The Newsletter of the Society of Actuaries
VOL. 23, NO. 4
APRIL 1989

THE Actuary

Year-end review and a look ahead at Canada-U.S. Free Trade Agreement

by Laurence E. Coward

The Free Trade Agreement between Canada and the United States was the most important issue facing Canada in 1988 and became the subject of heated controversy. The agreement calls for each country to provide the same "national treatment" for goods imported from the other country as for domestic goods. Thus, although Canada and the United States can differ in their taxes, laws, and safety standards, they must not discriminate against each other's products.

The Free Trade Agreement became the central issue in the federal election of November 21, 1988, which was generally regarded as a type of plebiscite on free trade. The Conservative party under Brian Mulroney won a majority of seats in the House of Commons and promptly proceeded to implement the agreement. Many Canadian industries will be affected, some for the worse, but more, we believe, for the better, during the 10-year transition period. The agreement's effect on our social security system (Old Age Security, Canada/Quebec Pension Plan, Unemployment Insurance, and Medicare) became a matter of debate but is likely to be minimal. Indeed, the growing prosperity anticipated as a result of the agreement will improve the finances of these programs, making the payment of benefits more, rather than less, secure.

Tax reform

Phase 1 of the government's tax reform initiative received Royal Assent

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Two reactions to Report on Strengthening the Profession

In an effort to encourage discussion of the recent Report of the Task Force on Strengthening the Profession, The Actuary *presents two viewpoints on the task force recommendations. Allan D. Affleck, writing from his vantage point as an SOA officer, discusses the report's recommendation to increase the public interface role of the American Academy of Actuaries. Eric L. Kranke, former president of the American Society of Pension Actuaries, talks about how his organization would be affected by the proposed joining of ASPA actuaries and the Conference of Actuaries in Public Practice. Next month's* Actuary *will feature two more reactions to the report.*

Strengthening to do what?

by Allan D. Affleck

When the editor of *The Actuary* asked me to write an article about the report of the Task Force on Strengthening the Actuarial Profession, I thought there would be little point in repeating what you can read in the task force analysis and presentation. Instead, I decided to offer my personal perspective on where I think the profession should be heading in the future.

As we consider the task force report, we might all ask ourselves, "Strengthen the profession for what?"

Continued on page 2 column 2

ASPA member speaks out on change

by Eric L. Kranke

First, I want to offer my sincere congratulations to the Task Force. They have effectively dealt with a many faceted situation and have come forth with a realistic proposal.

In reading the task force report, we see words like reorganization, unification, and strengthen. To me, they all mean CHANGE. Many actuaries do not appreciate change, especially if a need to change is not perceived. I am no different. I make a good living, I deal with clients whom

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The Newsletter of the Society of Actuaries

VOLUME 23, NO. 4
APRIL 1989

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The Actuary is published monthly (except July and August) by the SOCIETY OF ACTUARIES, 475 North Martingale Road, Suite 800, Schaumburg, IL 60173-2226. Ian M. Rolland, President; Anthony T. Spano, Secretary; Michael J. Cowell, Treasurer; David A. Jeggle, Director of Publications. Non-member subscriptions: students, $5.50; others, $6.50. Send subscriptions to: Society of Actuaries, P.O. Box 95668, Chicago, IL 60694.

Affleck cont'd

Do we have a common goal for our profession? Anyone who has been involved in a strategic planning process realizes how important it is for a corporation, or even an industry, to identify and agree on its own mission. Without a clear focus on what the purpose of the organization is, there is a danger that over time it will wander, lose its vitality, and in the extreme, become irrelevant. The same is true for us.

Thus, before we can deal with the task force recommendations – whatever they are or might have been – we must return to the basics and ask, "Strengthen to do what?"

In our dreams, how do we describe the mission of the actuarial profession? At the broadest level, I see two goals for us. The first is to contribute our professional expertise to our publics, which include our employers, clients, government, and society in general. Second, the profession must serve our own members by providing basic and continuing education and advancing the knowledge and state of art of the profession. It is my personal belief that if we are successful in our first objective, the second will flow quite easily.

Can we reach a consensus on these objectives? If not, how can we agree on the most effective way to strengthen ourselves? Frankly, I hope most of the discussion over the task force report centers around the goals for the profession laid out there. If we can have a meaningful dialogue on that subject and reach a consensus, we will have made a lot of progress and be ready to address the organizational issues.

As you read the task force report, notice the focus on public interface. In a simplistic sense, our present education and research activities, that is, the internal aspects of our profession, are working well. Where we need to strengthen ourselves is in our public interface, dealing with current pension, health, casualty, and life issues that are of importance to our publics. Our profession is just too small for us to have any meaningful impact on these public policy issues unless we pull together in a more coordinated way than we have in the past.

The steps recommended by the task force will be argued by some to be too small. Maybe that is true. But I believe that if we can move forward with the task force's four recommendations, we will establish an effective foundation for strengthening the profession in the long run. As President-Elect of the Society of Actuaries, I firmly believe that our profession needs a much stronger Academy of Actuaries and that all of us need to be just as proud of that organization as we are of the SOA. At the same time, it is critical for our profession's long-term effectiveness that we enhance our support of the Academy.

If, for example, the CAS and SOA research can be focused on issues of importance to the Academy, this coordinated effort should make the entire profession more effective. Similarly, if our education, particularly continuing education, is focused on issues that the Academy knows are of growing importance to our publics (e.g., health care policy, CCRCs, postretirement medical benefits), we should be able to make a more effective contribution to our employers, clients, and society.

On a longer-term basis, I look forward to the day when the education and research activities of the profession can be combined in some type of university-structure concept. Today the CAS spearheads education and research in the casualty area, while the SOA leads the way in the life, health, and pension areas. I think the profession as a whole would be much better served if we had a university-type umbrella with four colleges focusing on our major practice areas. Even though I believe this direction is logical for the profession in the long run, I think the most important thing we can do now is implement the task force recommendations, give them the opportunity to work, and, if appropriate, let the future leadership of the profession revisit the university concept. Our most critical need today is to strengthen ourselves to meet the public interface challenge, and we must focus on that first.

So let's talk through the task force report. Let's try to reach a consensus on the goals we have for our profession. Then, and only then, will we be able to decide the most effective way to organize ourselves. The task force has led us through these steps and has suggested how we should strengthen our organizations to meet the challenge. I agree with their recommendations. Do you?

Allan D. Affleck, SOA President-Elect, is Consulting Actuary, Milliman & Robertson, Inc.

Kranke cont'd

I respect, and my future income level is not deemed to be subject to any serious shortfalls, even though I work in the pension area. So, what do I need with change! Why would I want to develop new affiliations, new colleagues, and new methods of dealing with outsiders? I guess my resistance to change is directly proportional to my age and "time in the business." This is a normal reaction, I hope.

But the task force demonstrates the need for the actuarial profession to shed the "noninvolved, egghead" stereotype image that in some ways we richly deserve. Consider our ineffectiveness in the pension area: We have accountants telling us how to calculate and report pension liabilities, government employees telling us proper funding techniques and assumptions, and our legislators making laws that negatively impact the retirement security of millions of Americans.

Yes! We need to change!

However, change is much more easily talked about than accomplished. Actuaries have, as the report points out, developed deep-seated loyalties toward the associations that have served them. Obviously, I believe the one to which I belong has served me best. ASPA came closest to meeting "all" of my needs. I have felt no urge to join the other actuarial organizations...until I read and carefully evaluated the task force report. The report has forced me to take off blinders.

