The Newsletter of the Society of Actuaries

Vol. 33, No. 1
January 1999

The Actuary

Are standards understood?

Canadian Institute considers practice review process

by Robert J. McKay

During the second half of 1998, members of the Canadian Institute of Actuaries (CIA) debated implementing an "inspection system" for the profession in Canada. The proposed system was described in the report of the CIA Task Force on Compliance Review. Because of significant opposition to the details of the proposal, the CIA is now reviewing other alternatives for practice review, including implementing parts but not all of the inspection system model.

The task force's report was issued in July 1998 and has been discussed and debated in town hall meetings. Although the task force proposal for practice review is likely to be modified based on comments from these meetings, the current proposals may be instructive for SOA members.

The term "practice review" refers to the actuary's total practice. This differs from peer review, in which a specific piece of work is examined. Alternatives to practice review include compulsory peer review and detailed annual questionnaires on compliance, ideas the CIA might consider in the coming months. The CIA implemented a questionnaire several years ago; one option might be to expand this instead of implementing a full practice review.

During the town hall meetings, many actuaries asked what problems would be solved by practice review.

> The concerns raised by the task force are unique neither to Canada nor to North America.

Peter Morse, CIA president, responded at a November meeting of the CIA membership:

> In order to be in a position to respond to increasing concerns expressed regarding the range of practice of actuaries in some practice areas, the profession needs to be aware of whether the standards are being understood and followed and to discover where the standards are deficient. In addition, education of our members concerning the range of practice is also perceived to be a responsibility of the profession.

He went on to say, "To suggest that no action is necessary because 'we are actuaries, and each of us as individuals knows best' [as one member put it at a town hall meeting, 'Let the regulators send any case they don't like to Discipline' (the CIA Committee on Professional Conduct)] will get us nowhere and could lead to regulators and legislators taking control of areas which we consider as our domain."

Why did the task force feel that the CIA should take this major step? It identified several potential benefits of a practice review policy. Such a policy would:

- Ensure that members understand proper actuarial standards and the application of those standards to their work
- Identify areas where standards are deficient or unworkable
- Bring about changes in practice by persuasion where wide variations of practice in similar circumstances are discovered
- Call the situation to the attention of the CIA Committee on Professional Conduct, where matters are discovered that question the competence or integrity of the practitioner

(continued on page 4)

Inside this issue

The Actuary

The Newsletter of the Society of Actuaries

Vol. 33, No. 1 • January 1999

Robert J. McKay
Editor responsible for this issue

The Actuary welcomes articles and letters.
Send correspondence to:
The Actuary
Society of Actuaries
475 North Martingale Road, Suite 800
Schaumburg, IL 60173-2226
Web site: *www.soa.org*

The Actuary is published monthly
(except July and August).
Howard J. Bolnick, FSA, President
Bradley M. Smith, FSA, Director of Publications

Nonmember subscriptions: students, $10; others, $25. Send subscriptions to: Society of Actuaries, P.O. Box 95668, Chicago, IL 60694.

EDITORIAL

Let universities in

by Robert J. McKay

One of the perks of being the president of the Society of Actuaries is that you get to set your own agenda. Two topics that SOA presidents normally leave off their agenda are initiating discussions on merging the actuarial bodies in the United States and moving the SOA's education and examination (E&E) system to a university-based approach. Most presidents stay far away from these topics because they know the debate will be all-consuming and the chances of success are small.

Howard Bolnick has decided the time is right to tackle the second issue—a university-centered actuarial education system. In his presidential address, reprinted in the supplement to this edition of *The Actuary*, Bolnick states, "To be a big tent profession, we must commit to move towards a university-based education system."

Bolnick is right — we need to change, and change fast. The E&E committee and Society staff have done a great job of delivering what the SOA Board of Governors and the membership have required. But it's now time to change what we ask of our E&E system so that universities have a much greater role in educating the next generation of actuaries. (Also see "Academic task force," page 10.)

I served on various SOA E&E committees for 14 years, including as 1990 general chair of the E&E steering committee. Understand, though, that in my view, we shouldn't turn all of the E&E function over to the universities — at least not initially. All practice-related education should still be the responsibility of practitioners, not academics.

But in general, the rationale of having academics educate future actuaries is compelling. Specific reasons why we have to change include:

- We currently rely on many volunteers and a few staff professionals to educate and examine our future membership. But most actuaries, including the vast majority of those on the E&E committee, are not experts in education or examination. To equip our next generation with the proper skills, universities at the leading edge of actuarial thought and practice must be a key part of the process.
- The world is changing too fast for our current structure and decision-making process. The best example of this is the time it is taking to restructure the E&E system. The committee that developed the new vision was formed in 1994, but the changes won't be effective until the year 2000. A lot of this development time was needed to fine tune the proposals, deal with issues raised by the SOA Board and reflect the considerations of other interested parties such as the CAS and the CIA.

The volunteers and staff working on the new system are extremely dedicated, talented, and hard working. It's a shame that these discussions weren't taking place a few years ago, before an extraordinary effort was made on the current restructuring. However, the six-year timeframe demonstrates that volunteer resources working within the political framework of the SOA cannot possibly keep pace with the emerging needs of the profession.

- The current system is a major disincentive for people entering the profession today. The prospect of three to ten years of studying and examinations following graduation isn't exactly appealing, especially when compared with the alternatives. If you don't believe this, ask a future actuary who has spent, say, five years at your organization, how he or she likes being thought of as a "student." The Society's exam statistics confirm that the profession isn't growing — the number of new fellows in May 1998 was 140. Ten years earlier, in May 1988, the number of new fellows was … 140. And the next decade doesn't look much better — the number of candidates writing exam 100 or 110 has declined by almost 40% in the last 10 years. (Part of this decline may be due to a tightening up of the standards for these two courses which has discouraged some people from writing them.)

- The E&E system is a huge drain on actuarial resources. The volunteer time spent by the E&E committee and the study time spent by students could better be used by our employers, in other actuarial committee work, and with our families.
- Historically, the E&E system has been very successful in teaching students how to become exam takers. It has been less successful in teaching them how to think, integrate material, and solve broad problems. Changes made in the last decade have improved the situation significantly. However, I doubt whether it's possible for any home-study program to adequately teach these critical skills. Isn't that one of the key roles of universities in society?

In light of the above, you might ask why the SOA is one of the few actuarial organizations in the world that does not recognize university actuarial credentials. One actuarial body, the Institute of Actuaries of Australia, has nearly made the change. Also, the British Institute and Faculty of Actuaries work cooperatively with a number of universities and give exemptions for their exams to graduates with appropriate marks in the relevant courses (and consulting with an external examiner who sets the standards for the exemptions).

