The Newsletter of the
Society of Actuaries
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THE Actuary

Membership survey reveals attitudes and opinions

by Philip Kuehl
and Chelle Brody

In mid-September 1992, the Society of Actuaries commissioned Westat, Inc., a large U.S. survey research firm, to conduct a telephone survey among a random number of members. The survey's purpose was to assess general attitudes, evaluate member perceptions of current and potential programs, and define opinions on future strategies. A total of 600 respondents (273 Fellows and 327 Associates) participated. Canadian members were represented in the survey in the same proportion as membership. No overseas calls were made.

General effectiveness

In general, the survey concluded that the Society can plan for the future from a position of organizational strength. Overall, members believe the Society is effectively implementing its strategies and producing high calibre new members. The Society is perceived as providing good value for member dues. This suggests that the Society should continue with evolutionary strategies as it advances the profession and serves its members. Revolutionary strategies can be used for immediate response to significant changes in the profession.

More than 86% interviewed think the traditional roles for the Society of Actuaries (research and education) and for the American Academy of Actuaries (public policy and governmental issues) are appropriate.

As hoped, the survey results pinpointed some areas for improvement.

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Social Security discussion continues

by Cecilia Green,
with editorial assistance from
Dick Bilisoly and Mary Riebold

Over the years, *The Actuary* has presented the ongoing debate on the financial soundness of the U.S. Social Security system. This past year proved to be an especially "meaty" one, highlighted by the publication of A. Haeworth Robertson's newest book, *Social Security: What Every Taxpayer Should Know*. The September *Actuary* carried an article by Robertson, "Social Security's uncertain future," and the October issue included a review of Robertson's book by Robert J. Myers. Myers was Social Security's chief actuary from 1947-1970, and Robertson held the same post from 1975-1978.

These events triggered a group of letters of support, challenge, or elaboration. This article provides excerpts from these letters, weaving them into a summary discussion. The respondents, many of whom have professional experience with Social Security financing issues, are:

- Eric J. Klieber, an actuary at W F Corroon in Cleveland and the principal author of the outside review of the 1991 and 1992 valuation of the Social Security OASDI system performed by the Office of the Actuary.
- Robert A. Gilmour, president of the American Institute for Economic

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Editorial

Convergence of the actuarial profession in various countries

by Michael McGuinness

The North American Free Trade Agreement (NAFTA), signed by Canada, Mexico, and the United States, could mark the start of a new environment for members of the Society of Actuaries. If the three countries ratify it (not a foregone conclusion in the United States or Canada), NAFTA will mean expanded business opportunities for Canadian and U.S. insurance companies in Mexico and increased professional mobility for actuaries. Details are given in the article on page 3 by Cecilia Green describing the session on NAFTA at the Society's annual meeting last October.

The profession's leadership already has begun to prepare. The presidents-elect of the bodies representing actuaries in the three countries have held a working meeting. They will meet again with their advisors on accreditation on February 8 and 9 in Mexico. (Apparently, no site in Canada was considered suitable at that time of year.) Given the differences between the Mexican system of educating and accrediting actuaries and the U.S./Canadian system, reciprocal recognition of qualifications obviously will be a difficult matter to resolve.

Their decisions could have far-reaching impact. Once NAFTA goes into effect, other Latin American countries, probably led by Chile, are expected to apply to join. Australia and New Zealand also have shown some interest.

The McCrossan group

Parallel to the promise of NAFTA, an encouraging initiative for international actuarial cooperation has started within the past year. Taking advantage of the International Actuarial Association meeting in Montreal last summer, Paul McCrossan, then president of the Canadian Institute of Actuaries (CIA), gathered the members of the Council of Presidents, who represent the six U.S./Canadian actuarial bodies. They attended with, as the meeting's minutes state, "their counterparts from those other countries embracing broadly similar views respecting education, professional conduct and discipline, and the treatment of professional issues in general." Representatives from the United Kingdom, Australia, New Zealand, and South Africa attended.

The meeting began with a discussion of professional standards and discipline, including reciprocal arrangements. U.S. and Canadian members described the work of the Actuarial Standards Board, the Actuarial Board for Counseling and Discipline, and the equivalent CIA bodies. Other topics were actuarial education, solvency, and actuarial employment opportunities. The group agreed to work toward removing overlapping standards of professional conduct for actuaries belonging to one of the bodies represented and working in the jurisdiction of another. They also agreed to try to identify a common core of actuarial principles basic to actuarial recognition.

The group, now the immediate successors to heads of organizations that met last summer, will meet in Dallas on May 13.

In the meantime, SOA President Walt Rugland, CAS President Dave Flynn, and CIA President Mo Chambers met for two days in November in London with the presidents and some officers of the U.K.'s Institute of Actuaries and Scotland's Faculty of Actuaries. To quote Chambers, "To our knowledge, the presidents . . . had never before met to discuss such a broad range of matters in so frank and concentrated a manner."

European community

The Groupe Consultatif of the European Community agreed in November 1992 to a draft code of professional conduct, drawn largely from the uniform code developed in the United

States and Canada, and to a draft of standards of practice for pensions, life assurance, and general insurance.

Each member association must establish disciplinary procedures to enforce the code.

Common problems

These strides in international actuarial cooperation point out the similarity of problems facing working actuaries around the world.

Declining birth rates and declining mortality rates are leading to populations with declining ratios of workers to support those beyond normal working age. In this issue, we print several contributions to the debate initiated by Robert Myers and Haeworth Robertson on the uncertain future of U.S. Social Security, an uncertainty partly due to the country's changing demographic profile. The U.S. problems are far from unique. In my country, the Canada Pension Plan faces similar difficulties. The French pay-as-you-go social security program faces future problems. The New Zealand social security system will have to be reorganized. The projected ratios of workers to retirees in Mexico make U.S. and Canadian planners wish they were so fortunate, but the ratios are far lower than those on which the Mexican system was designed.

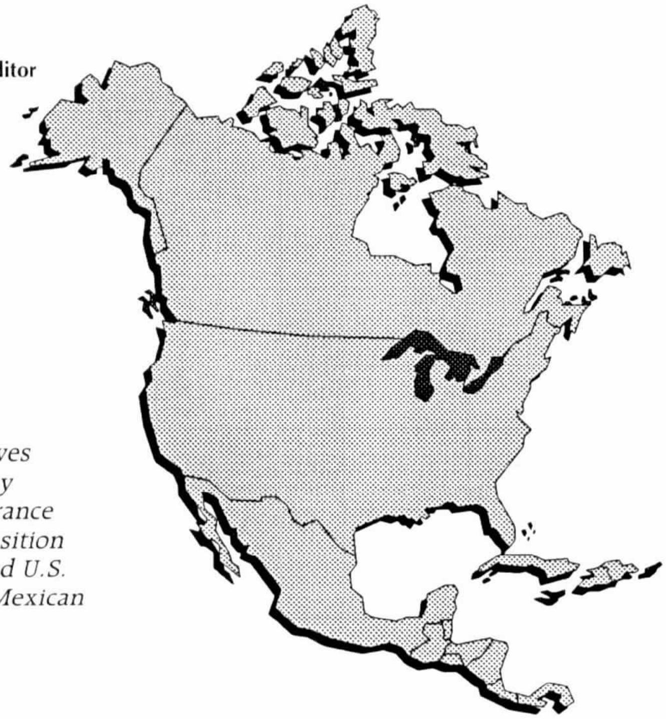
The drop in asset quality and yield has contributed to insolvencies or strains on the adequacy of capital for U.S., U.K., and Canadian insurance companies. We are now entering the age of the appointed actuary. With the profession's increasing responsibilities in a volatile environment, the more we can learn from international give-and-take the better.

Shared solutions

What effect will all this have on the individual Society of Actuaries member? We can only benefit by learning how actuaries outside the United States and Canada solve similar problems. We may have to adapt to a slightly more restrictive working environment, but we can design it ourselves rather than have it imposed on us by legislators and regulators. We are justifiably proud of our education and examination system, but we cannot be blind to better ways that may have been developed elsewhere. Above all, we should grasp the opportunities that increasing international cooperation affords us.

Insurers to benefit from NAFTA

by Cecilia Green, Staff Editor



While some industries consider the vision of an expanded market under the North American Free Trade Agreement (NAFTA) merely a mirage, the insurance industry sees the potential for significant gains. The agreement as signed by Mexico, Canada, and the United States removes restrictions on foreign equity ownership of Mexican insurance companies over a short transition period. It gives Canadian and U.S. firms greater access to the Mexican insurance market.

Since the 1930s, the Mexican insurance market had been closed to foreign companies. In 1987, the government allowed foreign companies to be minority owners of Mexican insurance companies and to become joint ventures partners with Mexican insurers but did not let them set up wholly owned subsidiaries.

Under NAFTA, foreign companies will be permitted to build up their presence gradually. Faring the best will be a few companies that already owned 10% or more of a Mexican insurer as of July 1, 1992. They can buy out their affiliates by January 1, 1996. Companies with joint ventures formed before July 1, 1992, begin with a 30% ownership ceiling in 1994, building to 51% in 1998, and then 100% ownership on January 1, 2000. Insurers with no prior involvement in Mexico may establish wholly owned subsidiaries by January 1, 1994.

