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CURRENT ISSUES IN ACTUARIAL EDUCATION

by Anna M. Rappaport,
Vice President for
Education and Examination

Actuarial education is a major activity and concern of the Society of Actuaries. Over the past decade, the Society has incorporated a number of changes in its education system so that the system as it now stands:

- allows actuaries to specialize in life, health, or pension actuarial matters, but still allows them to switch specialties as they go through the syllabus;
- provides different content for U.S. and Canadian actuaries;
- includes the mathematics which allows actuaries to recognize variance;
- is coordinated with the Joint Board for the Enrollment of Actuaries Examinations in the United States.

In spite of several syllabus changes and continual work on study material, there are still policy questions which must be addressed by the Society, as there always will be. Some of the major concerns today include:

How do we build the problem solving skills which will enable actuaries to identify and solve the unknown problems of the future and to communicate well about them?

What is the proper role of the computer in the educational process and how can today's technology be effectively used in actuarial education?

What are the most effective teaching methods for the future?

How are the needs of pension practitioners best served by the educational system?

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VICE-PRESIDENT TURNER RESIGNS, RUGLAND IS APPOINTED

I regret to announce that Sam Turner, recently elected as a Vice-President of the Society, has found it necessary to resign. Expressing his deepest personal apologies to the Society and its members, Sam cited business pressures in his position of President and CEO of Life of Virginia, and Vice President of its parent, Continental Group, following the latter's acquisition by private interests. Given Sam's significant contributions to the Society in the past, and his continuing commitment to the profession, I appreciate how difficult this decision was for him.

In accordance with the Society's Constitution, the Board of Governors has appointed Walter S. Rugland to serve as Vice-President for the balance of this year. We are fortunate that Walt is willing to take on this assignment on top of his already busy schedule. This fall Fellows of the Society will be asked to vote for a Vice-President to complete the remaining year of this term in addition to those usually elected.

Preston C. Bassett
President

THE STOCK MARKET: GETTING ABOARD THE BULL TRAIN

by Robert A. Nix

For those who care, there are both pleasure and profit to be gained from buying a ticket on the bull train in a timely manner. Doing it two or three months before departure, or just after the journey has begun, is the best way—your ticket costs more later on.

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NEW DISABILITY VALUATION TABLES

by William J. Taylor and
W. Duane Kidwell

The report of the Society of Actuaries' Committee to Recommend New Disability Tables for Valuation was presented to the Board of Governors on January 15, and was authorized for an exposure draft to Society members. An abridged section of the report was mailed to all members February 1. The full report is available upon request to Mark Doherty, Director of Research, at the Society office. There will be a panel discussion of the Committee's Report at session PD46 at the Spring Meeting of the Society in San Francisco, April 1-2.

Notably different in this report is the parametric approach used in the construction of continuance tables. Each variable that was found to be significant has been numerically quantified in its relation to the other variables and is directly reflected by duration in the calculations. Although appearing complex at first glance, the approach is very simple and adds dimension and flexibility that enable the table to fit any company's mix of business. The tables are very practical to work with through simple computer programs. At this writing, the Society is attempting to make one or more software packages available which would compute continuance tables, net premiums, policy reserves and claim reserves for any defined set of variables (sex, cause of disablement, occupation class, elimination period, benefit period and interest rate). Cause of disablement is accident, sickness or a combination of both accident and sickness. The basis of the computation would be either the DTS Experience Table or the proposed DTS Valuation Table, each combined with

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Actuarial Education

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To help it respond to such issues, the Society Board of Governors has established an Education Policy Committee. This Committee is responsible for identifying long-term educational issues and working with the Education and Examination Committee and the Board to address them. Ongoing operation of the educational system is handled by the Education and Examination Committee. The Education Policy Committee is composed of Board members, representatives of the Education and Examination Committee (the General Chairman and past General Chairman), and others added so that all disciplines and areas of practice are represented. Other organizations which co-sponsor examinations with the Society appoint liaison representatives to this committee.

In 1984, the main role of the Education Policy Committee was to identify long-term educational issues which the Society must face. In 1985, we will attempt to address the identified issues, using a variety of efforts.

Two types of talent needed by actuaries have been identified—strong technical skill and good problem solving ability. Since these do not always go together, concern has been expressed that we may be developing too many technically strong actuaries but not enough problem solvers. Communication skill is an important element of problem solving, both to identify clearly what the problem is and to propose solutions in a way that others can understand and accept. The education system is related to this issue in two ways—the type of education influences the type of people we attract and tends to further develop technical skills rather than problem solving skills. We are just at the beginning of exploring this issue. Other Society committees are also looking at this issue from their point of view.

Another area of concern is evaluation of how well our educational system meets the needs of practicing actuaries. We are in the process of looking for new tools and methods for evaluation of the system. In a recent project, we did a much more complete evaluation of one of our examinations (Part 6)

than had been done previously.

A major concern is technology and its use in the educational process. Business education in the United States routinely incorporates the use of the computer, so that students in strong business school programs use the computer to do statistics problems, apply linear programming, etc. This “hands on experience” permits students to get a much better education in terms of how to apply the subject than they could get by simply studying textbooks. Also, long computations are often required by examples and exercises from the new mathematics on some Associateship subjects.

The Future Educational Methods Task Force, announced in the October 1984 *Actuary*, is currently investigating ways to use new technology in the educational process. In addition, we have developed an experimental program for personal computers which will enable students studying life contingencies to do the long computations required by the new *Actuarial Mathematics* textbook. The new life contingencies textbook includes variance as well as expected values, so the computations are more involved. This software will be issued to students both as a BASIC-language program which they can input, and as a diskette for the IBM PC.

Pension actuarial education is another concern. In the U.S., pension actuaries are licensed directly by the Federal government. There is concern that the Society's system is tailored more to the needs of the life and health actuary, and this issue is under study.

Another issue which has been identified is the complexity and time required for the management of the system. At present, about 400 volunteers work on administering what are, with the many specialties and partial examinations, 58 different examinations each year. More staff support seems inevitable, and a plan for gradually increasing the staff support is being developed and implemented.

Jim Murphy and Curtis Huntington have developed a slide presentation showing the evolution of the E&E system, how it has changed in response to various decisions and external pressures, and what the implications of each round of change are. Local clubs interested in this presentation should contact Linden Cole, Curtis or Jim.

Letters

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Sir:

The December *Actuary* and my copy of the 1984 *Life Insurance Fact Book* arrived at the same time. Jan R. Harrington's remarks with respect to sex, race, and hair color are interesting when juxtaposed with pages 92 and 93 in the “Fact Book”.

Pragmatism and equity demand that every characteristic which is known to be related to mortality should be factored into the “premium” equation, if legally possible and financially desirable.

Substituting the “Fact Book” for impressions, one finds that the apparent biological benefit of being female has increased dramatically since 1900 (at age 40, nearly four years more), whereas the apparent biological benefit of being “white” is decreasing.

There may be non-biological reasons for these changes, but the hypothesis that females have greater longevity than males has not been rejected statistically, nor is the trend toward rejection. General reasoning is not a reasonable substitute for statistical studies.

The race and hair color issues are hopelessly mired in the cross effects of standard-of-living and central tendency. The population can become less race-distinct and more homogenous in time. The possibility of the population becoming less sex-distinct and more androgynous seems extremely remote.

Leslie John Lohmann

The business environment which North American actuaries are working in seems to be changing constantly. The question we keep asking ourselves is how can we cope better with change, and how can we teach our students to cope well with change. The new North American actuary is competing with others with quantitative business training, particularly MBAs. We must resolve these issues successfully to retain our preeminent place in the management of financial security programs. □