Each actuarial organization will be forced to CHANGE, in accordance with the report. Some, more than others. From ASPA's standpoint, we lose the name that carries a positive connotation with the various government agencies dealing with pensions. Some members feel that the actuaries in ASPA will leave ASPA, and that this will negatively impact the membership in the organization, after the name change. Personally, I do not see this happening. I joined ASPA specifically to gain the experience and association with pension consultants, some of whom also happen to be actuaries. If I chose to join a strictly pension actuarial association – that, most certainly, would not decrease my desire for continuing the consulting association.

We all have some questions to ask ourselves regarding the task force suggestions. Will this change in "organization or association" decrease my facility to have a say in what direction the public interface goes? In what services are offered to pension actuaries? In determining what principles and practices are to be adhered to by pension actuaries? I hope not! Actually, it will be up to me to determine that. It is usually a function of personal involvement. With the new organization, I do not see any great obstacles to anyone who wants to get involved – to get involved.

In fact, this larger association with other actuaries with similar interests extends the limits of my current affiliations. It gives wider latitudes to my learning from the experiences and techniques of other actuaries. Specifically, I expect the association with the actuaries in CAPP to expand my horizons. Perhaps I can offer something to them, also.

One final thought. My 17-year-old high school senior son has exhibited some facility in math. I would be remiss if I did not encourage him to join the "number-one" occupation. I would like to see him have the opportunity to join his actuary colleagues in a single cohesive association respected by outsiders for its professionalism and purpose and appreciated by its members for the services it gives them. I, therefore, consider our current deliberations over strengthening the actuarial profession an important step in preserving future opportunities for the actuaries of the future.

In summary, this CHANGE will be questioned by some actuaries for many valid reasons. Unfortunately, some actuaries will resist any change, however farsighted the reasons for the change may be. It will be up to the leadership of the actuarial organizations in North America to deal effectively with the comments of their constituents. It will require compromise, concessions, and concentration on the objective. I am certain we will all gain from these activities in 1989 and beyond.

Eric L. Kranke, a former President of the American Society of Pension Actuaries, is President, Pension Actuaries, Inc.

Year-end cont'd

on September 13, 1988. This phase, effective on January 1, 1989, reduced personal income taxes for most Canadians by cutting the number of tax brackets to three and reducing the marginal tax rates. In addition, some tax exemptions and deductions were changed to tax credits, which will help low-income taxpayers. Parallel changes will be made in provincial tax legislation. Phase 1 of the tax reform changes is to be accompanied by a federal sales tax, which will be imposed later.

Another package of income tax changes was presented on March 28, 1988, in a paper entitled "Tax Assistance for Retirement Savings." This legislation would set a comprehensive limit on the tax shelter an individual could obtain through registered pension plans, deferred profit-sharing plans, and Registered Retirement Savings Plans (RRSPs). The limit would be equal to 18% of earnings, subject to a dollar maximum that would rise to $15,500 in 1995 and would then be indexed. The value of the benefits earned in a year under a defined-benefit pension plan would be deemed to be nine times the annual pension for service in the year, minus $600; this is known as the Pension Adjustment (PA). Hence an employee may contribute to RRSP an amount equal to the comprehensive limit minus the PA. (There may be further adjustments for employees who terminate employment or for amended pension plans.) It is proposed that taxpayers who do not contribute the maximum allowed for the year to their RRSPs may carry forward the unused contribution room for the next six years.

The maximum annual pension allowed from a Registered Pension Plan under the proposals will be $1,722.22 times the number of years of pensionable service, with no limit on service. This limit will not change until after 1994, when it will be indexed. Thus the maximum pension will be $34,444 a year for 20 years of service or $60,278 for 35 years (indexing ignored). Much attention is being focused on supplementary pensions for the growing number of employees who will be affected by the maximum pension limit.

The government has announced a one-year delay in the income-tax measures relating to retirement

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Year-end cont'd

savings. The existing limits will apply in the year 1989, and the limits in the draft legislation will apply in 1990 and thereafter.

Pension reform – Ontario
The Task Force on Inflation Protection in Private Pension Plans, under the chairmanship of Martin Friedland, reported in January 1988. The task force recommended that pensions from defined-benefit pension plans earned for future service should be increased annually after retirement by 75% of the increase in the Consumer Price Index, minus 1%. Such indexing would not be retroactive to pensions earned before the legislation came into force, but inducements would encourage employers to provide future increases in pensions already earned. The Ontario Minister of Financial Institutions announced the government's intention to release draft legislation early in 1989 dealing with pension indexation and other issues. In the meantime, some large unions have been successful in negotiating indexed pensions for their members.

Pension reform – Quebec
The Quebec government intends to amend the Supplemental Pension Plans Act to give effect to the pension reform consensus reached by the various jurisdictions several years ago. Indications are that the vesting of pensions and locking-in of contributions will be required after five years of service (not two years as in Ontario and federal legislation) and further that there will be no requirement on inflation protection.

As a temporary measure a bill has been introduced to limit the ways in which pension plan surplus may be applied. If Quebec's Bill 95 is enacted, then no surplus may revert to the employer until 1990. Upon the winding up of a plan, surplus must be apportioned among all members pro rata to the value of the benefits.

Pension reform – other provinces
Nova Scotia's Pension Benefits Act became effective on January 1, 1988, but New Brunswick's Act is not yet in force. It has been announced that legislation will be introduced in Prince Edward Island. This leaves British Columbia as the only province that has not legislated on the pension rights of employees in the province.

Health care
The rapid growth in the cost of health care has created a problem for provinces that wish to maintain and improve the health care of their citizens. The possibility that many chronic patients using expensive hospital beds could be cared for in other facilities is being explored. Proposals for charges for prescription drugs, doctors' visits, and hospital stays have met with strong opposition. Similarly, workers compensation costs have been soaring, and a move is taking place to end fixed pensions for specified disabilities, replacing them with compensation based on the actual loss of earnings.

Unemployment insurance
In November the federal government announced that the strong position of the Unemployment Insurance Fund would allow an increase in benefits and a 17% reduction in the contribution rates.

Other developments
The Year's Maximum Pensionable Earnings under the Canada/Quebec Pension Plan will be $27,700 in 1989 and the Year's Basic Exemption $2,700. Accordingly employers and employees will each pay contributions up to $525.00 in the year (2.1% of $25,000). The maximum pension for those retiring in 1989 at age 65 will be $556.25 a month, indexed annually.

The standard rate of Old Age Security benefit in January 1989 will be $323.28 indexed quarterly.

The Consumer Price Index rose by 4.1% in the 12 months ending in November 1988 (to 146.1 with 1981 = 100). The prime interest rate was 12.25% at the year end, which means that real interest rates continue high – they have been much higher since 1981 than they were in the previous 30 years.

The political clout of the aging baby boom generation is focusing more attention on pensions. As employees and their unions press for bigger pensions, inflation protection, and earlier retirement, the boom in pension plans can only continue, although we may expect a move toward money purchase plans and new types of retirement arrangements.

Laurence E. Coward is Director, William M. Mercer, Ltd., Toronto.

Significant actions of the Board of Governors

January 24, 1989 – Schaumburg, Illinois

1. The Board authorized the Society to participate in a public relations effort centered around the 1989 Centennial Celebration meeting, with the costs to be shared by the several actuarial organizations sponsoring the meeting. The effort is designed to increase the visibility and enhance the role of the actuary.

2. The Board approved an amendment to the Society's By-Laws to provide that a member would not pay dues at the Fellowship level for the calendar year in which the member attains Fellowship.