During the transition period of 1994-2000, subsidiaries will face limits on their Mexican market share. As a group, U.S. and Canadian wholly owned subsidiaries will be limited to 6% of the Mexican market. That ceiling rises to 12% by 1999. Individual subsidiaries will be restricted to 1.5% of the market share until January 1, 2000, when the caps will be lifted.

Intermediary and ancillary insurance service companies can set up subsidiaries with no limits on ownership or market share. Any acquisition with a purchase price of more than $25 million, however, requires approval from the Mexican government. The limit increases gradually over 10 years to $150 million, when all limits end.

NAFTA benefits depend on economic growth

"Entrance into the Mexican market should be viewed as a long-term investment," Camilo Salazar said at the Society of Actuaries October 1992 annual meeting session on NAFTA. Salazar was chief actuary for the American and Caribbean regions for the American Life Insurance Company, a member of the American International Group (AIG). AIG is one of the handful of foreign-controlled companies that is well positioned to benefit from NAFTA. It holds a 49% stake, the largest percentage allowed under current Mexican law, in La Interamericana, a commercial property and casualty company.

Salazar said the U.S. Department of Commerce estimates that Mexico's individual life premiums would benefit the most from NAFTA. By 1995, individual life premiums probably will be twice that of the 1991 level. Group

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NAFTA cont'd

premiums are estimated to increase also. These increments will be a result of new products and more efficient distribution, marketing, and administration methods introduced by new foreign players.

"Successful long-term growth of the life insurance market in Mexico will largely depend on the economic expansion of the manufacturing and industrial base," he said. "As the national economy grows, the middle class grows and begins to have the monetary means to insure its newly acquired and increasing wealth."

Market potential worth venture into Latin America

In the session, Salazar pointed out the life insurance market potential in Mexico. Of Mexico's 86 million people, 40 million are between the ages of 20 and 60, the typical range of life insurance buyers. Only about half of those live above poverty level, and 20%, or 8 million, are considered in the upper economic class that can afford life insurance.

"The approachable number of consumers in the Mexican market fluctuates somewhere between 8 and 20 million consumers," he said. "The Mexican market is underdeveloped by international standards. The ratio of total insurance premium to GDP is about 1%, whereas this ratio fluctuates between 4 and 5% in developed countries. Only 1.5 million people in Mexico today own individual life insurance."

Salazar sees NAFTA as the first step to a hemispheric trade zone that will continue down the road into the rest of Latin America. Argentina, Brazil, Chile, Colombia, and Venezuela represent an additional market of more than 250 million. Argentina is with Mexico at the forefront of economic change, he said, and Chile has signed an agreement with Mexico that could provide the basis for it to join NAFTA.

How NAFTA will affect actuaries

"NAFTA changes will be slow to emerge in terms of the impact on your day-to-day lives, but when the changes arrive, they will be fundamental and far-reaching," predicted W. Paul McCrossan, another speaker at the annual meeting session on NAFTA. McCrossan, a consulting actuary with Eckler Partners Ltd., was the 1991-92 president of the Canadian Institute of Actuaries. While a member of the Canadian Parliament, he worked on pension and insurance reforms.

"You have to understand that NAFTA is coming through on the fast track," McCrossan said. "The fast track chosen by both Mexico and Canada means the treaty cannot be amended in the U.S. Congress. We have a long history of trying to negotiate treaties and get them through Congress and the states. They have the 'Christmas tree ornament' effect; things keep getting added on."

McCrossan pointed out that professional mobility, or the ability to work in other countries, was an issue that emerged under the Canada/U.S. Free Trade Agreement (FTA), a predecessor to NAFTA, now in place for four years. NAFTA has created a new category of business visitors.

"Business visitors can move across borders to transact their business provided their business is international in scope and they do not intend to change their residence," McCrossan said. Under NAFTA, McCrossan said, professions are obligated to develop mutually acceptable professional standards and criteria and must develop licensing. The three Mexican actuarial organizations have been invited to attend the Council of Presidents, consisting of the presidents and presidents-elect of the six organizations representing actuaries in Canada and the United States.

The first working meeting of the presidents-elect of the Canadian, United States, and Mexican actuarial bodies took place in Washington, D.C., on December 16, 1992. The presidents-elect, together with their advisors on accreditation, will meet in Mexico on February 8-9, 1993, to examine mutual eligibility and accreditation issues.

Another new provision under NAFTA is a financial services committee that will consult on standards and rules for financial institutions. It provides for coordination of regulatory authorities in the three countries. It also creates a financial sector dispute settlement mechanism, drawing from a panel of 15 financial service experts from each country.

An important concession in NAFTA is that if the United States liberalizes its financial service structure, only Canadian and Mexican financial institutions automatically benefit. They also get "most favored nation status" in any financial service concessions the United States makes with any other country.

Actuarial preparation in Mexico

Two other speakers in the session, Oliva Sanchez-Garcia and Segundo Tascon, mentioned the differences between the North American and the Mexican actuarial educational process.

Sanchez-Garcia, director of the actuarial school at the Anáhuac University in Mexico City, said that to be an actuary in Mexico, one must receive an actuarial degree from an officially recognized Mexican university. The student must write a dissertation and defend it in front of an examination committee. The Ministry of Education grants the professional certification that is required of anyone signing an official document that needs an actuary's signature.

"If we compare our programs with the education curriculum of the Society of Actuaries," Sanchez-Garcia said, "we can see that about 50 to 60% of the courses account for about 175 of the 200 credits of the Society requirements at the Associate level. The rest of the Mexican curriculum covers material that corresponds to some of the requirements in the Fellowship level."

She said the university began in 1990 to encourage students to take the SOA exams. "With the eventual signing of NAFTA, we should start to learn about the way we operate in each other's country. It is important to realize that we have a different professional tradition. You have certification given by peer recognition, and our profession requires an academic degree and supervision of the civil authority."

Sanchez-Garcia urged establishing joint mechanisms of training and continuing education.

Segundo Tascon, a consulting actuary and manager of Wyatt Mexico, believes that NAFTA will be the motivation for reconstructing Mexican academic preparation to include actuarial exams.

Expanding professional unity

"There's no doubt in my mind that Mexican actuaries are actuaries in every sense of the word and meet the standards that we use to describe ourselves," McCrossan added in the session wrapup. "But we're faced with a different educational system. We're going to have to reconcile these two systems."

McCrossan also mentioned the

continued on page 9 column 3

Survey cont'd

As illustrated in Chart 1, the results indicate the Society needs to heighten its responsiveness to the changing needs of its members by designing programs and services to meet their professional interests.

Programs and services

Members were asked about their familiarity with Society programs and services and the value of those with which they were familiar. Chart 2 shows the response averages. Publications such as the *Directory of Actuarial Memberships*, the Section newsletters, *The Actuary*, and the *Yearbook* received the highest value ratings. As expected, FSAs were more familiar with programs and services than ASAs.

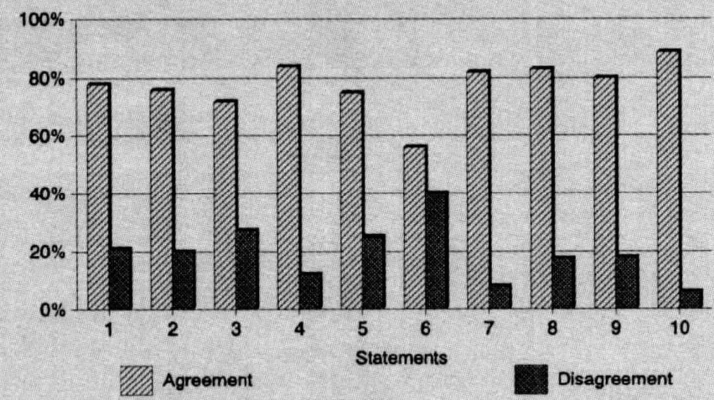
Members were asked reasons for not attending meetings or seminars. For both, uncontrollable factors such as time constraints, conflicts with other commitments, and the cost of travel were the top reasons. More than 80% of those surveyed supported mandatory continuing education for the profession.

There was consistent agreement ([illegible]1%) with statements about the Flexible Education System's effectiveness in presenting emerging techniques and producing members who have the skills needed to operate effectively in a changing business environment. Many disagreed (66%), however, with the statement that FES has reduced the "travel time" needed to attain Associateship or Fellowship.

Of the members surveyed, most (75%) believe the Society should increase resources for practical and theoretical research, especially in the area of emerging techniques and methods of actuarial science.

A significant proportion of members think the Society should increase its commitment to public awareness of the relevance of actuarial analyses to current issues (75%) and should speak out on actuarial analyses of current issues (82%).