One possible reason the SOA hasn't built closer bonds with academia is that many SOA members may fear a university-based approach will lower our standards. I and many others believe it will change, not lower, the standards, as different skills than those needed in the past will be taught and tested — skills that will be critical to the growth of the profession. In addition, some members may continue to believe, "I had to pass the exams, so you have to, also."

A second reason we haven't changed is a concern that many actuarial programs do not adequately teach the necessary mix of technical and business skills. However, if we change the focus of our E&E system, universities will change their approach to actuarial education. Because of the size of our profession, it may be best to designate a small number of universities in North America as qualified to grant actuarial degrees recognized by the SOA. These universities would develop robust programs, as they would be assured of sufficient enrollment to make their programs viable.

It's time we changed. Good luck, Howard.

SOA donates books to Chinese actuarial group

by K.C. Chan

It was inevitable with China being recognized as the largest insurance market with its 1.2 billion people that the importance of the actuary would quickly emerge. Not only is this a critical time for the development of China's insurance industry, but also for the actuarial profession. The Chinese government has recognized the need to train actuaries under its own system and is in the process of forming the Chinese Actuarial Association (CAA). To help develop its curriculum and symbolically support its efforts, the Society of Actuaries recently donated a substantial collection of actuarial education materials to the CAA.

In September, Howard Bolnick, as SOA president-elect, presented the books in a ceremony in Beijing to members of the Preparatory Committee of the CAA, Ying Ning Wei, deputy general and senior economist of the People's Bank of China's Insurance Department, and Lufu Pan, executive vice chairman of the Insurance Institute of China. Zhenghuai Li, vice chairman of the Preparatory Committee and advisor on Chinese actuarial matters to the SOA Greater China Committee (GCC), coordinated the ceremony. Also representing the SOA were K.C. Chan, Dominic Lee, and Danny Chung. Other representatives from the CAA and the Insurance Institute of China were also in attendance.

This truly was an important step to building the relationship between the CAA, what may one day be the world's largest actuarial association, and the SOA and the international actuarial community.

K.C. Chan chairs the SOA Greater China Committee. He is general manager, marketing, of CMG Asia Life Assurance, Ltd., Hong Kong.

Are standards understood? (continued from page 1)

The task force concluded that practice review should only apply to work in Canada by a member in support of the member's public actuarial opinions. This would include actuarial opinions in published documents, plus all opinions of an actuarial nature that are required to be provided by a Fellow of the CIA, that must be filed with a Canadian regulator, or that may be included as evidence by parties to a lawsuit.

The task force developed a proposed review system that includes two levels of review. Tier one would be an annual questionnaire for all practice areas. Tier two, the more controversial recommendation, would be an in-office review of practices and procedures for the practice unit on a random cycle. The task force expects that a review would involve up to 50 hours of time. Tier two reviews would be initiated either as a result of information discovered in a tier one review or by random selection. All practice units would be visited at least once every five years.

A major concern among practitioners is who would conduct reviews. With only about 2,000 actuaries in Canada, conflicts of interest and professional competitive practices are real concerns. To address this, the report stated that the CIA should hire a staff actuary to support the development of detailed procedures and to provide day-to-day management of the process.

The task force also recommended that persons engaged by the CIA should conduct all practice reviews. It also stated that reviewers must not be active practitioners or at least have no conflicts of interest with the practice unit, its members, or the cases being reviewed. It also recommended that the CIA Committee on Practice Review should have no knowledge of the identity of the practitioners or client files associated with a given review.

The task force stated that the in-office practice reviewer should be able to request any detailed information necessary to support a review of a practitioner's work. In some cases, this could require additional calculations or other tasks. Members should be required by rules of professional conduct to cooperate with the practice review process.

In a recent note to CIA members, Morse summarized the major criticism of the proposals. These included the seemingly intrusive nature of the proposed processes; the estimated cost of the program compared to perceived added value to the membership; the perceived lack of sufficient numbers of competent yet independent reviewers; the burden such reviews would place on the practice unit, particularly for small operations and sole practitioners; and the lack of a demonstrated need for the process in those practice areas where robust peer review practices are already in place. According to Morse, member reaction tended to be more negative among pension actuaries than those working in insurance, and reaction was strongly negative among actuaries working in small practices.

While the final form of practice review in Canada may differ from the current recommendations, it is likely that the CIA will eventually implement some form of review. And the concerns raised by the task force are unique neither to Canada nor to North America. In his presidential address, Paul Thornton, 1998-2000 president of the Institute of Actuaries, observed:

> Professional judgment used to mean that with skill and experience, the professional knew best — and at one time, professional judgment would have been accepted without question. We now live in an era where professional judgment is under challenge in a way in which it was not in the past, and we will retain respect as a profession only to the extent to which we earn it and keep re-earning it.

Robert J. McKay, consultant, Hewitt Associates, Toronto, is an associate editor of *The Actuary*.

Academy names executive director, chief health spokesman

Two major staff appointments were recently announced by the American Adademy of Actuaries.

Richard C. Lawson joined the academy as executive director on Jan. 1. He was vice president for federal affairs of the American Insurance Association.

Lawson brings to the Academy more than 20 years' legislative and policy experience, including service as counsel to the U.S. Senate Subcommittee on Labor, chief of staff to Sen. Don Nickles (R-Okla.), and staff director of the Senate Republican Policy Committee.

Dwight K. Bartlett III, has been named the Academy's first senior health fellow. He was chief actuary of the U.S. Social Security Administration, Maryland state insurance commissioner, and 1983-84 SOA president.

Bartlett will provide independent actuarial expertise to federal and state health policy makers on such issues as Medicare, patient protection legislation, and long-term care insurance. He will also serve as the Academy's chief spokesperson on health issues to the news media and other external audiences.

Seeking proof

Does social security program's IRR equal economic growth?

by Bernard Dussault

The coverage of social security matters was very heavy in the September 1998 issue of *The Actuary*. Two major stories, an editorial, and three letters to the editor all addressed this crucial element of public well-being. In fact, the actuarial literature on social security appears currently to be receiving a larger share of attention than the proportion of actuaries actually working in this area. This likely reflects the urgent need to focus actuarial research and discussions on the relevant pending social security issues. I have prepared the following with that in mind.