3. As the first step in a plan to transfer the Secretary and Treasurer functions to two of the Society Vice Presidents, the Board approved a recommendation from the Committee on Elections to extend the term of the current Treasurer for one more year in lieu of holding the contested election that would otherwise have been required this year. Amendments to the Constitution and By-Laws will be necessary to implement this change of responsibility, which is designed to take effect starting with the 1990 Annual Meeting.

4. The Board approved a recommendation from the Committee on Elections that, in the 1989 Society elections, one Board seat be reserved for an individual in the pension area and another Board seat be reserved for an individual in the health area. This action was in accordance with a procedure approved by the Board last year to enable up to three Board seats to be reserved for individuals in areas of interest and/or country of residence deemed to be underrepresented in relation to the total Society membership.

Anthony T. Spano
Secretary

Pensions viewed from upside down

by Charles Barry H. Watson

Retirement benefits have become a seamless worldwide web. Thus actuaries who go to war in the international arena are painfully aware of the impact of U.S. technology on the battlefield. The debut of that awesome (awful) weapon, ERISA, and all its derivatives has persuaded many countries to adopt counterparts – none, perhaps, with the same degree of sophisticated indifference to the purpose of pensions but still adequately perverse for the local scene. But this, of course, is one area where U.S. technology still leads the world – laws and regulations.

If, as many suspect, ERISA-style regulations prove to be the HIV for defined-benefit pension plans, then the United States will be the source of contagion.

There is, however, free trade in retirement benefits (epidemics know no boundaries), and seminal developments recently have flowed to this country. A good example is the privatization of social security. Personal choice as to the type and mesh of the pension safety net and deregulation of safety standards is a thought to warm Reagan's heart and those of his supply-side advisers, regardless of consequences.

This is an import, though. "Personal Pensions" to replace part of social security have been introduced in England, with untested and questionable success, under the aegis of Reagan's leading exemplar, Maggie Thatcher.

However, she was able to draw upon the splendid example of Chile, where President Pinochet (well-known as a friend of the disadvantaged) has indeed privatized social security. The employee contributes to a private account invested by a licensed institution (e.g., bank or insurer), which he has selected; the initial cost of his contributions was covered by a mandatory pay increase. Thus far, the system has worked plausibly well, at least in comparison with what preceded it, and it may serve as a lodestone for the Chicago school of economists who have advised Chile, pulling us in the same direction here.

It is not easy, politically, to tamper with social security. Another foreign extravaganza that has just burst upon the heavens may prove a more attractive import, as it deals with everyone's pet peeve – taxes.

As we all know, retirement benefits are tax driven. (Even if they are not, we suspect them of being so. Look at all the trouble taken to reduce benefits for everyone, just because Congress and, especially, the IRS thought that a few entrepreneurs were feathering their own nests at the expense of their employees.)

An excellent example of the power of taxes is seen in the popularity of lump sum retirement benefits in Australia (and to a lesser degree New Zealand). The reason for this is that, in upside-down land, lump sum benefits up to a generous maximum are largely tax-free; yes, taxes are waived, not just deferred. So any retiree would be a fool not to take his benefit as a lump sum; if he wants a pension, he can rush down the street to his friendly neighborhood insurer to buy an annuity, which is taxable only on the interest portion. This is clear discrimination, rooted in history. (Lump sums are popular in many other countries, especially developing ones, for a variety of social and economic reasons.)

Well, the new bombshell, also from the antipodes, will deal with this discrimination. It does many other things, too.

Put simply, Australia and New Zealand have now proposed separately (but one suspects that Messrs. Hawke and Lange, socialist prime ministers of the capitalist school, have chatted) that tax on retirement plans should be brought forward from the retirement period to the present. The details vary between the two countries, but the following is generally true:

- Employer contributions (previously tax-deductible) are now currently taxable to the fund at what amounts to the corporate tax rate.
- Employee contributions (previously tax-deductible within limits) are included in the employee's taxable income, and so made out of after-tax income.
- Fund income (previously not subject to tax, at least immediately) is taxable to the fund as earned.
- In return, retirement benefits – pensions, as well as lump sums – are to be tax-free to the retiree when received. (This of course eliminates the discrimination between the two types of benefits, but at the cost of chaos!)

It is important to note that all this will be part of a general revamping of taxes in both countries, based on the concept that "a dollar is a dollar," no matter when or how it is earned. (This is actually an old idea, dating back to a famous – unadopted – "green paper" in Canada of many years ago.)

The proposal, which will be put into final form in both countries this year, presents certain obvious problems to be resolved:

- The change in benefit form emphasis, from lump sums to pensions (even a level playing field changes the game), will dramatically alter retirement strategies and the capital markets.
- Unless the amounts of benefits are changed, the retiree will get a better deal (no tax!), which will be paid for by the employer. To handle this, both governments (New Zealand's with vigor, Australia's more tentatively) have said that the benefit package is to be renegotiated downwards between the employer and employees (unions). Good luck!
- The ultimate impact will depend on how tax rates change in the future. Presently, they are at historic lows, and tax increases will tend to hurt employers and help retirees.
- On the other hand, no bargain is forever, and a future government could resort to "double taxation" by introducing a tax on benefit payments.
- The advance of tax benefits, from the never-never of retirement to the cold reality of today, will have a varying absolute impact, depending

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Editorial

Pension portability

by Barnet N. Berin and Eric P. Lofgren

Portability of pension benefits allows an employee to maintain pension benefits as he leaves one company and joins another. Advocates of portability point approvingly to the way Social Security – a portable pension plan – handles employee mobility. In their view, the private pension system would be fairer to participants and close a gap in pension coverage if it had more portability.

Of course, the voluntary private pension system and the mandatory Social Security system are quite different. Social Security has one universal benefit structure, complete with indexing. There is no funded, actuarial reserve with accompanying assets. In contrast, the private pension plans of various employers provide vastly different levels of benefits to meet their unique objectives. Indexing is ad hoc, periodic for retirees, and nonexistent for the terminated vested. The private pension system has significant assets that, under portability, would have to be allocated and transferred as the employee moves.

Definition extended

The issue of portability gets confusing because the term is used in a number of different contexts. Portability discussions in Washington, D.C., may refer to service, the transfer of specific assets, indexing of benefits, and other vaguely related matters.

Portability has also been used to refer to earlier vesting and to the merits of defined-benefit versus defined-contribution pension plans. Some of the fuzziness is not serious, but it tends to make portability even more complex than it need be and masks important considerations such as fairness and necessity.

Service

Defining portability of benefits to include related service implies that successive employers will have to count combined service in all prior companies in determining the amount of (or eligibility for) the various pension benefits. Few plans do this now, nor is there agitation for them to do so. There is an inherent unfairness if employees with the same attained age, newly hired, are granted different benefits or service eligibility. The last employers might be required to provide a benefit calculated as if the employee's entire career had been in one place. Presumably, this total benefit would be offset by the vested accrued benefits provided by previous employers.

Indexing

Advocates of portability recognize that some of the benefits might be small (reflecting starting salaries at the beginning of a 40-year career, for example) and believe that all such benefits should be indexed with inflation. One way to partially accomplish this is by portability of service, but this does not work for those who change to an employer without a plan, or for those who leave the work force.

An alternative approach, similar in effect, is general indexing for all vested, terminated employees. This raises questions. In the extreme, should only final pay plans be permitted? Otherwise, active participants are treated less favorably than those who leave. Should exceptions be made for depressed industries or for companies that have come upon hard times? With indexing up to normal retirement for vested terminated employees, do retirees get similar treatment? Since the effect on plan costs of full scale indexing would be staggering, leading to plan terminations (if still allowed), would defined benefit coverage be mandated?