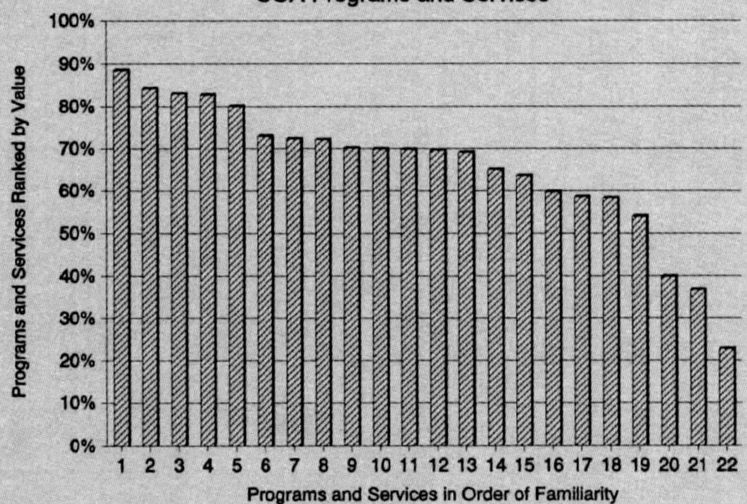
CHART 1
General Attitudes Toward SOA



STATEMENTS

1. SOA programs and services address the major changes which are occurring in the actuarial profession.
2. SOA actively seeks input from affected segments of its membership when it develops programs and services.
3. SOA has been responsive in addressing the changing needs of its members.
4. When a fee is charged for specific SOA programs or services, in general, such fees are priced fairly for all members.
5. SOA programs and services are designed to meet my professional interests.
6. My SOA membership is more valuable to me at the present time than it was when I first became a member.
7. SOA members are able to assume leadership positions in the Society if they seek such positions.
8. SOA effectively communicates and promotes its available programs and services to all segments of the Society's membership.
9. SOA's officers, Board of Governors, and committees are effective in establishing programs, services, and policies that respond to the needs of the membership.
10. SOA's professional staff is effective in implementing Society programs, services, and policies.

CHART 2
SOA Programs and Services



Programs and Services (Value Rating)

1. *Directory of Actuarial Membership* (88.5%)
2. Section Newsletters (84.2%)
3. *The Actuary* (83.0%)
4. The *Yearbook* (82.8%)
5. Study Notes (80.0%)
6. The *Index to Publications* (72.9%)
7. Booklets on Profession (72.3%)
8. *The Transactions* (72.1%)
9. *Transaction Reports of Mortality, Morbidity, and Other Experience* (70.1%)
10. *The Record* (69.9%)
11. Seminars (69.8%)
12. Annual Meeting (69.6%)
13. Spring Meeting (69.1%)
14. Continuing Education Programs (65.1%)
15. Specialty Guides (63.6%)
16. Library (59.7%)
17. Symposia (58.5%)
18. Study Note Subscriptions (58.2%)
19. Teleconferences (53.9%)
20. Speakers' Kit (39.3%)
21. *ARCH* (36.8%)
22. List of Unemployed Students (22.8%)

Report available

The survey results have been reported to the Board of Governors and relevant committees. The staff is working with volunteer leaders to recommend changes where necessary. For a copy of the survey and its results, please call Chelle Brody, 708-706-3520.

Philip Kuehl is senior staff consultant, Westat, Inc. Chelle Brody is Assistant to the SOA Executive Director.

Discussion cont'd

Research in Great Barrington, Massachusetts
- John F. Hook, a retired member of the Society of Actuaries
- William Sutton, actuary at Provident Mutual Life Insurance in Philadelphia
- Edwin C. Hustead, senior vice president at Hay/Huggins Company in Washington, D.C., who has worked with the Congressional Research Service on the analysis of Social Security issues. He also was the chief actuary of Personnel Management for the federal government, which deals with the Civil Service Retirement System;

and, of course, Robertson and Myers. Each voiced his comments on the key issues that frame the debate.

Is 75 years too long a projection period?

Eric Klieber believes that Robertson "sounds a timely warning" and suggests that the 75-year valuation system be reduced to 25 years. The following paragraphs are a summary of Klieber's written remarks:

"[Robertson cautions] against relying on the Social Security program to provide the same level of retirement benefits to the current generation of workers that the program is providing to current retirees. However, by narrowly focusing on the monetary value of contributions and benefits and ignoring the social and economic context in which the program operates, he paints an excessively gloomy picture of how Social Security will contribute to future retirees' financial security.

"Robertson claims that, under any reasonable set of assumptions, a very large gap will occur between projected income and outgo. In a [technical] sense, this is true. . . . Without a dramatic upsurge in worker productivity, the inevitable result is an overall decline in the standard of living for working Americans. I question whether a set of assumptions under which Congress props up the standard of living for retirees by maintaining the current Social Security benefit structure in the face of declining living standards for workers can be considered 'reasonable.'

"I am not predicting a declining standard of living during the next century. I see three possible scenarios for the future of the American economy:

1) Worker productivity does not increase sufficiently to offset a decline in work force participation, resulting in a declining standard of living.
2) The decline in work force participation raises the cost of labor relative to capital, leading employers to invest in labor-saving equipment, thereby raising worker productivity enough to maintain current living standards.
3) Employers provide sufficient incentives to entice workers to postpone retirement, thereby preventing a decline in work force participation and maintaining current living standards.

"Robertson touches on the third scenario . . . , although he treats postponement of retirement as a unilateral decision by the worker, rather than a mutually advantageous arrangement for . . . worker and employer.

"These scenarios are not mutually exclusive. Most likely, the future will bring some combination of the three, but how much weight each will carry, no one can tell now. The important point is that, under any of these scenarios, the promises of Social Security can be kept if these promises are properly understood.

". . . Congress is free to change the [current] benefit formula and retirement age at any time and will do so if necessary to maintain the integrity of the system. . . . This is not [to say] that Social Security will not keep its promises to future retirees. The real promise of Social Security is that working Americans will share a portion of the product of their labor with retirees to enable them to maintain a standard of living commensurate with the working population. . . .

"A good case can be made that a defined benefit formula is not the most efficient way to ensure that benefits of retirees stay in line with the wages of workers. . . .

"These considerations cast doubt on the value of the current practice of assessing the viability of retirement benefits provided by Social Security on the basis of the annual 75-year valuation of income and outgo. The 75-year period was chosen because it encompasses the future lifetimes of most workers entering the system at age 22 in the valuation year. While the development and operation of the 75-year valuation system represent a major technical achievement, two shortcomings render the valuation results of little practical value:

1) Uncertainties regarding economic and social trends make any 75-year projection a matter of pure speculation. Finessing this problem by simply assuming the current plan of benefits will remain unchanged and that current social and economic trends will continue indefinitely leads to internal inconsistencies. Yet any predictions regarding changes in economic and social trends or changes in the benefit formula are no less speculative.
2) Asking Congress to shape policy based on projections of financial problems decades into the future is unrealistic. Further, in my view, for Congress to shape policy based on such speculative results would be irresponsible.

"[Several compromise solutions have been suggested.] Francisco R. Bayo [deputy chief actuary of the Social Security Administration] has suggested applying to each year's projected income and outgo an exponentially decreasing 'relative reliability factor'. . . . Dwight K. Bartlett [chief actuary of the Social Security Administration from 1979-1981] has suggested changing the tolerance band that defines close actuarial balance, currently a 5% discrepancy between income and outgo over the valuation period, to 5% for the first 25-year period, 7.5% for the first 50-year period, and 10% for the first full 75-year valuation period. . . .

"I suggest instead that the annual valuation of the Social Security program be limited to a 25-year period. The 25-year period is not based on a belief that social and economic trends can be accurately projected even this far into the future (no past valuation of Social Security has proved accurate over so long a period), but on a practical approach to congressional oversight of the system. Under a 25-year valuation, incoming senators and representatives in the first year a future deficit is detected will have the opportunity to study the evolving financial situation first-hand. They will have time to move into leadership positions and shape corrective legislation before insolvency ensues.

"Experience shows that, in the face of crisis, Congress usually fashions solutions that reflect a broad consensus of the population. In the case of Social Security, this means setting tax rates and benefit levels to provide workers and retirees with a roughly equivalent standard of living, whatever that may be at the time taxes and benefits are adjusted.

"One might argue that a program requiring major disbursements of accumulated tax dollars into the indefinite future should be funded as far in advance as possible. However, many federal programs are highly likely to require major expenditures of tax dollars for the indefinite future, such as national defense, income supplementation for the poor, and funding for highways and other infrastructure. . . . The only reason for not appropriating funds for Social Security on a year-by-year basis like most other federal programs is the unwillingness of Congress to deal regularly with this sensitive issue.

"A 25-year valuation period represents a reasonable compromise between the credibility of the valuation results and the desire of most members of Congress to deal with the Social Security issue at most once during their terms in office.

"The 75-year valuation system can still be a useful tool for long-range forecasting and research. Over the past decades, social and economic trends which at the time may have been imperceptible have combined to produce major changes in our society. There is little reason to believe society will not continue evolving over the next 75 years. Therefore, efforts should be made to identify trends that could affect the long-term financial viability of the Social Security program and to study their potential effects."

Economist says basics should not be overlooked

After Myers' November 1992 letter to the editor responding to Robertson's October article, Robert Gilmour reminds us of the economic fundamentals involved. He gives the following example: "In reference to Social Security's 'purchase' of [non-negotiable] Treasury securities, [Myers] asks, 'How is this any different than [*sic*] . . . when a person puts money into a savings account, and the bank 'spends' the money by lending it to somebody else?'"

Gilmour asserts it is very different. "Banks and other private financial intermediaries do not 'spend' deposits. . . . Rather, they invest them in loans and require tangible collateral be provided against the possibility of default. [If] the loan defaults, the collateral can be liquidated to satisfy the debt."