An inappropriate message started spreading rapidly in 1992 in both public and private sectors of the United States and Canada. This message says that future generations of contributors to social programs financed on a quasi pay-as-you-go basis, such as the United States' and Canada's social security programs, would not get their worth of money — that is, benefits would be far less than the sum contributed. This message has even been conveyed by some actuaries and economists who used the so-called "money's worth ratio" (MWR) approach in support of their conclusion. Simply stated, the MWR approach provides a relative (rather than absolute) measure of the internal rate of return (IRR) by comparing it to the normally higher return that might well result if a social security program were both fully funded and invested in a diversified portfolio. The fallacy of this conclusion rests on the fact that a lower return is not necessarily a negative, worthless, or inadequate return.

This is why I have been quite voluble since 1992 on asserting the exclusive appropriateness of the birth-cohort IRR approach for assessing the money's worth of a social insurance program:

- Page 101 of the CPP 15th actuarial report , Dec. 31
- Page 14 of the 16th report tabled Sept. 25, 1997, by Canada's parliament
- My comments on several papers by Robert L. Brown published in the *North American Actuarial Journal* (*NAAJ*)
- The monograph on the Canada Pension Plan (CPP) that J. Bruce MacDonald produced with some input from me

Under stationary economic and demographic conditions, the real IRR for an earnings-related social security program financed on a pure pay-as-you-go basis is equal to the real increase (actual and / or projected) in total covered employment earnings. This corresponds to the economic growth rate, because the GNP increase is practically the same as that in aggregate employment earnings. Obviously, fluctuations are a fact of life, which makes the IRR calculations more difficult than merely looking at the compounding effect of a single real increase in average earnings and of any change in labor force participation. Real IRRs of birth cohorts, mentioned above, had accordingly been determined on an exact cohort basis using the longitudinal computer simulation model ACTUCAN, maintained in Canada's Office of the Chief Actuary for CPP statutory actuarial purposes.

In my discussion of Robert Brown's paper "Social Security: Regressive or Progressive?", in the April 1998 issue of the *NAAJ*, I clearly illustrate that each future birth-cohort of CPP contributors is expected to get a positive IRR in accordance with the assumptions of the 15th actuarial report on the CPP. As noted by Robert Myers in the September 1998 issue of the *NAAJ*, my discussion also covers the effect on IRRs of the materially higher mortality normally associated with the sub-cohorts of contributors with lower-than-average employment earnings. The IRR of cohorts with lower employment earnings could well be negative if their higher mortality were the only consideration. However, the effect of higher mortality on IRRs is generally more than offset by the usual social programs' provisions which provide, through progressive measures, relatively higher pensions for lower-income people.

As so well emphasized by Myers, all of this is strictly a matter of the appropriateness of the methodology used to compute the IRRs. On the other hand, the appropriateness of the IRR level associated with the pay-as-you-go approach is a totally distinct issue having strong social policy connotations. We actuaries are well trained to provide valuable scientific input for an objective discussion of the related social issue: is an IRR equal to the increase in the national covered payroll, as under an earnings-related program financed on a pay-as-you-go basis, a socially appropriate return? I have the following embryonic information to offer in that regard and accordingly invite all interested members of our profession to participate in further related professional research and development.

I have strong reasons to believe that the average annual rate of return on all domestic investments is equal to the annual increase in the national payroll. This might look strange at first glance, but it is a plausible theory emerging from various and probably valid grounds.

- Nothing gets produced in the economy, excluding voluntary work and the black market, without the payment of salaries.
- Sleeping money is not productive.

(continued on page 6)

Seeking proof (continued from page 5)

- Investments consisting merely of financial trades might be one of the catalysts for production but become productive only to the extent that they are eventually used to pay salaries.
- All items of consumption represent an investment, which becomes productive only when it gives rise, after a certain time lag, to further salary payments. Any grocery expenditure is an investment having the possible dual effect of maintaining the human machine (which is useful capital for production) and returning money to the grocer's business for possible further salary payments.

There might be a simple way to demonstrate this theory. I have worked on it, but have not yet been successful. However, I have also failed to prove that it is not correct. So, what if it is correct? Well, consistent with some of the deemed social objectives (e.g., some redistribution of wealth) of social insurance programs, policy makers might then want to consider the following issues.

- Where should a social program's IRR stand in comparison to the average national investment return? Lower? Equal? Higher?
- Consistent with the normal objectives of a social program, to what extent is it appropriate for the IRR of any subgroup of "investors" (e.g. beneficiaries of social benefits rather than all "investors") to be higher than the average aggregate return at the detriment of some other subgroups?
- As it is not possible for all investment returns to beat the aggregate national return, to what extent should a social program target an IRR above the national average?

Consistent with the educational role of the SOA, I reiterate my invitation to interested members of our profession to address this issue within the constraints of the scientific rigor dictated by the SOA motto, "The work of science is to substitute facts for appearances and demonstrations for impressions."

Bernard Dussault, former chief actuary of the Canada Pension Plan, is a consultant in private practice. He can be reached by e-mail at ***olivduss@istar.ca.***

March 12 is deadline for Ph.D. grants application

The SOA Ph.D. Grants Program is accepting applications until March 12 for the 1999-2000 awards.

The program offers $10,000 annual grants to graduate students completing research in actuarial science and who intend to pursue an academic career in North America.

Judges consider those criteria as well as the thesis topic's relevance to actuarial science. Preference is given to candidates who are members of the SOA or the Casualty Actuarial Society or who are working toward membership.

Recipients will be notified by June 15. Details and applications are available from Kathie Peters at the SOA office (phone: 847/706-3574; fax: 847/706-3599; e-mail: *kpeters@soa.org*).

Retirement 2000 update

The deadline for the call for papers for the SOA project, Retirement 2000, has been extended to March 1. Abstracts and outlines will be due at that time, with full papers due one month later.

Retirement 2000, sponsored by five organizations including the SOA, aims to raise new insights on retirement and benefits as nations face major economic and demographic shifts (see "Retirement 2000: What will the millennium bring?", *The Actuary,* November 1998).

Upcoming SOA meetings and seminars

Feb. 11	Teleconference: New Employee Benefits for 1999	Various U.S. locations
March 18-19	Fair Value of Insurance Business	New York University
March 25-26	The Annuity Conference	Hilton Palacio del Rio San Antonio, Texas

For updates on all seminars, watch future SOA mailings. Seminar information will also be posted on the SOA Web site *(www.soa.org)* under Continuing Education.