Assets

Portability of assets refers to a cash distribution of accumulated pension benefits, along with the ability to place such assets in a successor retirement arrangement without tax consequences.

A cash distribution from a defined benefit plan requires a careful statement of the assumptions used to convert deferred retirement income into a lump sum. Assumptions and methods would probably be mandated. With portability, the prior employer will lose the assets and the possibility of future actuarial gains or losses. If the plan is underfunded, a cashout at 100% value would erode the funded ratio for remaining participants. If funds are widely transferred from plan to plan, assets will have to be kept more liquid to avoid cash flow problems, affecting investment policy and returns. But it goes beyond these considerations.

Will an IRA or a receiving plan be sufficient, or should there be a national clearinghouse receiving these assets, investing funds, keeping records, and run by Social Security, as some have proposed? Should the employee be allowed to specify how assets are invested?

Earlier vesting

A 1987 study showed that vesting in profit-sharing plans was effective immediately in 6% of plans, in up to five years in 22% of plans, and after five years in 72% of plans surveyed. Now, most pension plans will vest after five years. Is three-year or even immediate vesting necessary or desirable? For a benefit to be portable, it must first be vested. Will the administration of pension records for small benefits become burdensome?

Defined benefit vs. defined contribution

This is a contentious issue, with the arguments for and against well known to both sides. In final pay defined benefit plans, protection against preretirement inflation is provided to active participants but not to terminated employees. Defined contribution plans are portable but lack inflation protection, and nothing is guaranteed. The timing of a withdrawal is crucial to the level of retirement income that can be arranged. Advocates of mandatory indexing often offer a second choice: a mandatory defined contribution floor.

Mobility

Employee mobility is difficult or impossible to forecast. As the baby boom generation ages, with too few coming up behind them to replace them, will the population still be as mobile? If not, portability would be less of an issue in the future.

A government policy encouraging portability would also encourage mobility. The incentive to remain with one employer would be reduced. Is this a wise policy? Would portability undermine the nation's productivity, or enhance it, as is often claimed in Washington?

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Portability cont'd

Legislation

The thrust of recent legislative proposals is to preserve the tax status of portable pension benefits, by transfer to an IRA, for example; by restricting cashouts prior to retirement by increasing taxes; by increasing coverage through expanded simplified employee pension plans (SEPs) and introducing salary-reduction SEPs. While current legislative proposals do not go further, portability – in the broad context described above – has become part of the Washington, D.C., scene, discussed by congressional staff and government officials as a seeming failure of the private pension system.

Barnet N. Berin, a Vice President of the Society, is Managing Director and Chief Actuary of Mercer-Meidinger-Hansen, where Eric P. Lofgren is Principal.

Upside down cont'd

on the changing pattern of investment yields.

Nonetheless, this change is likely to be viewed in Australia and New Zealand as good by governments (they get their money now), bureaucrats (life is less complex), and retirees (they get a better deal). In the face of this, the unhappiness of employers can be only sour grapes!

More important to us in the United States, this standing of the pension benefit/tax relationship on its head is likely to be popular here too. Congress in particular, and even more intensely the Congressional staff, have never believed that pension allocations are properly taxed. They look only at the present and see a tax expenditure; they can never lift their eyes unto the hills and see the tax revenues flowing in after retirement.

This could well be the outside world's revenge for ERISA – an insidious gas rather than a nuclear blockbuster, but just as devastating.

Charles Barry H. Watson is an Actuary with The Wyatt Company. He is a former Vice President of the Society and a former President of the Conference of Actuaries in Public Practice.

Correction

In the March 1989 *Actuary*, there was a typographical error in the chart accompanying the article "Actuaries... be careful!" by Jerrold G. Dolins. Under total policies for the Nashville office, the figure should be 2,000, not 2,200. The figure was correct in the text.

The Fellowship Admission Course

by Michael B. McGuinness

The Fellowship Admission Course (FAC) is one of the proposals contained in the White Paper on Future Education Methods for the Actuarial Profession, circulated by the E&E Committee in early 1987. FEM proposals were developed with three primary objectives:

1. Enhance the value of the FSA designation.
2. Provide for better and broader education consistent with the future direction and needs of the actuarial profession.
3. Create a system that will attract, select, and train those people who can best fill the role of the actuary in the future.

The FAC was proposed as a 2½-day course focusing on professional ethics and the integration of syllabus material. Candidates would take this course as the final step to the FSA designation, after all exam requirements had been completed and before a FSA is awarded. All candidates who fully participated in the sessions would pass and receive their FSAs.

Currently, professional ethics appears to many candidates as one more study item. Our ability to test both the candidate's knowledge of professional standards and the ability to apply these standards is limited. Professionalism extends beyond mere knowledge of the phrases contained in a code of conduct. It is taught better using concrete examples than through self-study. The case-study method, with the opportunity for discussion and interaction with other near-FSAs and experienced actuaries, is very appropriate.

The second focus of the course will be integration of syllabus topics. The near-FSA has been exposed to a collection of discrete topics but may not fully appreciate the important links between them. The case-study method and management-simulation exercises will help the candidate to analyze unstructured situations and solve real-world complex problems.

In late 1987, the Board directed the E&E Committee to proceed with the development of the FAC, with a view to first requiring attendance from those who completed the exam requirements during the May 1990 exam period.

Development work for the FAC is now under way by several committees under the direction of the FAC Steering Committee, which I chair.

More detailed information on the FAC, dealing with such matters as course content, timing and location, and costs to attendees, will be communicated to members and students by late summer this year.

Michael B. McGuinness is a Vice President of the Society in charge of Education and Examination. He is with Eckler Partners, Ltd.

Summary of OASDI and Medicare programs

Robert J. Myers, former Chief Actuary of the Social Security Administration, has just completed a revision of his Summary of the OASDI and Medicare programs. This 47-page document incorporates, in detail, the provisions of the Medicare Catastrophic Coverage Act of 1988 (both those immediately in effect and those to be phased in during the next few years). Copies may be obtained by writing to him at 9610 Wire Avenue, Silver Spring, MD 20901, and enclosing $1 for postage (and, if possible, a self-addressed mailing label).

Intensive seminar business instructor chosen

Donald F. Behan, Ph.D., FSA, has been selected as the business instructor for the Applied Statistical Methods Intensive Seminar to be held in August at the University of Wisconsin – Madison. Behan, National Director of Actuarial Services for Deloitte Haskins & Sells, has had extensive experience in applying mathematical and statistical techniques to business problems.

The SOA Education and Examination Committee is pleased to have Behan join Jed Frees as the faculty for the seminar.

Accounting for postemployment benefits other than pensions

by Frank Becker

The unfunded obligations of U.S. employers for postretirement health benefits are enormous. While estimates of the obligation vary widely from under $100 billion to over $1 trillion, the Government Accounting Office estimate is about $400 billion. For the most part, accounting and financing for these benefits are currently on a pay-as-you-go basis. Changes proposed by the Financial Accounting Standards Board (FASB) could cause increases in the amount reflected as expense in a typical company's financial statements of 300%-500% over the pay-as-you-go amounts.

Where FASB stands

On February 14, the FASB released an exposure draft of a proposed statement entitled "Employers' Accounting for Postretirement Benefits Other Than Pensions." In 1984, this subject was split from the project on accounting for pensions that led to FASB Statement No. 87. If the history leading up to the adoption of FASB Statement No. 87 is any indication, the final standard on other postemployment benefits will not differ substantially from the exposure draft.