Holders of non-negotiable Treasury securities do not have this recourse, because the only "collateral" under present arrangements is the taxing authority, Gilmour writes. "What disturbs Mr. Robertson and others is what may happen when such 'collateral' proves inadequate, i.e., when the proportion of taxpayers to beneficiaries is inadequate either to continue to fund Social Security's revenue requirements or to service the government's aggregate debt load, which would mean the government would no longer be able to borrow."

Is social insurance a doomsday machine?

John Hook, a retired member receiving Social Security benefits, wrote that he is puzzled by the term, "fallacious," that Robertson and other writers have applied to the Social Security trust fund.

"Is there really a likelihood that the United States will not honor its Treasury bond obligations and its moral obligation to apply Social Security tax receipts to fund the Social Security system?" he asked. "Obviously, government accounting reports that ignore this obligation are fallacious, but that doesn't seem to erase the obligation."

Hook names several groups that are not satisfied with the system and who may not support its continuation in the current form:

- Those who believe they should have more benefits, such as the "notch baby" group
- Those who pay FICA taxes. Hook thinks total taxes for middle income people, including FICA taxes, are widely believed to be unfairly high and that political action to lower either income taxes or FICA taxes is likely.
- Employers who dislike increasing payroll taxes and increasing costs of other employee benefits

"Social insurance has the appearance of a doomsday machine," Hook wrote. "Many beneficiaries, generous benefits, taxpayer resistance, and little prospect of responsible reform support that appraisal."

Robertson responds to review

Myers' October review of Robertson's new book included the statement that Myers has a list of 43 factual errors and omissions that he would supply to readers upon request. The following is a portion of Robertson's response:

> "Anyone who is concerned about [my] book's accuracy should certainly obtain the list. It points out such errors as (1) The 'sexist nature' of a quotation from a Society of Actuaries' publication defining an actuary, because it uses 'he' instead of 'he or she.' (2) Footnote 2 on page 304 failed to mention the spouse-government-pension-offset provision. (3) On page 132, I referred to the Veterans' Benefit Administration, and [Myers] believes I should have said 'Department of Veterans Affairs.' In fact, the Veterans' Benefit Administration is a subdivision of the Department of Veterans Affairs, just as the Social Security Administration is part of the Department of Health and Human Services.
>
> "What a relief that Myers did not challenge my assertions that both OASDI and HI are not adequately financed for the baby-boom generation, and that taxpayers should be made aware of this in time to take corrective action. Neither did he challenge my assertion that the so-called 'trust funds' do not have real assets and that they represent merely an intention to collect additional general revenue in the future."

Myers responds to Actuarial Update article

Robertson's article, "Forecasting a

continued on page 9 column 1

Committee reports on experience study

by Edwin C. Hustead

The latest report in a series published by the Retirement Plans Experience Committee presents five years of experience on uninsured pension plans. The current report analyzes mortality experience from 29 retirement systems between 1985 and 1989. The primary finding is that the rate of improvement in mortality was much lower in 1985 to 1989 than during the previous 15 years.

Actual-to-expected ratios (A/E) in the committee's reports are measured against the UP-84 Table (set forward one year for males and set back four years for females).

The previous reports in this series were "Mortality among Members of Self-Administered Pension Systems." The change from "self-administered" to "uninsured" was made to clearly distinguish this series of reports from those prepared from the experience of pension plans underwritten by insurers. Experience from insured pension plans appears in reports of the Group Annuity Experience Committee.

Participants in report

Table 1 shows the groups included in the report. The participants in the study have varied over the years, but the United States Federal Civil Service Retirement System (CSRS) has participated in each study. Trends for that system provide an important historical perspective on mortality among pensioners in the United States. The Medicare data is included as a general population backdrop for pensioner mortality. As a national program, Medicare includes the experience of most of the 27 other United States retirement systems in this report.

Trends in mortality

Table 5 compares the average annual improvement in mortality between 1975 and 1989 for each of the groups reported in two or more studies.

The data in this series of reports show that mortality improvement among the elderly slowed and in some cases stopped in the 1980s. The rate of improvement in mortality was much lower in 1985 to 1989 than during the previous 15 years. Similar trends have appeared in other studies. CSRS data for 1990 through 1992 show that the rate of improvement may be increasing. Male mortality for 1990 through 1992 was 6% lower than for 1985 through 1989. Female mortality dropped 3% in the same period.

Committee offers full report

A copy of the full report will be printed in the 1991-92 *Transactions Reports of Mortality, Morbidity and Other Experience*, expected to be printed in summer 1993. It also may be obtained for $10 through Laura Kammeier at the Society of Actuaries, 708-706-3526.

The data will be included in the experience used to produce a successor to the Group Annuity Mortality-1983 (GAM-83) table. The Society is considering a committee recommendation that the experience also be used as the basis for a successor to the Uninsured Pensioner-1984 (UP-84) table. Please contact me if you have any questions or comments about the report or the proposed mortality tables.

Edwin C. Hustead is Chairperson of the Retirement Plans Experience Committee and senior vice president at Hay/Huggins Company.

TABLE 1

Groups Included In Report

Exposure 1985-1989	Number of Deaths 1985-1989	Description of Group	Experience Included
141,634,077	7,340,880	Medicare from Social Security System	Pensioner and disabled combined
20,066,316	390,137	Civil Service Retirement System	Pensioner, Disabled, Active, Survivor
7,639,897	134,455	U.S. Military	Pensioner, Disabled
1,049,113	13,661	Public Service of Canada - 1984 to 1986	Pensioner, Disabled, Active
7,326,400	91,119	24 Private Sector Systems and one Public Sector System	Pensioner for all systems. Disabled and Active for some systems.

TABLE 5

Comparison of Annual Improvement in Mortality
Actual Deaths Compared to UP-84 Expected

Period	CSRS	Medicare	Military
Males			
1975 - 1979	1.5%	2.1%*	N/A
1980 - 1984	1.6	1.0	
1985 - 1989	.7	.7	1.7%
Females			
1975 - 1979	1.8%	2.8%*	N/A
1980 - 1984	0	.8	
1985 - 1989	0	.2	

* Medicare data for 1975 to 1979 is the annual rate of improvement between the 1972 and 1977 experience. All other data are for the annual rate of improvement between five-year groupings of experience. For instance, the male CSRS rate of 1.5% is the annual rate of improvement between 1970 to 1974 and 1975 to 1979.

Discussion cont'd

Fiasco," in the American Academy of Actuaries September 1992 *Actuarial Update* prompted a rebuttal from Myers, saying that his "doom and gloom" picture is incomplete. Myers says Robertson does not separate OASDI and Medicare. "OASDI provides cash benefits bearing measurable relationships to past earnings. Medicare provides reimbursement for health care services, which do not have precise utilization limits. Thus, . . . the real culprit is Medicare," he writes.

He further explains that the "fiasco of horrendous costs" about which Robertson warns us will not come overnight, so necessary changes can be made gradually as the experience develops.

Nothing new in the SS debate in 10 years

Edwin Hustead comments, "The Robertson-Myers debate on Social Security has not offered us anything new for a decade." The following edited paragraphs from his letter explain his views:

"Yes, Haeworth, we know that the total Social Security/Medicare tax rate falls far short of the future needs of the combined program. Yes, Bob, we know that the Social Security tax rate is almost adequate for the future needs of the Social Security program without Medicare. In that view, either unpredicted changes in the economy will balance the income and outgo, or minor adjustments will be made to taxes or benefits in the next millennium. We decide whether or not to include Medicare with Social Security and then march hand-in-hand with either Myers or Robertson. For the rest of this letter, I will simply refer to Social Security and let the reader decide if that includes Medicare or not.

"The issue that Myers raises in the November 1992 *Actuary* also is old, but it is much more complex than the rest of the argument. It is important for actuaries to understand and appreciate the political and economic implications of the Social Security trust fund investments. It is the real-world financing of Social Security, and not the artificial world of the trust funds financing, that has driven and will drive the debate on this issue.

"Perhaps Robertson's use of 'fallacious' in describing the trust funds is overly strong, but he is correct. Everyone who really understands the operations of the federal budget agrees with him. Social Security tax revenues are in fact spent when received, and current year benefits are in fact funded by current year taxes. The current excesses are spent on other federal programs. When Social Security outlays exceed revenues, the government will have to meet that year's Social Security deficit from other sources, such as increased taxes or reduced spending.

". . . The illusory nature of the trust funds explains the debate on Social Security benefits. If the trust funds had a real economic meaning, then no advantages to cutting Social Security benefits this year would exist. No one would propose cutting those benefits, and politicians would not fall all over each other swearing not to cut benefits. As Social Security payments make stronger . . . demands on the federal budget, the generational debate will center around how much can be paid each year out of that year's taxes. The size of the trust fund balance will be meaningless."

Din of inequity

Bill Sutton reminds us of the 1959 paper, "Misconceptions and Missing Perceptions in Our Social Security System (Actuarial Anesthesia)" by Ray M. Peterson (*TSA* XI, p. 812), that was on the examination syllabus for several years. Peterson believed that as employee contribution rates increased to an amount more than the value of employees' own future benefits, resistance to paying those rates would occur. As a result of this, he wrote, "There will truly arise a din of inequity."