A better framework

Project points research to events after retirement

by Anna M. Rappaport
SOA Immediate Past President

Actuaries have a unique opportunity to help shape critical issues in societies around the world today. Actuarial skills are well established in a time when large elderly populations are rapidly emerging, with accompanying problems that cry out for actuarial insights. The SOA's pension practice area took on the challenge of responding to these issues with a special research project, the "Retirement Needs Framework."

Begun in early 1998, the project's first two phases were a call for papers and a multidisciplinary seminar to present and discuss them. The seminar was held Dec. 10-11, 1998, in Orlando, Fla. The organizing committee, chaired by Marilyn Oliver, is now considering further steps.

Toward improved models

The "Retirement Need Framework's" purpose is to gain significantly better insights into the retirement period and to set the stage for better modeling and more in-depth treatment of changes and special needs after retirement. A great amount of retirement research focuses on the period before retirement rather than on post-retirement events and how to manage them. The importance of the "Retirement Need Framework" project stems from its focus on the post-retirement period.

In countries with dramatic increases in the percentage of elderly — as in the United States, where the baby boomers are aging — retirement systems often undergo significant changes. This frequently includes trimming back social security systems and a move to defined contribution approaches by employer-sponsored retirement plans. In effect, more responsibility is shifted to individuals just as costs are expected grow.

Issues raised by the "Retirement Need Framework" project apply in many different countries and affect all practice areas within the SOA. Security for retirement and for elderly persons comes from pensions, health benefits, life insurance, long-term care insurance, annuities, and investments. The goals of the project's first two phases were to help identify events, modeling approaches, and data that can provide actuaries with better tools for the design of financial security systems and better information to use in counseling individuals.

Attendees and authors at the symposium included both academics and practitioners, who found a prime opportunity to work together and exchange ideas. The symposium's 15 papers represented research by actuaries, attorneys, economists, demographers, and other professionals. Most authors were from North America, but two authors are Australian and made their presentations in person.

Focus: the retirement period

The symposium included several discussions of what retirement means and how patterns of retirement are changing. Retirement was defined as a gradual process rather than a one-time event. Different theories of what drives decisions to retire were raised, and questions for further research were posed. When to retire and whether benefits can be paid as retirees continue with limited work will raise policy questions in many countries, including the United States as Social Security and Medicare changes are debated.

Outliving assets is a serious issue, one that affects many elderly persons. Several presenters and attendees focused on the issue of annuitization versus selecting a lump sum and investing the money privately. Two papers provided models to show the implications of different asset mixes. Discussants called for new models that would allow modeling of a portfolio that includes traditional investments, annuity income, and insurance.

Care for the frail elderly is a major problem for which many families have no solution. The data in the National Long Term Care survey was discussed. The survey, conducted by the U.S. Department of Health and Human Services and the Health Care Financing Administration, is a longitudinal study designed to provide information about the population of chronically disabled elderly persons in the United States. This data provides a great deal of information on the continuum of health status and on the disability status of the population under study. Eric Stallard, ASA, a research professor at Duke University's Center for Demographic Studies, has prepared a report on the survey and has developed a computer model based on the data. The report and model are currently being reviewed by the SOA Long-Term Care Experience Committee.

Issues also surfaced with regard to the roles of different family members. It was pointed out that men and women still play very different roles in most families and that retirement security is influenced by various combinations of caregiving and labor force participation.

A monograph will be prepared on this project. A more extensive summary of the first two phases of the project will be published in the *Pension Section News.*

Anna M. Rappaport, principal, William M. Mercer Incorporated, Chicago, can be reached by e-mail at *anna_rappaport@mercer.com*.

Speaking out

Members respond to *The Actuary's* Social Security survey

by Jacqueline Bitowt
SOA Public Relations Specialist

For more than two years, *The Actuary* has received more articles and letters on social security than on any other single topic. Given actuaries' interest in analyzing financial situations and the extensive public debate on social security worldwide, the subject's prominence among actuaries is easily understood.

To offer more SOA members a forum for their views, editors of the September 1998 issue included a survey asking members' opinions on five statements related to possible U.S. Social Security reform. The survey drew 1,067 responses, representing 6.6% of the membership, by the Oct. 31, 1998, deadline.

In addition, the survey drew notice in the Institute of Actuary's magazine (also called *The Actuary*). Editor Zaki Khorasanee wrote in the November 1998 issue's editorial:

> The Society of Actuaries' newsletter has invited its readers to participate in a survey of opinion on how best to reform the U.S. Social Security System, just as we in the U.K. are considering the same issue from our own perspective. It may be unfashionable to say so, but I believe that we could all learn a thing or two from the enthusiasm and the spirit of public participation with which America conducts its national affairs.

Members were asked to rate their views from 1, strongly agree, to 5, strongly disagree. Respondents also were asked to provide information on their gender, designation (FSA, ASA, or pre-ASA), age category, and practice area. (See accompanying chart, "Respondents at a Glance.")

Results

On the first statement, "reforms should include a defined contribution (DC) feature using individual investment accounts," respondents overall opposed the idea, with 52.1% disagreeing and 37.8% agreeing. Only women, as a group, supported the statement, with 45.6% in and 44.7% opposed.

On statement B, "if a DC feature with individual investment accounts is enacted, workers should have only a few investment choices," respondents slightly favored the idea, 59% agreeing vs. 47.9% disagreeing. All groups except the under-25 group (11 respondents) reflected that trend, most showing a clearer split. The strongest support came from those aged 55-64, with 67.5% agreeing; pension actuaries, 65%; and those aged 65-plus, 64.2%.

Individual groups diverged from the total respondent population on statement C, that the U.S. government should invest some Social Security trust funds in equities if U.S. reforms do not include a DC feature. While respondents as a whole opposed the concept (44.7% vs. 37.5%), several categories of respondents supported the statement. Also, in the general respondent group, 16.4% gave a neutral answer and 1.4% did not respond. Support for the concept came from pension actuaries (42.5% in favor, 42% opposed), women (43.1% vs. 38.2%), people in the 25-and-under group (54.6% vs. 36.4%), and those aged 25-40 (47.5% vs. 35.3%).

A strong majority of respondents supported the fourth statement, that the Social Security retirement age should be indexed with improvements in life expectancy to help stabilize financing. Of all respondents, 74.2% agreed, and support was strong in each category.

Opposition was consistent if often slight on the fifth statement, that Social Security benefits should be adjusted with the ratio of retirees to workers to help stabilize the system's financing. Overall, respondents disagreed with the statement (56.1% vs. 24.1%). However, nearly 20% gave a neutral response or did not answer the question (18.2% and 1.6% respectively), a trend generally reflected in all categories. Over 50% of respondents in each group disagreed with the statement.