The FASB's goals for this project on accounting for postemployment benefits are similar to those expressed under Statement No. 87, namely:

1. To match the costs of postemployment benefits to the period in which they are earned by employees,

2. To include the obligation for postemployment benefits on the balance sheet,

3. To enhance comparability of financial statements among companies and between accounting periods, and

4. To increase the amount of disclosure included within the financial statements.

The exposure draft is being followed by a six-month comment period and public hearings. A final statement is expected to be released in 1990. For most companies, implementation of the statement will affect the income statement in 1992, and recognition of a minimum liability on the balance sheet will be required by 1997.

Mechanics of the FASB proposal

The FASB proposed methodology for the postemployment benefits follows closely the methodology prescribed under Statement No. 87 for pensions. The annual net cost will consist of five components:

1. Service Cost – for benefits attributed to the current year. If the plan does not prescribe a method for attributing benefits, FASB will prescribe a years-of-service approach for attributing benefits.

2. Interest Cost – on the accumulated postretirement benefit obligation.

3. Amortization of Gains and Losses – which arise from asset returns differing from those expected, changes in assumptions, and other unexpected changes in the accumulated postretirement benefit obligation.

4. Return on Plan Assets – which is a negative component of expense. Unfortunately, unlike pensions, most of these other benefits are unfunded so there would be no reduction in expense from this component.

5. Amortization of Unrecognized Prior Service Costs – over future employees' service. This component would reflect the amortization of plan amendments. Also a transition obligation representing unrecognized obligations that predate the Statement would be amortized.

The accumulated postretirement benefit obligation is the portion of the present value of expected benefit payments attributable to employee service rendered to date. Unlike the approach under Statement No. 87, where the obligation was generally assumed to accrue over the period from hire to expected retirement date, the obligation under this proposal accrues over the period from hire to first eligible retirement date. Another difference between the Statement No. 87 approach and this proposal is that the discount rate used here to determine the present values is based upon long-term interest rates rather than current "settlement" rates. Health care trend rates used to project the obligation would reflect best estimate assumptions of the plan's future experience.

No changes are to be made in the utilization rate nor in items covered. Furthermore, the prospective legal environment with respect to the obligations absorbed by government, the employer, and the employee should be assumed to remain static. (Future changes in Medicare may not be assumed.)

As stated previously, beginning in 1997 a minimum liability will have to be recognized on the balance sheet for most companies. This minimum liability would be the excess of the accumulated postretirement benefit obligation for retirees and active employees eligible to retire over the (for the most part, currently nonexistent) plan assets.

Corporate reaction to the FASB proposal

Since, for most companies, the FASB proposal will require balance sheet recognition of significant liabilities commencing in 1997 and unfunded accrued expense until then, there will be significant ramifications. Loan covenants may be violated, additional loan financing may be curtailed, and interest rates on loans may increase. The health care liabilities of some companies may well exceed their net worth.

In addition to the balance sheet effects, the proposal will have a dramatic adverse impact on reported earnings for most companies. Price-earnings ratios will suffer, and there may be a concomitant reduction in stock prices. But reactions to the proposal will vary. Some employers may not react negatively and thus may make no changes before implementation of the proposal. These employers may conclude that they will be no worse off, on a basis relative to other employers, than before.

Continued on page 9 column 1

Accounting cont'd

However, many employers will probably redesign their health benefit plans in response to the FASB proposal. Currently, most employers sponsor health benefit plans with open-ended commitments – cost increases for postretirement health coverage are directly absorbed by the employer. Employers may change the open-ended nature of this benefit commitment by reducing the employer-provided benefit or by redefining the commitment. For example, some employers may eliminate the benefits for prospective retirees. Others may increase the amount of deductibles and co-payments employees are required to pay. Some employers may adopt a defined contribution approach with respect to the employer-provided benefit. Under the defined contribution approach, these employers would commit themselves only on an ad hoc basis. Employers who do not currently vary benefit levels based on completed years of service may decide to do so. Employers may cut the level of dependent benefits. Corporations may also pass an increase in recognized costs on to the consumer via price increases. It is important to note that real costs will not have been affected by the proposal, rather only the incidence of such costs.

One corporation, LTV, had a unique reaction to the FASB proposal. LTV recorded $2.26 billion in liabilities for postemployment medical and life insurance benefits in 1988. Since it is in Chapter 11 reorganization status, it apparently decided to recognize the liabilities earlier than required. The effect is to place LTV in a more competitive position after reorganization because it will have already recognized the expense associated with postemployment benefits. LTV referred to the FASB proposal in announcing its decision to recognize liabilities in 1988.

On a more positive note, some employers may seek to attack the problem from the other side – by accumulating assets to cover the obligations. Unfortunately, there is no satisfactory tax-favored funding vehicle available today that could be used to accumulate such funds. Furthermore, in the current period of national budget deficits, little relief can be expected from Washington in the near future. If and when tax-deductible funding is allowed, there would probably be some ERISA-type requirements such as vesting, participation, and accrual rules.

A modest proposal: Use excess pension fund assets to address postretirement health liabilities

On September 15, 1988, U.S. Representative Rod Chandler introduced a bill, The Retiree Health Benefits and Pension Preservation Act (HR5309), which among other things allowed for the tax-free transfer of excess pension plan assets to a trust for retiree health and long-term-care benefits. This proposal was similar to a 1987 Reagan administration proposal that was not implemented. As a quid pro quo, no other asset reversions would be allowed since there would be a 100% excise tax on reversions for other purposes. Excess assets would be those in excess of 125% of plan termination liabilities.

The following suggestions have been offered for implementation of the asset transfer proposal:

1. In order for the security of the pension plan benefit to be maintained, a significant cushion of assets must remain with the pension plan after the transfer. As stated above, the Chandler bill calls for assets of at least 125% of termination liabilities to remain with the pension plan.
2. Unlike asset revisions, asset transfers to a trust for retiree health benefits should not be subject to excise and income tax.
3. Income on the trust should escape Unrelated Business Income Tax and regular income taxation.
4. At least initially, the retiree health trust would cover only liabilities for current retirees. However, the future health cost trend would be reflected in determining the liabilities for this group.
5. The asset transfer would be treated as a plan amendment for minimum required and maximum tax deductible pension plan contribution determinations.
6. The retiree health trust would be the first payor of retiree health benefits, and payments from the trust would not be tax deductible.

Although the ability to transfer excess pension plan assets to a trust to help finance postretirement health benefits is not a complete solution to the inability to fund on a tax effective basis, it is a credible first step. As long as a substantial asset cushion is left in the pension plan, total retirement benefit security would be enhanced. Also, the FASB balance sheet liability would be decreased. Furthermore, since benefit payments from the trust would not be tax deductible by employers, tax revenues would be enhanced at least in the near future. (Based upon a study performed on behalf of a business lobbying group, tax revenues would increase by approximately $6 to $7 billion over the next five fiscal years.)

Summary

The implementation of the FASB proposal will have significant financial and employee benefit design repercussions. Some may argue with the manner in which FASB prescribes reporting the obligation and expense for postemployment benefits. Few would argue, however, with the message that employers' obligations for postemployment benefits (particularly health benefits) are significant and must be addressed.

Frank Becker is a Vice President and Managing Actuary with Actuarial Sciences Associates, Inc.