Sutton commented, "My feeling is that Robertson, in his own way, is trying to create a modern version of Peterson's 'din of inequity' which never did arise."

More discussions by actuaries available

Session 86, "Worldwide Social Security Programs," at the Society of Actuaries October 1992 annual meeting in Washington, D.C., was moderated by Bob Myers. Panel members represented U.S. and other governmental agencies. They discussed social insurance systems in Canada, Latin America, Eastern Europe, and Asia. Audio tapes are available through Teach'em Inc., 1-800-225-3775, and the session will be printed in the Society's *Record*, to be published in late 1993.

Another discussion appears in "Sooner than You Think — the Coming Bankruptcy of Social Security," an article by SOA member Bruce D. Schobel published in the fall 1992 issue of *Policy Review.*

Nineteen ninety-three and the new administration should provide fertile new areas for continuing the Social Security discussion.

Cecilia Green is staff editor and Dick Bilisoly is education actuary at the Society of Actuaries. Mary Riebold is managing director of the William M. Mercer New York office, a member of the SOA Board of Governors, and the immediate past president of the Conference of Consulting Actuaries.

NAFTA cont'd

work done on developing a common code of conduct between Canada and the United States. How that code could be applied in Mexico, as well as what the current Mexican actuarial code of conduct offers, should be considered, he said.

The strong licensing and accreditation system present for Canadian and Mexican actuaries may make it easier for them than for the United States to join in a reciprocal accreditation package, McCrossan said.

"Whatever we design has to be expandable," McCrossan said. "NAFTA is an open-ended treaty. Any new entrants that apply can join if they accept the terms of the treaty. That means that whatever we decide not only has to work between Canada, Mexico, and the United States, it also has to be capable of expansion into Chile, Argentina, Brazil, Australia, and New Zealand, who have indicated some interest in joining NAFTA."

McCrossan also mentioned the professional issue of how involved actuaries in the three countries would be in leading governments through "the most difficult sociological problems they all face" — the problem of the aging population.

"This is a worldwide problem," he said, "and one where NAFTA and the professional cooperation among the three groups may offer something to their countries."

The complete actuary

Setting of goals

by Narindra N. Handa

The term, "goal setting," gives the impression there is only one goal to be set. In life, you have to set goals in many areas and achieve them by writing them down and setting deadlines and priorities. That is why I use the term, "setting of goals," instead of "goal setting" in this article.

Elements of setting goals

An old Arabian fable tells of a prince, born with a hump on his back, who wanted a statue of himself for his 12th birthday as he would appear standing upright. He placed the statue outside in the garden where he could look at it through the window of his room. He looked at it and stretched and stretched, believing that one day he would look like the statue. His efforts paid off by his 21st birthday.

This story illustrates the main points related to setting a goal:

- The goal is clear and visible.
- The goal setter has full confidence in his or her ability to achieve it.
- Visualization and imagination help in achieving the goal.
- Determination and persistence are prerequisites to the realization of a goal.

Areas for setting goals

To lead a balanced life, you need to set goals in various areas. Paul Meyer of the Success Motivation Institute names these areas:

- Career and finance
- Physical and health
- Mental and educational
- Family and home
- Social and cultural
- Spiritual and ethical

You can modify the list to suit your purpose. Setting goals in each area creates a long list that can be altered as you go.

Process of setting goals

Take a pen and paper and brainstorm all the goals you can think of, whether realizable or not. Rewrite them under the areas previously stated. Next, place them in order of priority under each area. Combine the most important goals in each area in a working list. Eliminate those that are not realizable.

Classifying goals

Goals should be categorized as short, medium, or long term. Usually, short term is up to six months; medium term from six months to five years; long term is any period longer than five years. This distinction also helps you set priorities and deadlines for various stages of a goal.

You also should differentiate between tangible and intangible goals. Tangible goals are those that can be measured against some known norm. To achieve intangible goals, changes in personality characteristics are necessary. It is important to recognize what you become in the process of pursuing your goals. It has been said that if all the wealth in the world were distributed equally among all living persons, in five to ten years this wealth would go back to those who have it now. This is because successful people have been through the process of achieving goals. Those who are not trained to handle money will mismanage it again.

Setting priorities

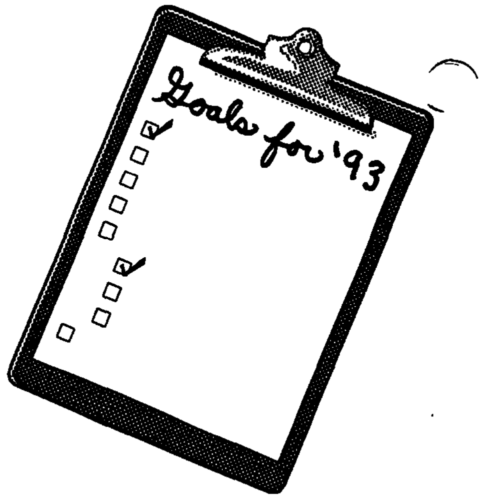
Some goals may not easily translate into a tangible form like a statue. Our mind may not recall all our goals. We need to write them down so we can refer to them easily. We can then concentrate on each goal, paying attention to the elements of setting goals listed earlier. Some time should be set aside each day to concentrate on the goals and to monitor progress.

You must set priorities to achieve your goals efficiently and to resolve conflicting deadlines. According to Pareto's law, 80% of the effort should be directed to 20% of the goals highest in priority. You should not major in minor things.

Success in achieving some goals and crossing them off your list spurs you on to achieve more goals.

Setting deadlines

Set up a time frame to complete various goals or even to reach various stages of a goal. With long-term goals, it is important to set intermediate deadlines that should be achieved in each measurement period. This provides a standard against which progress can be monitored and adjustments made if necessary. For example, a work-related goal may have some type of intermediate target every calendar quarter. If your objective is to complete Project X within one year, the risk is that you will ignore the goal until the deadline is looming. An interim deadline, such as completing the implementation plan for Project X this month, helps ensure progress towards the achievement of the objective.



This process helps to properly direct efforts and conserve energy. Those who fail to plan, plan to fail. When you set a deadline for a goal, this deadline works on you. Deadlines promote action and reduce procrastination, which is one of the main reasons people fail to reach goals.

Positively stating personal goals

Each of us is different from anyone else, and so our goals must be unique. To direct efforts in a positive way, you must state goals positively. Instead of saying, "I will not be a mediocre actuary," you should say, "I will be a creative and innovative actuary."

Succeeding through realistic and attainable goals

A journey of a thousand miles starts with the first step. A high jumper starts with a jump of a few feet and keeps increasing the height. The increases in height become smaller and smaller as progress is made. If you set realistic goals in attainable steps, you will succeed. Memories of past successes create confidence that future successes are possible.

Affirming goals

Affirmation of a goal plays a very significant role in visualizing and realizing the goal. I have found that the mere affirmation, "I am the best putter," recited several times on my way to the golf course, produced very good results. Like goals, affirmations should be stated positively. Compare this message, "I am not going to waste any more time," to the more positive message, "I shall make the most productive use of my time from now on."

Further reading

Many publications, tapes, and courses are available that discuss setting goals, but often in a limited way. This subject is closely linked to time management. Some authors recommend the use of mind enhancement techniques to achieve goals. The following are some of the materials I found useful:

- The Magic of Goal Setting — tapes by Paul Meyer, P.O. Box 7614, Waco, Texas 76714-7614
- The Challenge to Succeed — tapes by E. Jim Rohn, 1805 East Dyer, Suite 301, Santa Ana, CA 92705
- *Life 101: Do It. Let's Get Off our Butts* — book by John R. McWilliams, 1992, published by Bantam Books, 800-223-6834
- *The Time Trap: The New Version of the 20-Year Classic on Time Management* — book by Alec Mackenzie, 1991, published by AMACOM, 518-891-5510
- *Unlimited Power* — book by Anthony Robbins, published by Fawcett Books, 800-733-3000. This deals with the subject through neuro-linguistic programming techniques.
- *Personal Development — Key to Excellence* — book by N. Handa, available from the author at his *Directory* address.

Narindra N. Handa is director, actuarial, *Office of the Superintendent of Financial* Institutions Canada.

SECTION CORNER

This column reports on activities and newsletters of all special interest Sections on a rotating basis. This issue covers Reinsurance, Pension, and Computer Science Sections.

Reinsurance Section

While not the largest Section at just over 1,400 members, the Reinsurance Section produced a full December 1992 newsletter. *Reinsurance Section News'* 18 pages were packed with data from studies and surveys. Melvin McFall reported on Lincoln National's Aviation Mortality and Claim Analysis (also in *Product Development News*); Claude Lapointe summarized data from the Intercompany Advanced Age Mortality Study, and David Holland and David Bruggeman shared life reinsurance data from the Munich American survey. Robert H. Myers, Jr., wrote "Different Approaches to Federal Regulation Considered by Congress." C. Clinton Stretch and Thomas M. Brown co-authored "Sears-Allstate Decision May Affect Reinsurance." Craig M. Baldwin is the newsletter editor and the chair of the Section Council is Paul Schuster.