Comments

More than one-fourth – 248 – of total respondents took time to comment on or beyond the survey's five questions.

Dominating the comments was the theme of fairness, as it does in the public debates, and it took many forms. Comments on fairness typically focused on people in need and the common welfare. "Raising the retirement age discriminates against the disabled, blue-collar workers, and others with lower life expectancy," wrote one respondent. An anonymous contributor stated, "Allowing future retirees to direct their accounts would only benefit those with an understanding of investments. For others, it could diminish a benefit they need to survive financially." Another unnamed writer said, "The discussion should not focus on, 'Am I getting fair value for my contributions?' This is social insurance for the greatest good." Only a few writers took a different approach to fairness; said one, "I want to know how much of my contribution of Social Security will come back to me versus how much is going to support others' retirement funding."

Beyond fairness, topics of comments showed strong views on government involvement, investing Social Security funds in equities, launching individual accounts, and even whether the United

States should continue its Social Security system.

"The government should not be investing and becoming part-owner of any business; the (potential for) conflict of interest is just too high," wrote one respondent. "The government is the guarantor, not a bettor," stated another. But writers favoring investments often cautioned against government bureacracy and potentially high expenses, while indirectly supporting the idea of government involvement. Typical were the comments, "Keep bureaucracy to a minimum on the defined contribution portion. Offer a full range of mutual funds, but clearly disclose the risk profile of each fund," and, from another respondent, "Investment choices should be somewhat limited to avoid or reduce administrative problems."

And of course, the survey itself drew comments. On the down side, a typical comment was, "While I have completed this survey, I am completely opposed to it. It is impossible to capture the complexities associated with each question in an agree / disagree survey." Another asked, "I am not an expert in social security. Is a collection of my opinions and other uninformed opinions that valuable?" That question was inadvertently answered by those who approved of the survey. Said one writer, "This survey is a great idea! Actuaries probably know more about this subject than politicians. I hope we're heard." And the feelings of most of the 1,067 respondents most likely were summed up by one writer's brief comment, "Thanks for asking!"

Detailed survey results are available from Jacqueline Bitowt at the SOA office (phone: 847/ 706-3566; fax: 847/ 706-3599; e-mail: *jbitowt@soa.org*).

Note: Kelly Mayo, SOA public relations coordinator, contributed to this article.

Respondents at a Glance

Category	*No. of Respondents*
Total respondents	1,067
Male	927
Female	123
FSA	694
ASA	319
Pre-ASA	40
Pension practice area	426
Finance / investment	51
Health insurance	183
Life insurance	329
Property-casualty insurance	9
Other practice area	53
Under age 25	11
Ages 25-40	343
Ages 41-54	427
Ages 55-64	154
65 and above	124

Social Security Survey, *The Actuary*, September 1998

Responses for All 1,067 Respondents in Both Total Number and Percentage of Total Respondents

Statement	1 Strongly Agree	2 Agree	3 Neutral	4 Disagree	5 Strongly Disagree	6 No Answer
A. Reforms should include a defined contribution (DC) feature using individual investment accounts.	237 22.2%	166 15.6%	97 9.1%	178 16.7%	378 35.4%	11 1.0%
B. If a DC feature with individual investment accounts is enacted, workers should have only a few investment choices.	389 36.5%	239 22.4%	139 13.0%	133 12.5%	133 12.5%	34 3.2%
C. If the reforms do not include a DC feature with individual investment accounts, the government should invest some of the trust funds in equities.	187 17.5%	213 20.0%	175 16.4%	163 15.3%	314 29.4%	15 1.4%
D. The Social Security retirement age should be indexed with improvements in life expectancy to help stabilize financing.	494 46.3%	298 27.9%	93 8.7%	89 8.3%	82 7.7%	11 1.0%
E. Social Security benefits should be adjusted with the ratio of retirees to workers to help stabilize financing.	118 11.1%	139 13.0%	194 18.2%	281 26.3%	318 29.8%	17 1.6%

Academic task force

Report cites compelling reasons for stronger ties

by Jacqueline Bitowt
SOA Public Relations Specialist

Urgent reasons exist for the actuarial profession to strengthen its ties with academia, while no substantial reasons argue against this partnership, says the first report of a new actuarial task force.

The Joint Task Force on Academic Ties presented the Sept. 29, 1998, report last fall to the three sponsoring organizations—the SOA, the Canadian Institute of Actuaries (CIA), and the Casualty Actuarial Society (CAS). Comments at the SOA board's October meeting suggested that the concepts of education and qualification be considered as separate issues and rationalized in more detail. In general, however, the board noted the preliminary report last fall was focused in the right direction and said the task force should continue its work. The task force promised to present some ideas for the board's consideration at its January meeting, with a final recommendation to be prepared for its March meeting.

The task force grew out of a by-invitation seminar, "The Actuarial Profession's Relationships with Academia," held Feb. 4, 1998. It was cosponsored by the SOA, CIA, and CAS, each of which provided representatives for the joint task force.

The report of the task force, chaired by Steve Radcliffe, detailed "three compelling reasons (for the profession) to build this partnership" with universities and colleges.

1. A professional partnership with academics has value.
2. New competition exists for future members and jobs.
3. The CAS, CIA, and SOA can learn from other models of actuarial education and professional qualification in the emerging global actuarial profession.

Under the topic of the value of a partnership with academics, the task force cited four important facets.

First, the vast majority of professions have had partnerships with academia for both education and research; such a partnership contributes to a profession's intellectual strength, public policy commitment, and research.

Second, the academic community, which has benefited other professions, is well qualified to provide similar benefits, such as basic education and basic research, to the actuarial profession.

Third, academia is viewed by the public and government as providing objective expertise on public issues, and solid links between the actuarial profession and the academic community "would support greater public policy credibility for the actuarial profession," the report said.

And fourth, the 1997 SOA Research Effectiveness Task Force survey showed respondents believe stronger ties are "important to both the actuarial profession and the academic community."

In citing the second urgent reason for stronger ties, new competition for members and jobs, the task force noted, "Other disciplines have developed academic programs focused on quantification of risk and its financial consequences, areas that actuaries have traditionally considered cornerstones of their skill set and competence."

The third reason for stronger ties cited in the report, the opportunities for the three cosponsoring organizations to learn from models of actuarial education outside those organizations, is based on the profession's increasing globalization. The report noted the CAS and the SOA are among the few actuarial groups worldwide giving "little or no formal recognition to academic work."

