premium loading factor. The key concept is to fit a second order mixed exponential or a gamma distribution to the pdf $(1-P(x))/p_1$ where $P(x)$ is the claim size cdf and p_1 is the mean claim size. This approximation is compared to exact results and to the Cramer-Lundberg, Beekman-Bowers, and de Vylder approximations. Its accuracy generally is equal to that of the Cramer-Lundberg approximation and superior to the other two.

In memoriam

George Y. Cherlin FSA 1955,
ACAS 1961, MAAA 1965,
FCA 1982, EA 1976

Maurice E. Comfort FSA 1948,
FCIA 1965

Roderick Fraser-Petherbridge
ASA 1950, FIA

E&E developments cont'd

where there are few candidates.

Recently, the Society retained a consultant from the Rand Corporation who is an expert in professional education. He has had experience with many other professional organizations. His recently completed report includes several valuable ideas that we will pursue in areas such as examination construction and validation of pass-mark requirements.

The system will continue to be driven by the very valued efforts of E&E committee volunteers. At the same time, we will rely more on full-time Society staff, including an education professional and four FSAs. We will find the right mix of resources to maintain the E&E system as one of the finest professional educational systems in North America and as one of the key strengths of our profession.

Bruce Moore is Vice-General Chairperson of the Education and Examination Committee, Chairperson of the Investment/Financial Task Force, and senior vice president and chief financial officer, Prudential Insurance Company of America.

New E-Mail directory

William S. Jewell at the University of California in Berkeley is organizing an Electronic Mail (E-Mail) directory "to improve communication and encourage collaboration across the insurance research community." Using the chain letter approach, he has collected almost 80 E-Mail correspondents' names, affiliations, and addresses from 19 countries, mostly academics, using Internet, Bitnet, or their national equivalents.

Jewell asks that if you are part of the actuarial science, insurance mathematics or economics, risk theory, or similar community and want to participate, please send an EMAX to him at: <wsj@euler.Berkeley.edu>. Please give your full name, academic or business affiliation, address, and the external form of your E-Mail address. He especially encourages participation from governmental bureaus, research institutes, and insurance companies that are using commercial networks.

Dear Editor:

Head of Georgia State program protests withheld exams

In October 1985, the Society of Actuaries announced the implementation of a forward-thinking, but long overdue, policy on the distribution of "all multiple choice examinations" to its students. While this promise never was truly fulfilled (only four of more than 30 Course 100 and 110 exams for 1986-1991 have been released), it nevertheless provided an educational benefit of inestimable proportions to higher-level actuarial students during the six-year period.

With no prior notice, the Society withheld distribution of its November 1991 examinations. Indications are that such a policy is being continued in 1992. On behalf of many actuarial students sorely disappointed with that policy, I would like to register a strong protest.

In the academic world, especially at the undergraduate level, students often perceive that an antagonistic, competitive relationship exists between themselves and their instructors. Effective teachers work diligently to show their students that they share the ultimate goals of learning and thorough understanding. This antagonistic relationship seems to have existed for years, at or just below the surface, between the Society of Actuaries and its students. This previously was largely because of the secrecy of the examinations and the sense that the correlation between textbooks and other study materials and the exams themselves was not as high as it should have been. For six years, the Society eliminated the source of this criticism by publishing the exams.

The students' reaction to the recent change is predictable. Many students believe that examiners simply are unwilling to construct new tests with each exam administration. Exacerbating the effects of the policy change is the Society's attempt to implement a "gag rule," by which candidates are coerced into vowing not to discuss the examination with anyone, even after all the exams have been completed. This rule seems not only to be of dubious legality, but also is certain to increase antagonism toward the Society. Further, such a "gag rule" is certain to be ignored by many students.