Pension Section

Ron Gebhardtsbauer is the 1992-93 chair of the Pension Section, which has almost 4,000 members. Dan Arnold continues as editor of *Pension Section News*. This Section will be busy in the next few months planning seminars on Cash Balance on January 19 in Atlanta, on FAS 106 (Basic) on February 11 in Baltimore, and on FAS 106 (Advanced), June 3 in Baltimore. The April 14-16 SOA spring meeting in San Diego will focus on pension topics.

Some of the articles included in the December *Pension Section News* were "An Alternative Approach to a Standard on Discounting" and "The Problem with Economic Assumptions" by H.J. Brownlee; "A Death Knell for the Small-Plan Audit Program" by Harvey M. Katz; and "Public Employer Early-Retirement-Incentive Programs" by Ronald J.W. Smith.

Computer Science Section

Digital Doings is the temporary name of the Computer Science Section's newsletter until "we get a better name," according to Editor Doug Hawley. The first issue contains "Practical Aspects of the Newton-Raphson Approximation in Actuarial Programs" by Doug Hawley; a rundown on computer science sessions at 1993 spring meetings by Randy Kaye; and an article about an SOA task force to work on a proposal for an electronic bulletin board system. Jim Toole will have a column in each issue called "Sound Bytes."

Chairperson of this less-than-a-year-old Section is Kerry Krantz. Members now number about 2,220.

Committee seeks members

by Cindy Forbes

The Management and Personal Development Committee of the Society of Actuaries is looking for members who have an interest in this area and are willing to devote about 40 hours a year to promoting and developing management and business skills educational programs for Society members. If you believe, as we do, that this is a critical area of development for the actuarial profession, we'd like to have you on the committee.

The mandate of the committee is to "plan, implement, and actively promote educational programs on management and business skills for actuaries." The management sessions we organize for Society meetings have been the primary conduit for providing management education. In addition, we sponsor "The Complete Actuary" column in *The Actuary*, which gives readers an overview of timely management topics.

As we embark on 1993, our goal is to expand the number of avenues used to reach actuaries with management and business skills education. Our next meeting is in Philadelphia on March 4. If you'd like to help the Society in this very important area, please call me at 416-926-6897.

Cindy Forbes is Chairperson of the Management and Personal Development Committee and financial vice president at Manulife Financial.

Actuarial talent not limited to numbers

From rate books to romance novels
Marie Rydzynski-Ferrarella once sat on the 22nd floor of a large insurance company in New York, working on rate books Monday through Friday as an actuarial staff assistant. She now sits at her computer in Southern California seven days a week, writing romance and mystery novels. She has sold 53 books in the past 10 years, some under the pen name of Marie Nicole. Nine of her novels will be published in 1993.

In *World's Greatest Dad*, published in September 1992 by Silhouette Books, Ferrarella drew on her actuarial experience for her female lead. The young widow, Susanna Troy, balances raising her six-year-old son with her career as an actuary, working "long days filled with meetings and unresolved projections about the new rate-book calculations." When she meets widower Flynn O'Roarke, who is raising his grandson, at her son's baseball game, Ferrarella writes of O'Roarke's surprised reaction to Troy's profession:

> *"It's just that, when I think of an actuary, I think of someone old, someone—"*
>
> *"Male?" she supplied, amused. . . . Her dad had been an actuary and she remembered his surprise when she had announced her intentions. It wasn't exactly a run-of-the-mill choice for a girl, even one who loved math.*

Ferrarella has a master's degree in English, with a minor in math. She always knew "no matter what" that someday she would be a writer, but until then, she had to earn a living. She said when she quit her actuarial job 10 years ago, it was harder for women to move up the ladder. "I'm glad to see it's opening up," she said.

This is not the first book in which she used someone from the insurance industry as a character. One book's heroine worked in the health insurance field.

Puzzle solving on a national scale
To a segment of *The Actuary*'s readership, the last two pages are the most important — the ones with the Actucrossword and Actucrostic.

Some *Actuary* puzzle fans, however, go beyond leisurely penciling in blanks in the privacy of their own homes and offices. Their excellent problem-solving skills as actuaries serve them well as they venture into crossword competitions where their speed and accuracy are tested against others.

Ellen Ripstein, an SOA member who is a statistical consultant at Metropolitan Life in New York, is considered one of the nation's top crossword puzzle solvers. Doug Hoylman, actuary at the Government Employees Insurance Company in Washington, D.C., and member of the Casualty Actuarial Society (CAS), also is in the top four. He won first place in the 1988 and 1992 American Crossword Puzzle Tournament, considered the puzzle "World Series," which offers $1,000 as the top prize.

"People who work with numbers, like computer programmers and math teachers, tend to do better than professional 'word people,' like writers and English teachers, at these tournaments," he said. "Math minds see words as a string or sequence of letters."

Ripstein began in the first American Crossword Puzzle Tournament in 1978 in Stamford, Connecticut, where she placed 31st out of 161. That was good enough to spur her on to 35 more competitions all over the United States. She consistently is a top solver, having made playoffs 20 times and winning the North Jersey Crossword Open in 1986 and 1987. She trains like an athlete, doing as many as 25 puzzles a day against a clock and reading voraciously to become a trivia expert.

Winners are determined in a tense playoff, with the top three of four winners in previous rounds finishing a puzzle in front of an audience. Prizes range from cash and trophies to dictionaries and puzzle books. Top contenders' cash winnings usually do not cover expenses, but they find rewards in the excitement of competition and the friends they make. "It's become like a club," Ripstein said. "You see the same people at all the tournaments."

Others in the actuarial field who regularly compete successfully are CAS member Todd Dashoff at Ernst and Young in Philadelphia, SOA member Marcia Sander at Milliman & Robertson in New York, and Julian Ochrymowych at Metropolitan Life in New York, who is taking ASA exams. Ochrymowych currently serves as *The Actuary*'s puzzle editor and has constructed puzzles for other magazines. He will compete in the "expert" or "A" division at the American Crossword Puzzle Tournament, March 26-28, in Stamford. Sander has placed twice in previous contests and will be in the "B" or "puzzler" division at the tournament. If Dashoff is able to work the tournament in around a science fiction convention the week before, he also will enter in the "B" division. He has not competed much recently, because some contests, including the U.S. Crossword Open, have been dropped due to lack of corporate sponsors.

Watch future issues of *The Actuary* for a report on actuarial championships on the puzzle circuit.

Spring exam preparation seminars

Exam preparation seminars for the May exam period will be held in April and May, 1993, in Chicago, New York, and Toronto for courses 120, 130, 135, 141 (EA1-A), 150, 151, and 160. For details, please contact Professor Samuel Broverman of the University of Toronto at his *Directory* address or call 416-978-4453.

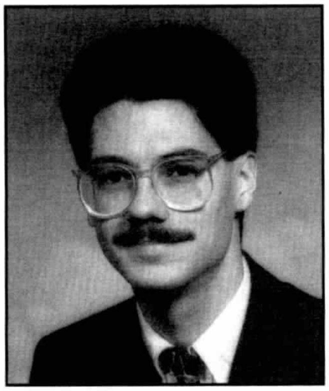
* * *

An intensive three-day problem solving workshop for the EA-1B exam will be given by Actuarial Study Materials on April 23-25 in New York City. For details, write to A.S.M., P.O. Box 522, Merrick, NY 11566, or call Harold Cherry, 516-868-2924.

Transactions authors profiled

Fourteen papers have been accepted for publication in Volume 44 of the *Transactions.* The following biographical sketches briefly describe four of the 18 authors. Three were profiled in the November 1992 *Actuary,* and the remainder will be featured in future issues.

"A Simple Monte Carlo Approach to Bayesian Graduation" by Bradley P. Carlin

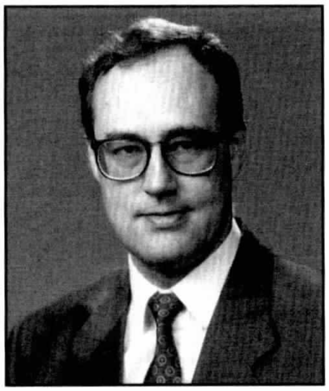


BRADLEY P. CARLIN, ASA 1985, is an assistant professor of biostatistics in the School of Public Health at the University of Minnesota. He received a bachelor's degree in mathematics and actuarial science from the University of Nebraska-Lincoln in 1984 and master's (1986) and Ph.D. (1989) degrees in statistics from the University of Connecticut. Before coming to Minnesota in 1991, he was a visiting assistant professor of statistics at Carnegie Mellon University in Pittsburgh.

He is an active member of the Society's Education and Research Section. His research focuses on development of Bayes and empirical Bayes techniques for the analysis of actuarial and biomedical science data. Besides graduation of tables, his interests include health and economic time series, the progression of HIV infection, and the study of lung disease in middle-aged male smokers.