Based on its findings, the task force identified six objectives of a stronger relationship between the profession and the academic community.

1. To produce a sufficient number of qualified students and employees
2. To produce a sufficient amount of theoretically sound and practical research
3. To enhance public recognition of the profession
4. To optimize the use of the combined resources of both the academic community and the actuarial profession
5. To create and maintain a flexible and dynamic educational system
6. To address issues associated with the globalization of the profession

The report concluded with questions raised in task force discussions. These included:

- How can universities best be used to enhance the process of actuarial education and professional qualification and the quality of actuarial research and practice?
- What can be done to enhance the interchange between academics and practitioners for addressing practical actuarial problems?
- Is there any evidence that indicates how well university-educated actuaries succeed relative to other actuaries?

The task force is actively seeking comments and suggestions. Copies of the report are available from Jeanette Selin at the SOA office (phone: 847/706-3533; fax: 847/706-3599; e-mail: *jselin@soa.org*). The report is also posted on the SOA and CAS Web sites (*www.soa.org* and *www.casact.org*).

Steve Radcliffe, chair of the Joint Task Force on Academic Ties, can be reached by e-mail at *Steve.Radcliffe@aul.com*.

New book to sum up SOA's 50 years

A detailed book on the Society's history is being written in honor of the SOA's 50th anniversary. Called *Σ50*, the title uses the Greek symbol "sigma," which in mathematics means "sum" or "the summation of."

The symbol and what it represents is appropriate both for the events of the SOA's 50 years and for the amount of work behind the book. The author, Richard Greb, has devoted hundreds of hours to research and interviews with key Society members, and a committee of eminent actuaries is being developed to peer review the final text.

The first chapter, "From Two, One," offers an inside view of the merger that brought about the Society's formation in 1949. Among those interviewed in 1998 was Ronald Stagg. He was one of the three incorporators of the SOA and had been secretary of one of the two organizations, the American Institute of Actuaries, which merged to form the SOA (the other was the Actuarial Society of America). The book reports:

> "There was just no reason for having two bodies," (Stagg recalled). "It seemed to me that we ought to explore the possibility of merging the two. I called the secretary of the Society, Walter Klem. I told him that I was about to take up with the Board of Governors of the Institute the possibility of merging. That was all that was necessary. He was interested and he did the same with the Society."
>
> While Stagg and Klem [with Reinhard Hohaus, whose paper, "The Origin of the Society of Actuaries," appeared in volume one of the *Transactions*] may have pushed the process into high gear, discussion was already well underway. Suggestions that the two organizations consider merger had appeared in addresses by their presidents during the war years.

The organization that emerged, the Society of Actuaries, "has been a home for its members, providing opportunity for growth, an outlet for their views, a stage for their humor and erudition, and a way to give back to their profession," writes author in the book's introduction.

Humor and erudition launched the SOA's search for an appropriate symbol to represent itself. Henry Jackson, chair of the Special Committee for a Society Seal, wrote to committee member Harold Grout:

> No holds whatever are barred. If you want a symbolic figure like that on the Institute's seal, which few have ever understood even after it has been interpreted to them, say so; if you like the contented cow on the Vermont seal, take that; if you like Latin, as in the American Institute's, use it; if you prefer Greek, see if I can understand it. In brief, the land is yours. Go ye in and possess it.

A committee leader preparing for a long trip, Jackson signed himself, "Cordially and helplessly yours."

Greb's previous work for the Society of Actuaries includes development of its Speaker's Kit. Based in Highland Park, Illinois, he has done major communication projects for companies including Allstate, Aon, CNA, the American Medical Association, Northwestern University, and IBM.

Σ50 will be distributed to SOA members attending the 1999 annual meeting as part of the attendance fee. Copies will be available for purchase through the SOA Books Department.

50 years ago . . .

- Newfoundland becomes Canada's 10th province on Mar 31.
- Paris recognizes Vietnamese independence on Mar. 8.
- The Soviet Union detonates its first atomic bomb.
- Americans buy 100,000 televisions a week.
- Congress raises the president's salary to $100,000 per year on Jan. 19.
- Britain devalues the pound Sept 18 from $4.03 to $2.80. Most European nations follow and devalue their currencies.
- Jackie Robinson, second baseman for the Brooklyn Dodgers, wins "Most Valuable Player" award.
- U.S. Air Force's *Lucky Lady* completes first nonstop around-the-world flight.
- Peter C. Hodgson, a Connecticut businessman in advertising, introduces a substance developed by General Electric researchers. He sold the silicone substance in one-ounce packages for $1 and advertised it in his toy catalogue. The new product, Silly Putty, was an immediate success.
- "Dragnet" is first broadcast on WKFI radio in Los Angeles.
- Charles Lubin, a Chicago baker, introduces Sara Lee cheesecake made from his "Kitchens of Sara Lee," named after his daughter.
- The first daytime drama, *These Are My Children*, premieres on NBC as a live, 15-minute show.

RESEARCH CORNER

CKER
The Committees on Knowledge Extension Research and Retirement Systems Research are jointly sponsoring a project on modern modeling technologies for pension actuaries. Arnold Shapiro, researcher, will identify the essential features of the technologies, explain the technologies' relevance for the pension actuary, and provide examples of applications to pension-related problems.

Funding has been approved for a project on the application of quasi-Monte Carlo Methods to actuarial science. The researchers will be Phelim Boyle and Ken Seng Tan.

Daniel Dufresne's final report, "Valuation of Credit Line Commitments Subject to Credit Risk," has been approved by the Committee on Knowledge Extension Research. Photocopies are available from the SOA Books Department for $10 (phone: 847/706-3526; fax: 847-706-3599; e-mail: *bhaynes@soa.org*); the abstract is available on the SOA Web site (*www.soa.org*). The paper is being submitted to a refereed journal for publication consideration.

Retirement news
The report, "A Benefit Value Comparison of a Cash Balance Plan with a Traditional Final Average Pay Defined Benefit Plan," has been published in the October 1998 issue of *The Pension Forum*.

The 1993-94 Group Annuity Experience Report is available through the SOA Books Department for $10 (phone: 847/706-3526; fax: 847/706-3599; e-mail: *bhaynes@soa.org*).

Health news
Proceedings from the symposium, "Managed Care in a Time of Transition," are available from the Books Department for $35. Handouts from the "Credibility Seminar for Health Insurance Actuaries" are available for $20.

The Nov. 11, 1998, issue of the *Journal of the American Medical Association* includes an article, "Trends in Alternative Medicine Use in the United States, 1990-1997," by David Eisenberg, M.D., whose study was funded in part by the SOA.