AERF Practitioners' Award

The Actuarial Education and Research Fund (AERF) is pleased to announce the second annual Practitioners' Award for research done in 1988. The award recognizes the considerable research done by actuaries working in a nonacademic setting and encourages the publication of research performed in the working environment. Submissions must be made to AERF by June 1. Announcement of the winners is scheduled for October 1. For rules and requirements on the Practitioners' Award, contact Mark G. Doherty, Research Director of AERF, at (312) 706-3500. The top prize is $1,000, and honorable mention prizes of $500 are possible. The AERF anticipates publishing submitted papers in the *Actuarial Research Clearinghouse (ARCH).*

Pension plans of government contractors

by Bernard Sacks

The world's largest purchaser of goods or services is the U.S. government. Purchases range from simple paper clips to sophisticated weapons systems. Most government purchases are made through competitive techniques. Essentially, the government prepares specifications and invites qualified vendors to submit bids; the lowest qualified bidder is awarded the contract. In such contracts, the price paid by the government is unrelated to the low bidder's costs. These procedures are not appropriate for all types of purchases. After all, it would be strange indeed for the government to have bid openings for, say, the Stealth bomber. For its more sophisticated purchases, the government must use other techniques.

For such purchases, which represent the majority of the procurement dollars, contract awards are based on a combination of technical competence and cost. In such contracts, the price is based on cost. These cost-based contracts may take various forms. However, they can be categorized into two major groupings: flexibly priced contracts (e.g., cost plus fixed fee), and fixed-price contracts (e.g., firm fixed price). Whichever type is used, the important fact to bear in mind is that the price is based on cost.

The question to be asked, then, is what is cost? The answer to this question is contained in Part 31 of the Federal Acquisition Regulation (FAR) and, for certain contracts, in Cost Accounting Standards (CAS). Although CAS is applicable to only certain cost-based contracts, the FAR is applicable to all such contracts. Not all of the CAS rules have been incorporated into the FAR, but some have, including CAS 412 and 413. These two standards, published in Title IV of the Code of Federal Regulations, set forth the accounting rules for defined-benefit pension plans.

These rules have been incorporated in the FAR. Thus, all companies that have cost-based government contracts and defined-benefit pension plans must account for these plans in accordance with the requirements of CAS 412 and 413.

Who is a government contractor?

One problem faced by actuaries is knowing which of their clients is a government contractor. It is generally easy to spot the large company that performs most or all of its work for the government.

A government contractor is any company with a cost-based contract. And, if that contractor has a defined-benefit pension plan, the costs for that contract must be accounted for pursuant to the requirements of CAS 412 and 413. It is essential, then, that actuaries inquire whether their clients have any cost-based contracts and, if so, become familiar with the requirements of CAS 412 and 413.

CAS vs. FASB and ERISA

For most actuaries whose clients have defined-benefit pension plans, the clients will make a valuation based on the requirements of FAS 87. The actuary also will determine appropriate funding levels based on ERISA requirements. The two valuations that the actuary makes will satisfy the client's needs for both financial statement and income tax purposes. However, these valuations will not satisfy the client's needs for government contracting purposes.

When the CAS Board was in existence, it repeatedly held that the accounting procedure followed for financial statement or income tax purposes is not necessarily appropriate for government contracting purposes. This credo is especially appropriate for calculating pension costs. Thus, whatever costs or funding requirements are calculated for FAS 87 or ERISA purposes, separate numbers must be developed for CAS purposes.

It is clear, then, that for any client having a cost-based contract, the defined-benefit pension cost to be allocated to that contract must be calculated pursuant to CAS 412 and 413. It should be noted that the requirements of CAS 412 and 413 are not compatible with the requirements of FAS 87. Accordingly, a separate valuation must be made for CAS purposes.

Government pension cost problems

Once a CAS valuation has been made, the actuary's efforts are by no means completed. There are numerous heated disputes between companies and the government relative to how pension costs should be developed and adjusted. Many of these disputes hinge on interpretations of CAS 412 and 413. These standards have the full force and effect of law. Although there is no longer a CAS Board, the standards are still applicable to government contractors; unfortunately, there is no board to interpret the standards.

The problems between the government and government contractors are too numerous and complex to discuss fully in this article. However, the following paragraphs set forth some major problem areas.

Overfunded plans

CAS 412 sets forth how the amount of pension cost for a year shall be calculated. It also provides that in order for such amount to be allocated to a current year's contracts, the amount calculated must either be funded in that year (as defined by the Standard), or the funding must be compellable (e.g., required by ERISA).

Under CAS 412, a pension cost will likely be developed even though a plan is overfunded. Because nothing we are aware of could compel additional funding for an already overfunded plan, contractors can recognize costs only if the funding is actually affected. However, because of tax considerations, most contractors do not fund an already overfunded plan. This creates several problems. Some contractors (e.g., nonprofit institutions) may wish to fund their plans, but the government doesn't want to reimburse them for funding an already overfunded plan. Can the government make its position stick? (We think not.)

We believe that if a contractor does not fund a plan for a year, no pension costs have been incurred for that year for government contracting purposes. We believe also that if a CAS 412 calculation has been made and the amount calculated is not funded, such amount represents an actuarial loss

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Contractors cont'd

and, pursuant to CAS 413, must be amortized over 15 years. The government is taking the position (through, in our opinion, a misunderstanding of a provision of CAS 412) that costs calculated for a year but not funded in that year can never be recovered. Thus, a contractor having an overfunded pension plan is penalized if the amount calculated pursuant to CAS 412 is (1) funded, or (2) not funded. Contractors rightly believe that the government's position is inequitable. They will need support from their actuaries to demonstrate the effect of such inequity.

Another problem relates to long-term fixed-price contracts. In such contracts, contractors must estimate their costs, including pension costs, over the life of the contract. The government is concerned that the contractor includes pension costs in the price of these contracts and, because the plan becomes overfunded, does not fund the plan for those years. In such an event, the government believes that the contractor has received a windfall profit. The government's remedy is to seek a voluntary refund or to try to prove that the contractor defectively priced the contract. If the latter course of action is successful, the contractor can face severe civil and/or criminal penalties. To avoid such problems in the future, contractors will have to obtain from their actuaries multi-year projections of (1) CAS 412 cost calculations, (2) ERISA funding status, and (3) likely funding requirements.

Other problem areas

There are numerous other significant problem areas relative to pension costs. These problems relate to matters such as:

1. Terminated pension plans – The government believes it is entitled to all or part of the "profit" realized by the contractor. A problem relates to how the government's perceived share of the residual shall be measured.

2. Terminated divisions – Contractors often sell or close divisions that were working on government contracts. Pursuant to CAS 413, final accountings must be made. Such accountings often entail making actuarial valuations for the closed division to determine what its assets and liabilities would be, as if it had its own pension plan.

3. Unfunded plans – There are numerous problems in developing costs for nonqualified excess benefit plans and plans providing for medical benefits for retirees. It should be noted that, under CAS 412, plans that provide medical benefits to retirees and defined-benefit pension plans must be treated as a single plan. These factors create many disputes, and future litigation is probable.

Conclusion

It is fair to conclude that the single largest area of conflict between contractors and the government relates to the cost of defined-benefit pension plans (and health benefit plans). Many of these problems will be resolved only through protracted litigation. Others might be resolved when the newly legislated CAS Board is assembled. In either event, it is likely that the problems will persist into the foreseeable future. The actuarial community must take an active role in resolving these problems.

Bernard Sacks, CPA, is a Special Consultant with Price Waterhouse's Government Contractor Consulting Service. As a member of the Cost Accounting Standards Board, Sacks authored, among other things, the two Standards dealing with the accounting for pension costs.

Attention: Enrolled actuaries

If you passed the EA-2 examination in 1977 or 1978, we may have significant information for you.

Under the old Fellowship examination system a candidate could not receive dual credit for both EA-2 and another Part 7 examination. In the Flexible Education System, one may receive credit for all of these examinations. Consequently, a number of Enrolled Actuaries could be close to Fellowship. In some cases, only one 20-credit course is needed. For further information, please call Pat Holmberg at 312-706-3527.