He has published papers in *ARCH, Applied Statistics, Canadian Journal of Statistics, Communications in Statistics, Insurance: Mathematics and Economics, Journal of the American Statistical Association, Journal of the Royal Statistical Society,* and *Statistics and Computing.*

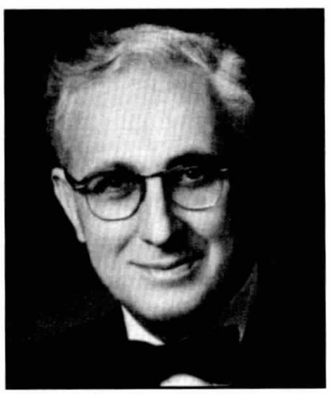
"Parametric Models for Life Tables" by Jacques F. Carriere



JACQUES F. CARRIERE, ASA 1980, is assistant professor in the Department of Actuarial and Management Sciences at the University of Manitoba, where he received a bachelor's degree in commerce and a master's degree in statistics. He received a Ph.D. in business-statistics at the University of Wisconsin-Madison, where he conducted research in total quality management. His experience includes service with the Prudential Insurance Company of America and William M. Mercer Ltd.

He is a Fellow of the Royal Statistical Society and serves on the SOA Research Paper Committee. He has published papers in several journals and is coauthor of "The Bounds of Bivariate Distributions that Limit the Value of Last-Survivor Annuities" in *Transactions,* Vol. 38 (1986), which won the Triennial Prize.

"An Updated Money's-Worth Analysis of Social Security Retirement Benefits" by Robert J. Myers and Bruce D. Schobel



ROBERT J. MYERS, FSA 1940, FCAS, FCA, MAAA, AIA, EA, served in various actuarial positions with the U.S. Social Security Administration from 1934 until 1970, including chief actuary (1947-70). Since then he has been a member of the National Commission on Social Security (1978-81), Deputy Commissioner of Social Security (1981-82), executive director of the National Commission on Social Security Reform (1982-83), and chairman of the Railroad Unemployment Compensation Committee (1983-85). He is currently chairman of the Commission on Railroad Retirement Reform. He also has been an actuarial consultant to various Congressional committees and the Federal Judiciary and a member of missions of technical assistance with social security or pension programs in many foreign countries.

He has been President of the Society of Actuaries and the American Academy of Actuaries. His awards include the Triennial Prize from the Actuarial Society of America and the Distinguished Service Award from the U.S. Department of Health, Education, and Welfare.

He is the author of several books and has published 775 papers in technical and scientific journals, of which 32 have appeared in the *Transactions,* the *Transactions of the Actuarial Society of America,* and the *Record of the American Institute of Actuaries.*

BRUCE D. SCHOBEL, FSA 1976, MAAA, FCA, is corporate vice president and actuary at New York Life Insurance Company, which he joined in 1990. Before that, he was a principal in the Louisville, Kentucky, office of William M. Mercer, Inc. From 1979 to 1988, he was with the U.S. Social Security Administration in various actuarial and policy development positions, including staff actuary to the

continued on page 14 column 1

TSA authors cont'd

National Commission on Social Security Reform.

Schobel earned a bachelor of science degree in mathematics from the Massachusetts Institute of Technology in 1974.

Papers published include those in the *Transactions* (Vol. 35, 1983 and Vol. 42, 1990), both coauthored with Robert J. Myers, and in *Benefits & Compensation International*, April 1989, and articles in *The Wall Street Journal, Journal of Taxation, The Actuary*, and *Contingencies*.

U. of Michigan announces position

The University of Michigan has announced a full-time actuarial faculty position to begin September 1, 1993, or January 1, 1994.

Duties: To teach and counsel students preparing to enter the actuarial profession and to perform research on financial security systems.

Qualifications: Research ability as indicated by a Ph.D. in a field related to actuarial science. Demonstrated interest and ability in actuarial teaching and research. Fellowship in the Society of Actuaries or the Casualty Actuarial Society and actuarial experience highly preferred. A visiting appointment, with lesser qualifications, also is possible.

Application: Send a letter of application, curriculum vitae, and references to Cecil J. Nesbitt, Professor Emeritus of Mathematics, The University of Michigan, Ann Arbor, MI 48109-1003. Telephone: 313-764-0335. Fax: 313-763-0397. Applications will be accepted until position is filled.

Individual CCA papers now available

Papers published in the *Proceedings of the Conference of Consulting Actuaries* now may be purchased individually, instead of purchasing the entire volume in which the paper is contained. For a price list of papers available, call the CCA at 708-706-3500.

Dear Editor

Never say "never"

In the October 1992 article "Amortization by a life annuity," Cecil Nesbitt and Marjorie Rosenberg assert that the repayment of principal at age $y+1$ "brings the outstanding principal down from a_y to a_{y+1} after the payment is made." However, if q_y is greater than $((1/v\ddot{a}_{y+1}) - i)$, (criterion derived by manipulating relation (a) from the article), "outstanding principal" increases from a_y to a_{y+1}.

Examples of this phenomenon can be found at early juvenile ages in most, if not all, life insurance statutory valuation tables. Other possibilities include structured settlement annuities, which often have large assumed q_y .

Paul O. Kirley

Editor's note: Long-time readers of The Actuary *might recall that the misconception that* a_y *always exceeds* a_{y+1} *has been discussed in previous issues ("Skepsis Avaunt," Ralph Garfield, October 1984 and Kenneth Avner, January 1985).*

Over-regulation could be destructive

Bruce MacDonald's "Reflections on changes in the profession" (November *Actuary)* struck a common chord. Knowledge of books and men is an absolute necessity to be a competent actuary.

I would not only restore the English examination, I also would assign a significant percentage of marks on later examinations to composition. My experience has been that since 1960, with the collapse of our education system, the percentage of E.H.A.s (Empty-Headed Actuaries) has increased sharply.

MacDonald did not discuss one very destructive change in the profession — over-regulation.

In the early part of every human being's life, while the universe is still fresh, he or she acquires a driving ambition to do something special in the world. A fairly consistent 10% have achieved their dreams. Recently, that percentage has been declining. The reason is entirely due to an increase in outside interference, largely from various governments, but also from other organized bodies such as the Society of Actuaries and the Canadian Institute of Actuaries (CIA). In other words, we are shooting ourselves in the brain.

At the peak of the profession, perhaps 20 years ago, our prestige among non-actuaries was extremely high. We were seen to have the ability to make the world a better place. We actually solved problems.

Now we are perceived by many to be over-paid money-grubbing technicians. This is because most of the art of actuarial science has been taken away from us. The CIA dictates the minimum basis for pension transfer values. Pension commissions and Revenue Canada prescribe a range of assumptions for pension funding. We are expected to produce numbers for accounting purposes, using assumptions that are often set by someone else. We are circumscribed by peer review rules, snitch rules, and wording rules.

Mavericks are not permitted. Yet, if you are not a maverick, you can only aspire to competence, never greatness. To a person who cares about the profession and oneself, it is never enough to be as good as you can be "under the circumstances." You must be as good as you can be. We are losing some of our best actuaries prematurely, as they refuse to be satisfied with ordinary competence.

I intend to change careers to something that is not so heavily regulated — novel writing. I often feel like a character in an Ayn Rand novel. Her novels are coming true, and nowhere more true than in the actuarial profession.

Bruce A. Miller

Alternatives to get basics earlier

David Atkinson laments in a November letter that actuarial students are not introduced to the basics of interest theory and life contingencies early enough.

Any employer who feels this way can remedy the situation easily. They can require actuarial students they employ to begin with CAS Part 4A, which covers the basics of interest theory and life contingencies.

David W. McSweeney

* * *

David Atkinson made an excellent suggestion that fundamentals of actuarial science be covered in a very early exam. When I began my career as a one-exam actuarial student, one of my first assignments was to read selected portions of the compound interest and life contingencies textbooks. The intent was for me to take over some straight-forward life insurance calculations that were periodically required of my department. I have given a similar assignment to all students I've hired straight out of college.

As an aside, I wonder if others have noticed that students of the newer *Actuarial Mathematics* text seem to have a poorer grasp of the workings of reserve formulae than those who studied Jordan's *Life Contingencies*? Perhaps the E&E Committee might consider whether the treatment of reserves for that exam should be enhanced?

John West Hadley

* * *

I agree with David Atkinson on two points: 1) interest theory and life contingencies are the cornerstone of a practicing actuary's knowledge, and 2) a student without the theory related to actuarial mathematics (Course 150) is, to some extent, not worth hiring as an actuarial student.

I have been involved in the Society's Course Exam 150 Committee since 1988. When I look at the answers of some successful candidates (for the written part), I doubt the ability of these candidates to handle actuarial concepts in the future. Increasing the passing mark would be an easy solution, but I prefer a way more useful to students — increase the content of actuarial mathematics and decrease the content of other subjects that are not "the cornerstone of a practicing actuary's knowledge."

I agree with a new introductory course of 10 credits (even 20 credits). A more appropriate course description for the Associateship exams follows.