The "1986-91 Individual Disability Loss-of-Time Policies Experience Report" is available through the SOA Books Department for $10.

Finance news
A letter of agreement was signed with Sam Cox, Jeffrey Pai, and Hal Pedersen for a research project, "Interest-Rate Models in Actuarial Practice." The objective is to produce a guide for actuaries seeking to apply term structure models to practical problems. The scope of the project will include development of techniques to calibrate and implement interest rate models and to determine which model is most appropriate for a particular application. The Investment Section is cofunding this project. The project is expected to be completed in the first quarter of 2000.

The "1986-94 Credit Risk Loss Experience Study: Private Placement Bonds Report" is available through the SOA Books Department for $35.

Life news
A letter of agreement has been signed with Dan Segal for a study, "Variation in Life Insurance Company Expenses." The purpose is to investigate and explain the wide variation in company expenses in the data used to construct the 1998 Generally Recognized Expense Table. The estimated completion date is December 1999.

The "1997 Preferred Underwriting Survey Report" is available through the SOA Books Department for $10.

Faculty job open in Toronto

A tenure track assistant or associate professorship in actuarial science is open at the University of Toronto, effective July 1, 1999.

The successful candidate will teach research in actuarial science, professional association service, and actuarial science courses at the graduate and undergraduate level.

Requirements include a doctorate in actuarial science, statistics, or mathematics and accreditation in the Canadian Institute of Actuaries, Casualty Actuarial Society, or SOA.

Applications will be accepted until Jan. 15 or until a candidate is selected. Details are available from Professor Sam Broverman, Department of Statistics, University of Toronto, Toronto, ON Canada, M5S 3G3 (phone: 416/978-4453; e-mail: *sam@utstat.toronto.edu*). Information on the position and the math department is posted on the Web at *www.utstat.utoronto.ca/stats/dept/jobs.html.*

on the lighter side

The real thing, from wig to shoes

by Jacqueline Bitowt
SOA Public Relations Specialist

All the world loves a clown, but on some days not all the world loves an actuary.

This is all right with Peter Gorham, actuary and partner in the consulting firm of Morneau Sobeco, Toronto, Ontario. On such days, Gorham takes heart, knowing that his avocation — part-time clown for civic ceremonies, charitable fund-raisers, church events, and similar occasions — ranks highly with people everywhere, or at least has produced an adage to that effect.

In fact, so assured is Gorham — known as Loopy the Clown in his off-hours work — that he has quietly built an office reputation for being the center of jokes. “We’re all raised with the idea that you can’t make a joke about people,” Gorham said. “But everyone here knows, if they want to make a joke at my expense and it’s meant as fun rather than malice, it’s OK. It gives people a chance to laugh, and that’s healthy. My goal is to give people 10% of their daily dose of laughter.”

Spoken like a true actuary. And Gorham certainly was all actuary and no clown in the beginning. When a member of his church gave up clowning at church events, Gorham said, “I suited up and soon found out it was a lot harder than it looks.” Then officials of the town of Ancaster, where he was living, asked Gorham to bring his clown persona to the Christmas tree-lighting ceremony, “and I decided I should find out what I’m supposed to be doing,” he said.

Gorham heard about clown training classes in Toronto and attended in the early 1990s. Over four weekends, Gorham worked up a physical style, developed ideas for his costume and makeup, and, most importantly, decided what type of personality he wanted to project based on the different types of clowns.

“There’s the whitefaced character who is as close as you get to a ‘straight man’ in clowning,” Gorham said. “Then there’s Auguste — the buffoon who’s always messing up whatever Whiteface wants to do; this type has a brown or orange face with the mouth outlined in white. And finally there’s the Tramp, usually in dark dress and makeup; this type is reflected in the performances of Red Skelton and Charlie Chaplin.” Gorham chose the Whiteface persona. “Nothing is set in stone, but this gives me a general framework.”

Loopy and daughter, Heather, 10, pose at a recent Heart and Stroke Foundation event.

Since then, Gorham-as-Loopy has performed at dozens of events. He has entertained Easter Seals children at Christmas parties, shoppers at church bazaars, Santa Claus parades, citizens at local civic ceremonies, and participants in a mother-daughter walk to raise funds for the Heart and Stroke Foundation of Ontario (“I was doing a clown-daughter walk”).

“For me, clowning is about enjoying kids,” Gorham said. “When my daughter was very young, I realized that many adults don’t know how to play with their kids. You have to get down on the floor, at their eye level, or you won’t connect with them at all. I get very sore knees.”

Unlike Gorham’s actuarial clients, Loopy’s “clients” are predictable. “The most common thing is stepping on my feet. The kids expect to push right to the ground, and they’re very surprised,” Gorham said, because he wears regular athletic shoes inside Loopy’s size-18 running shoes. Kids also pull at his wig, and Gorham decided early on that a plastic nose wouldn’t last more than a few seconds.

There’s another reason he rejects the bright red nose, a signature of clowns in popular culture. “Young children really believe in clowns, and they’re asking in their minds whether you’re a ‘real’ clown or a ‘fake’ clown — just an adult in costume. I didn’t want to give them something to ‘prove’ I’m a fake.”

You could say he doesn’t want to let all the world down.

Peter Gorham can be reached by e-mail at *peter_gorham@morneausobeco.com*.

Seminars, study aids offered for actuarial exams

Hartford, Chicago seminars

Study seminars for Courses I-340 and I-443U are being offered in Hartford, April 6-14, and Chicago, April 22-May 2. For more information, contact Keith Sharp (phone: 519 / 743-2863; e-mail: *sharpwaterloo@compuserve.com*).

Study aids for exams

Textbooks, study manuals, and software for the SOA exams and a 12-week interactive Internet program for Course 151 is available from Actuarial Study Materials. Call toll-free at 888-ASK 4 ASM or visit the Web site at *www.ask4asm.com*.

Course 150 seminar in Texas

An eight-day intensive seminar for Course 150 will be offered by James W. Daniel, March 27-April 3, Austin, Texas. Daniel is the director of actuarial studies at the University of Texas at Austin. Registration is due by Feb. 26. Details and registration forms are available by phone or fax (both: 512 / 343-8788).

Course 230 seminar at 3 sites

Just Actuarial Material, (JAM) will offer an intensive seminar on Course 230, Principles of Asset / Liability Management, in Omaha, Neb., Hartford, Conn., and Chicago during 1999. Deadline for registration is March 19. For more information, contact Mike Carmody (phone: 615 / 333-7438; e-mail: *mailjam@home.com*.