In memoriam

Albert W. Anderson FSA 1936
Mark A. Brunell ASA 1982
Larry M. Cohen FSA 1974
Carl H. Fischer FSA 1952
Norman Harper FSA 1945
Geoffrey T. Humphrey *ASA 1976
Renaud Longchamps FSA 1976
John N. Miniello ASA 1982
Henry P. Morrison FSA 1926
K. A. Usherwood *ASA 1954
Douglas T. Weir FSA 1940
Charlie T. Whitley FSA 1969

Change in election procedure

by Harold G. Ingraham, Jr.

At its October 1988 meeting, the following change in election procedure was approved by the Society's Board of Governors:

Prior to completion of the first ballot, the Committee on Elections will recommend to the Board of Governors that up to three designated Board seats be reserved for individuals in areas of interest and/or country of residence deemed underrepresented in relation to the total Society membership. If the recommendation is accepted, the committee will select – for listing on the second ballot – at least twice as many candidates as there are Board seats reserved for underrepresented areas.

Based on a review of the Board's composition for this year's election, the Committee on Elections has recommended and the Board has approved at its January 1989 meeting reserving *one* designated Board seat for an individual specializing in health insurance and *one* additional designated Board seat for a pension specialist. Area of employment – whether insurance company, consulting or otherwise – is immaterial.

The Board election will follow normal procedures for the second ballot. After the ballots have been tabulated, the committee will determine whether the designated number of candidates for the earmarked categories would be elected through the normal process. If not, the committee would declare qualified candidates who have the highest number of votes to be elected to the reserved seats. The remaining Board seats would be filled by candidates with the most votes.

An example might clarify this new procedure. Let's suppose that six Board seats are open (as there will be in 1989). As indicated above, two of those seats are to be filled by a health actuary and a pension actuary. The committee will be required to include at least two health actuaries and two pension actuaries on the second ballot. The committee might well include more in each category.

Now suppose in the tabulation of ballots, one health candidate places third, one sixth, with others farther

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Election cont'd

down the list. Suppose also that one pension candidate places tenth, with others farther down the list. The health candidate placing third would be declared elected in accordance with normal procedures. The pension candidate placing tenth would also be declared elected. The other four Board seats in this example would be filled by those candidates placing first, second, fourth, and fifth.

An attractive feature of this new election procedure is its flexibility, in that allocation of reserved categories must be set each year by the Board, and the allocation can be adjusted as the needs of the organization change.

Not included among the potentially underrepresented Board categories at this time is the category of *women* members. Female actuaries today represent over 10% of all Fellows, and about 25% of current new Fellows. Nonetheless, of 18 female candidates listed on the first ballot during the past eight years, only one successfully reached the second ballot (and was elected) – clearly a deplorable result. Shouldn't this also be a reserved category?

Harold G. Ingraham, Jr., Chairperson of the Committee on Elections, is with Tillinghast/ Towers Perrin.

Mail alert

The First Ballots for the Society's 1989 elections were mailed to all Fellows on March 28, and hence should have been received prior to the arrival of this issue of *The Actuary*. To be valid, ballots must be returned to the Society office by May 1.

* * *

The 1989 Society of Actuaries *Yearbook* was mailed to members on February 1. This special Centennial edition features a special section on the history of the profession in North America.

* * *

All members should have received the Report of the Task Force on Strengthening the Actuarial Profession and the first newsletter, called *The Bulletin*, issued by the task force. If you haven't received these mailings, call the Society office at (312) 706-3500.

Direct dial to Society

Please use the direct-dial telephone numbers listed below to reach certain departments and staff members. Dial (312) 706- before the following extension numbers.

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3513 American Academy of Actuaries
3535 Conference of Actuaries in Public Practice

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3516 Centennial Celebration
3579* Exam Hot Line
3515 Exam Materials, Career Recruiting Materials
3527 Exam Questions – Nonroutine
3583 Exam Questions – Routine
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3562 Simmons, Barbara
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Meeting Manager
3530 Weiss, Jim
Director of Information Services

**Operative beginning at noon Tuesday following the Friday that grades are mailed.*

Special report enclosed

Enclosed with this issue of *The Actuary* is a synopsis of the Report of the SOA Task Force on the Actuary of the Future, referred to in Gary Corbett's presidential address last year. The task force worked throughout 1988 to study the potential roles for the actuary of the future and the steps that would be necessary to prepare the actuary for those roles.

The Task Force Report was adopted by the SOA Board at its October 1988 meeting. It has also been shared with the Council of Presidents, who in turn shared and discussed it with other leadership of the profession.

The SOA Board established a new task force, chaired by Past President Gary Corbett. Other members of this new task force are Phyllis Doran, Jim Murphy, Mary Riebold and Bob Shapiro. Their assignment is to communicate the report's message to SOA members and work with SOA committees to incorporate the essence of the report in plans for future activities that will prepare and support the actuary of the future.

A questionnaire about the report is also included with this mailing. The task force hopes you will take the time to read the report synopsis and help them with their assignment by sending in your reactions and suggestions using this questionnaire.

Dear Editor:

CIA going overboard

In the January issue of *The Actuary*, there was a letter to the editor from Dick Robertson headlined "Learn from FASB's mistakes." I'd just like to say that I'm in strong agreement with the views therein expressed.

In Canada, the Canadian Institute of Actuaries seems to be going overboard and inundating us with so-called "technique papers," which in effect are very detailed standards. Much more of this and the really professional actuary will find himself in the same sort of position as Gulliver was when washed ashore in the land of Lilliput, i.e., reduced to immobility by 101 restraining strands.

Owen A. Reed

Actuary's myopia

As an actuary living and working in Canada, it is an interesting but at times frustrating experience to read *The Actuary*. Three recent events have made me think it might be worthwhile to share some of my frustrations.

The first of these occurrences was the recent article by Irwin T. Vanderhoof in the January *Actuary* discussing the Dutch Actuarial Society. While I appreciated his contribution, I wonder why members of an international profession should need to be reminded that actuarial problems are a worldwide occurrence. On a personal level, it is perhaps natural to be preoccupied with one's own problems and tasks, but at a professional level it is poor form indeed to be myopically concentrated only on one's own jurisdiction and country.

The second occurrence also derived from the January *Actuary*, in the discussion of the new journal *Contingencies*. Clearly such a publication will be a valuable addition to the literature, not only heightening the profile of the profession, but also providing another forum for peer review and discussion of actuarial practice. It is disheartening to see that the list of tentative articles contained many U.S.-oriented pieces, without any international – or even Canadian (!) in the dawn of the Free Trade era – articles. There are a lot of interesting and important changes going on in the Canadian regulatory and tax environment at present, yet comment on these events is conspicuous by its absence.

I understand that *Contingencies* is being published by the American Academy of Actuaries, and *The Actuary* and the Society are to be commended for supporting the journal. This should not obscure my basic point, which concerns my understanding that the Society has laudable ambitions of representing both U.S. national and international actuaries. Given this, it should be important that actuaries outside the United States perceive that the Society has something to offer them. A lack of comparative articles and at least a perceived lack of interest and consideration of activities beyond the borders of the United States does not further this cause.

The final occurrence came in my studying for I440C last fall. It was very frustrating to be taking what purported to be a Canadian-oriented course, and to be required to study only the Security and Exchange Commission regulations for the United States. From a Canadian perspective, I could concede that some awareness of what happens in the United States might be valuable for comparative purposes. However, surprising as it might be, there are different Securities regulations in Canada, and it would seem appropriate that they be mentioned in a Canadian content exam. I would also note that the comparative argument would logically require that U.S. students equally be mandated to know something of the Canadian environment. Having said that, I would say that I support the concept of FES and having separate national specialties – but if courses are to be advertised as having a national orientation, then more than lip service should be paid to that orientation. Of course, the argument that no material exists does not really hold up, since either a study note could be commissioned, or other industry materials could be utilized on a temporary basis.