		Credits	
100	Calculus and Linear Algebra	25	Required
110	Probability and Statistics	30	Required
120	Applied Statistical Methods	15	Required
140	Mathematics of Compound Interest	15	Required
145	Introduction to Actuarial Mathematics	20	Required
150	Actuarial Mathematics	40	Required
151	Risk Theory	15	Required
Total		160	Required
XXX	Other courses to be determined	40	Elective

Elective courses could be:

121	Intensive Seminar on Applied Statistical Methods	10
135	Numerical Methods	10
152	Intensive Seminar on Risk Theory	10
130	Operations Research	15
163	Construction and Graduation of Actuarial Tables (old 162 and 165)	15
164	Survival Models and Mathematics of Demography (old 160 and 161)	15

Jean-Claude Ménard

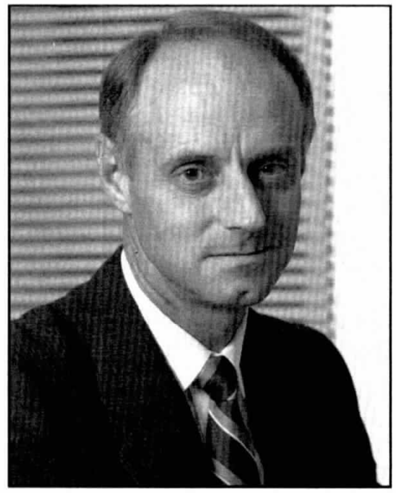
Applications for SOA Ph.D. grants due in March

The Society of Actuaries is accepting applications for 1993-94 Ph.D. grants. The purpose of the $10,000 annual grants is to encourage graduate students to complete research in actuarial science and to pursue an academic career in North America. Grants are awarded on the basis of individual merit, with preference given to candidates who have an affiliation with a North American actuarial organization and who are likely to pursue an academic career in North America.

The completed application form and supporting materials must be received by March 15, 1993. Recipients will be notified by June 15, 1993. For more information or to obtain an application form, call Warren Luckner at the SOA office, 708-706-3572.

This grant program is one of the academic relations initiatives begun in 1990. Two Ph.D. candidates received grants for the 1991-92 school year. Three received new grants and one previous grant was renewed in 1992-93.

SOA member named IAA 'Actuary of the Year'



The Institute of Actuaries in Australia (IAA) named Bruce D. Cook, chairman and chief executive of William M. Mercer Campbell Cook & Knight, as "Actuary of the Year" for 1992. Cook has been an Associate of the Society of Actuaries since 1968. The IAA award recognizes meritorious and original contributions by actuaries to the profession, business, and the community.

2 universities receive SOA grants

The Society of Actuaries recently awarded $2,500 grants to two universities in recognition of full-time faculty members attaining Associateship status.

The SOA awarded $2,500 to the Department of Algebra, Combinatorics and Analysis at Auburn University, Auburn, Alabama, in recognition of Associate Professor Jerry Alan Veeh becoming an ASA and $2,500 to the Department of Mathematics at Elon College, North Carolina, in recognition of Assistant Professor Jeffrey Clark attaining his ASA. Auburn will use the grant to purchase actuarial books and journals. Elon College will use the funds to hire actuarial speakers, subsidize fees for actuarial exams, pay travel expenses for actuarial conferences, and purchase computer software and calculators for actuarial training.

In memoriam

Reginald C. Barnsley	FSA 1927, FCIA, AIA
John H. (Jack) Turoff	FSA 1970, MAAA, FIA

ACTUCROSSWORD

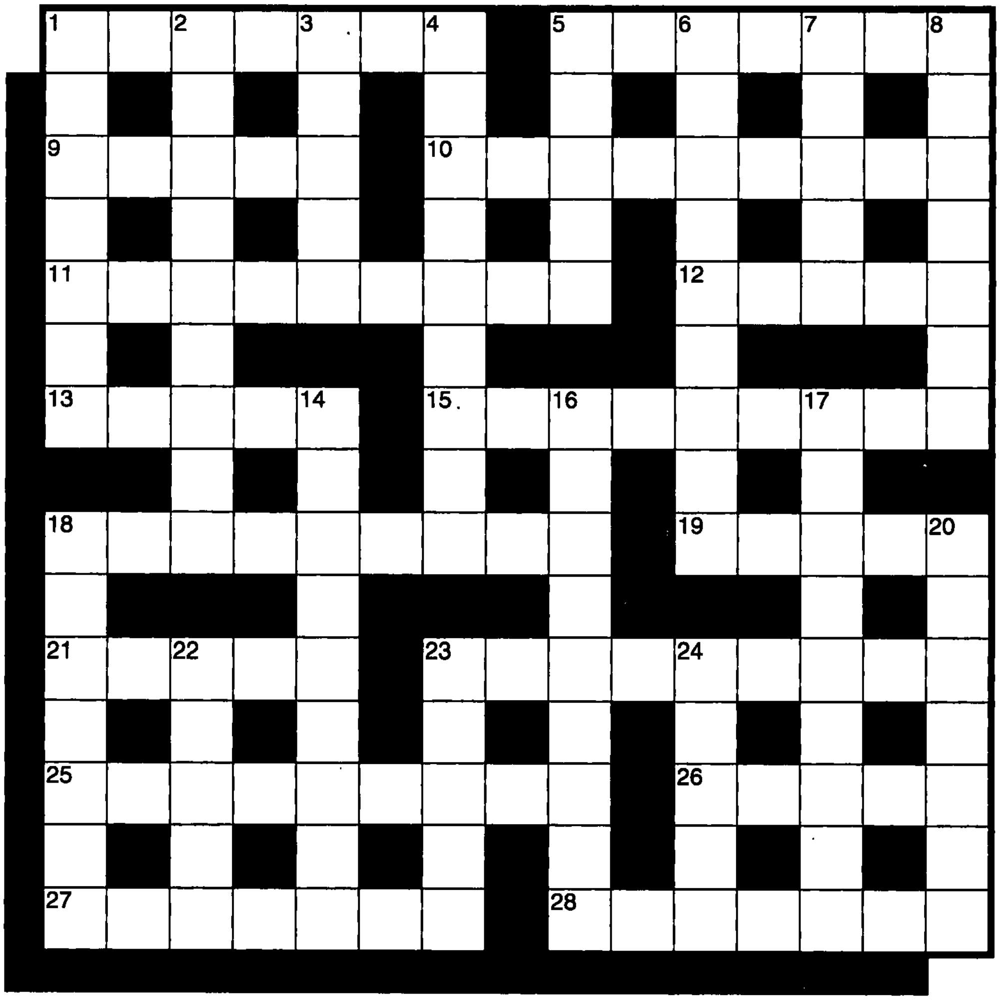
by Bob Hohertz

Across

1. Mayflower seen in midyear, but useful (7)
5. Roman plotter of foreign falls (7)
9. Jamaica or buzz (5)
10. Like Miss Piggy holds up Animal (9)
11. Steatite paste soon deteriorates (9)
12. Wild dog doing poorly (5)
13. Old country in Asia Minor exhibits daily instability (5)
15. Pi met zero, maybe to gain time (9)
18. Study studies where crowds gather (9)
19. The Creature makes a comeback in strip, attacking (5)
21. Bone I swallowed by crumbling a bit (5)
23. 75% of plan to firm up position (9)
25. Spurning of the French preachy chant (9)
26. Watson's colleague is a pain in the neck (5)
27. Pass in reverse, Hamsun: it keeps things tight (7)
28. Hunter gone to the dogs a long, long time after deed (7)

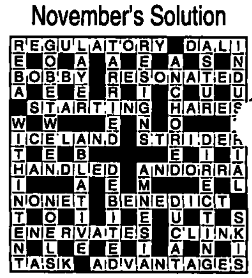
Down

1. One in Glasgow or about, note, can type (7)
2. Low wind: continue to shell (9)
3. Ring spun about point — sounds like a lot of bull? (5)
4. Drink beer, sports fan (9)
5. Enchantress beginning to cook fried rice (5)
6. Engineer ousts pond bridge support (5 4)
7. Sounds like a row — straighten it out (5)
8. Tattered Eeyore's an unpleasant sight (7)
14. The Wise Men came for this share of trouble (9)
16. Back pain crippling all ye Magi (9)
17. One thousand recipes, surprisingly vague (9)
18. Strange dialect in the Alamo, e.g. (7)
20. Head of remarkable Greek character Ken photographed anew (7)
22. Language degree thus (5)
23. Picasso's first isn't substandard sketch (5)
24. Record bunk in Florida tourist spot (5)



100% Solvers - September: R Carson, B Fardy, J Lafarga, D Leapman, R Neill, J Schwartz, E Tittley, P Twomey, M Whitby, WM Whitman, F Zaret; **October:** A Atrubin, D Baillie, T Boehmer, J Braue, Brosseau, M&D Brown, J Brownlee, R&M Buck, D Campbell, R Campbell, J Carr, R Carson, S Colpitts, J Darnton, K Elder, R Fleckenstein & P McEvoy, C Galloway, A Garwood, C Godfrey, P Gollance, E Goral, M Grower, R Harder, P Hepokoski, G Horrocks, C Joyner, R&J Koch, D Leapman, W Lumsden, M Lykins and J O'Connor, M MacKinnon, R Martin, G Mazaitis, J&D Mereu, R Miller III, MD Mills, C Monroe, C Montpetit, B Mowrey, R Neill, J Palmer, S Powell, J Raich, GV Ramanathan, F Rathgeber, E Ripstein, S Rosenthal, J Ryan, P Sarnoff, J Schwartz, E Shane, G Sherritt, H Tate, E Thompson, M Thompson & D Elbaum, E Tittley, B Tomper, B&J Uzzell, C Wasserman, D Weill, R Weitzenkamp, R Whitby, A Whiton, S Winch-Furness, V Young, F Zaret

November's Solution



Send solutions to: Competition Editor, 35 Smithfield Court, Basking Ridge, NJ 07920