Temple University seminars

Temple Actuarial Institute will sponsor the following intensive review seminars in spring 1999: Course 140, April 17-18; Course 150, April 14-18; Course 151, March 14-16; Course 160, May 2-3; Course 200, March 17-21; Course 230, March 20-21.

The Casualty Actuaries of Mid-Atlantic Region (CAMAR) is sponsoring the following review seminars for SOA students: Course 100, April 8-11; Course 110, April 8-11; Course 120, April 16-18; CAS4B: Credibility Theory & Loss Distribution, March 5-7.

For more information on the Temple or CAMAR seminars, contact Bonnie Averbach, Temple University (phone: 215 / 204-8153).

DEAR EDITOR

Level of education in investment Course 8

At the 1998 Actuarial Research Conference (ARC) in Atlanta, Rob Brown and Elias Shiu made a presentation on the Society's new syllabus, to take effect in the year 2000. As one would expect, the presentation was well done and informative. The work involved in this project cannot be fully appreciated by anyone not directly involved, and the participants are owed our thanks for their efforts.

While there are many positive things to say about the presentation, at least one issue was unresolved: the level at which the advanced specialty exams (Course 8s) would be pitched.

When Rob Stapleford's committee set up the specialty exams for investment and finance, that group explicitly aimed the content somewhere between the master's and doctoral levels in the various topics. However, the ARC presentation seemed to indicate that perhaps the level of difficulty should fall somewhat short of the master's degree level (although this could easily have been a misunderstanding on my part).

The potential difficulty with the possible levels for the specialty exams was put into sharp relief when Shiu presented information on the University of Chicago's Master of Finance Program. The program takes one year to complete. New York University and other institutions have similar programs. The Society's Course 8 in investments may be set at a level lower than this master's degree program.

If the level of SOA education is set beneath that of a master's, it would seem pointless for a candidate to take our exams and less than honest on the part of the Society to give them without the caveat, "This program is designed to make you a second-class citizen in the world of investment mathematics."

Some individuals at the ARC presentation argued that the SOA program would teach more general knowledge about insurance than would the University of Chicago program. There are other arguments that say there are actuarial specialties that remain our own. This will be true as long as no one else finds them attractive. The new syllabus seems very short on construction of mortality tables; I guess we can leave that to the demographers. Valuation could go to the accountants, and health insurance pricing to the medical economists.

I believe the level of knowledge demanded by our educational system is the essence of our profession. The level of education of the chartered financial analyst (CFA) is honorable. However, if we educate to that level, we put our investment professionals in direct competition with a much larger group. We should then expect our investment professionals to have the same demands made on them and the same criteria for success as CFAs. They also would have the same job security and compensation. I think most of our investment actuaries would consider this a step backward.

I believe the level of our education — undergraduate, master's, or doctoral — defines the future of the profession. We can set our standards at whichever level we chose. I just would not like to see that level set without serious debate within the profession.

Also, it's worthwhile to note that the Institute and Faculty of Actuaries are offering a Certificate Course in Derivatives (mathematics and practice) and an Advanced Certificate Course in Derivatives.

Irwin T. Vanderhoof

Response from E&E vice president

I believe that the issue of the level of the examinations has been resolved, and I regret that any of the statements I made during the presentation at the August 1998 Actuarial Research Conference might have created a possible misunderstanding.

The treatment of economics and finance on Course 2 is naturally enough set at an undergraduate level, although the academic courses required to cover the topics in sufficient depth are at a fairly senior level. In contrast, the preparation and depth of treatment of investment topics in Course 6, which will be required of all actuaries, goes beyond an undergraduate treatment for all but the most advanced university programs. The treatment of investments in the specialty practice examination (Course 8) and in the applications used for certain of the practice-specific presentations and projects associated with the Course 7 Applied Modeling Seminar are intended to be comparable to a master's degree level in terms of rigor, sophistication, and depth, although not equivalent to the Master of Finance Program at the University of Chicago. We believe that we have hit the correct target in the unfortunate, but necessary, compromise between breadth and depth in the new syllabus. And the new syllabus design (including the issues raised in Vanderhoof's letter) met with wide (although not unanimous) approval among the academics who gathered for the debate at the ARC conference.

The Course 8 working group for the investments specialty has been sensitive to the desirability of creating a course that would not mirror the CFA examinations. Those concentrate more on pure portfolio management, while the Course 8 on investments emphasizes the practical implementation of asset-liability and risk management processes in a financial context. Portfolio management is a facet of the treatment, but not the central theme.

The E&E Design Team and the various working groups have worked very hard to develop courses that will be effective in educating the actuary, not just for the present professional environment, but also for the future. As their preliminary work draws to a close and we take the next steps to implement these courses, we certainly hope to benefit from the interest and ideas expressed by experienced actuaries such as Vanderhoof. The SOA and all of those active in developing and implementing the courses for the new system are grateful for the vision and leadership he has exhibited in helping us make such great strides. The scope and depth of investment education for actuaries will continue to progress after the new system is in place. The steps being taken now will simply pave the way for the next stages of development in ensuring that actuaries can remain valued and effective in the business and academic communities.

Robert L. Brown

Ex-Social Security chief actuary responds to Heritage letter

In the November issue of *The Actuary*, William W. Beach and Gareth G. Davis published a rebuttal to my article, "A glaring error: why one study of Social Security misstates returns" (*The Actuary*, September 1998).

Despite their various comments, the simple fact is that their methodology is significantly flawed in calculating the rate of return for a group of persons on the basis that all members will live to their life expectancy and then drop dead. As I showed, this can produce obviously anomalous and erroneous results, and it cannot be justified by asserting that it applies to the typical case, because there is no "typical" case. Rather, all members must be considered in order to get a valid average expected result.

Beach and Davis assert that the expected return method is recognized by many actuaries, especially in the private sector, as having weaknesses as compared with the life expectancy method for valuation purposes, such as determining rates of return. I seriously doubt this and would like to know of any actuary who disagrees with me as to my views on the errors incumbent in the life expectancy method as I discussed in more detail in my article.

Robert J. Myers

IN MEMORIAM

Lawrence C. Bonnycastle
FSA 1939

Kenneth Marlin Clark
FSA 1993, MAAA 1991

Henry T. Furlong
FSA 1971, MAAA 1966

Sam Houston Huffman
ASA 1934, MAAA 1966, FCA 1959

Michael R. Wise
ASA 1981