Julian D. Gribble

Varying the ROE target

Joseph Tan (in the January *Actuary*) concludes that products with different levels or risk should have different ROEs, even after required surplus for the extra risk has been included.

In Tan's example, a capital investment of $100 is used for Product A, with an expected profit of $10, and Product B, where the expected profit is $15. It is assumed that $5 and $10 of surplus, respectively, invested risk-free at 5%, will adequately (and presumably equally) provide protection against the risk of adverse deviation. This results in effective ROEs of 9.8% and 14.1%. Tan states that only if a huge surplus were required on the riskier product would equal ROEs be logical.

Essential to this discussion is an examination of the risk/return tradeoff inherent in the products themselves. In the example, by increasing their investment by 10%, investors can expect a 91% increase in their expected return above the risk-free rate. According to the simplified universe postulated by the Capital Asset Pricing Model, they would be more than satisfied with this outcome. Given that management has various considerations in choosing a portfolio of products, the question still remains: If investors are satisfied with 9.7% on Product A, why should Product B be required to give them a return that is more than satisfactory? If the insurer can produce such an extra return at this minimal extra risk, is it fulfilling its obligation to its stockholders or mutual policyholders by investing scarce capital in Product A?

By reserving extra surplus to "level" the risk on products subject to adverse deviation and requiring all products to produce the same ROE, management is, in effect, saying that riskier products should not be required to produce a return to provide for more than the extra risk. Ultimately, success for a stock company will be measured by its ability to produce a competitive risk-adjusted return, and it is against this standard that mutuals must compete.

Arnold N. Greenspoon

* * *

I found Joseph Tan's article, "Varying ROE by Profit Center," puzzling. His numerical example really demonstrates the following. If we assume that two products can be equitably assigned profit standards that differ by 50%, then attributing total investments to these products that differ by less than 5% is inconsistent with demanding a uniform ROE by product.

Using the definition of required surplus from Don Cody's recent paper, "Probablistic Concepts in Measurement of Asset Adequacy," the problem with Tan's example can be seen. Cody

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Dear Editor cont'd

uses the term "risk surplus" rather than "required surplus" and defines it as being just sufficient to keep the probability of ultimate ruin sufficiently low, with 1% being a common standard. We can apply this definition to Tan's example to see that the riskiness of the two products may be surprisingly similar.

Using Tan's definition of R and defining F(R) as the probability distribution function:

E[R] = 110 for Product A
E[R] = 115 for Product B
and
F(−5) = .01 for Product A
F(−10) = .01 for Product B

If the probability density functions of financial results for the two products have the same shape, differing only by expected value and standard deviation (for example, if both are normal), then the risk of adverse deviations from Product B is identical to Product A scaled up by 125/115 = 1.087 (since the ratio of standard deviations equals the ratio of differences between expected values and one-percentile values.) This hardly justifies a risk premium (that is a demanded ROE less the risk-free rate) for Product B of approximately twice that of Product A.

With a little reflection, it should be clear that if the risk premium inherent in the expected ROE is there to compensate for the risk of adverse deviation from expected results, and if required surplus is defined as above, then the theoretically correct standard for ROE can differ materially between products only if the p.d.f.'s of financial results differ materially in kind. We must actually believe that the risk profiles differ in shape, not just in magnitude. In such a situation, several values of the respective p.d.f.'s would be compared in order to judgmentally arrive at appropriate overall ratios of risk to attribute to the products. One possible example of this might be products with substantial AIDS risks being compared to products thought to have normally distributed p.d.f.'s. In many cases, once all factors are considered, the estimation of required surplus will already be speculative, and further speculation on differences in shape of p.d.f.'s will not really add to the process.

David L. Creswell

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After reading Joseph Tan's article on varying the ROE target by profit center depending on risk, I found myself probably agreeing with the conclusion, but using a different structure for the analysis. My first point of departure is to differentiate between two types of risk. The first risk relates to the volatility of returns on the product (return risk). The second risk is that an "intolerable" event occurs (intolerance risk). The proposed solution to the intolerance risk is to invest sufficiently in riskless assets to shift the expected return distribution of the product plus riskless asset to the right and eliminate (or at least acceptably so) the intolerance risk.

Let us analyze this situation using the Capital Asset Pricing Model (CAPM). Under CAPM, Products A and B can be considered as two risky securities, and RS (the required surplus to eliminate intolerance risk) is invested in risk-free assets. In Tan's example, the expected return on A (R_A) was 10%, on B (R_B) was 15% and on RS 5%. Under CAPM, this would translate to a riskless return (R_F) of 5% and $\beta_B = 2.0\ \beta_A$. For example, assume the expected return on the market (R_M) also equalled 10%, so $\beta_A = 1$ and $\beta_B = 2.0$. The security market line under CAPM in this example is

$$E(R_i) = R_F + [E(R_m) - R_F]\beta_i$$

for Product A

$$E(R_A) = 5\% + [10\% - 5\%]1 = 10\%$$

and for Product B

$$E(R_B) = 5\% + [10\% - 5\%]2.0 = 15\%.$$

Under CAPM, each investor will assess the return risk in the same manner and arrive at the same required expected return from Products A and B as every other investor. However, not all people tolerate risk equally well for a variety of reasons, including statutory requirements. For that reason, in the example, a pure portfolio of only Product A or Product B is unacceptable. The products need to be mixed with some amount of riskless asset to eliminate the intolerable risk and allow the resulting expected return distribution to become acceptable. The expected return of the mix of product and riskless asset is a weighted average of their individual expected returns.

Let w be the proportion of the total investment that is in riskless securities in order to eliminate the intolerance risk. If all portfolios of product and riskless assets must have the same ROE, then for all products i,

$$wR_F + (1-w)R_i = \text{ROE}$$

or

$$w = \frac{R_i - \text{ROE}}{R_i - R_F}$$

Under CAPM, this also leads to the result that if ROE is the same for each portfolio, β for each portfolio is the same. The effect of the addition of riskless assets is to dilute the β of the product to the level necessary to attain the corporate ROE.

This holds true only if the intolerable risk and return risk are the same. Recall that under CAPM, return risk is related to undiversifiable portfolio return volatility. As described in Tan's article, the intolerable risk is not related directly to that volatility, but also includes the need to attain minimum levels of acceptable return. I will leave it up to those more familiar with reserve setting to ascertain whether these risks are, in fact, one and the same or are different as I suspect. If they are different, then varying ROE target by profit center is appropriate.

James M. Jackson

CIA offers reports on AIDS

The Canadian Institute of Actuaries (CIA) recently produced four reports on AIDS. These are:

- Memorandum covering AIDS from the Chairman of the Committee on Life Insurance Company Financial Reporting
- 1988 Guidance Notes for Valuation Actuaries, Report of the Subcommittee on Valuation, Task Force on AIDS
- First Report of the Subcommittee on Modeling, Task Force on AIDS
- Second Report of the Subcommittee on Modeling, Task Force on AIDS, An Analysis of USA Data

Copies of the Memorandum can be obtained free from the CIA. Copies of the other three reports can be obtained for $10.00 each ($US or $CDN). The address of the Canadian Institute of Actuaries is Suite 405, 360 Albert Street, Ottawa, Ontario, K1R 7X7, Canada.

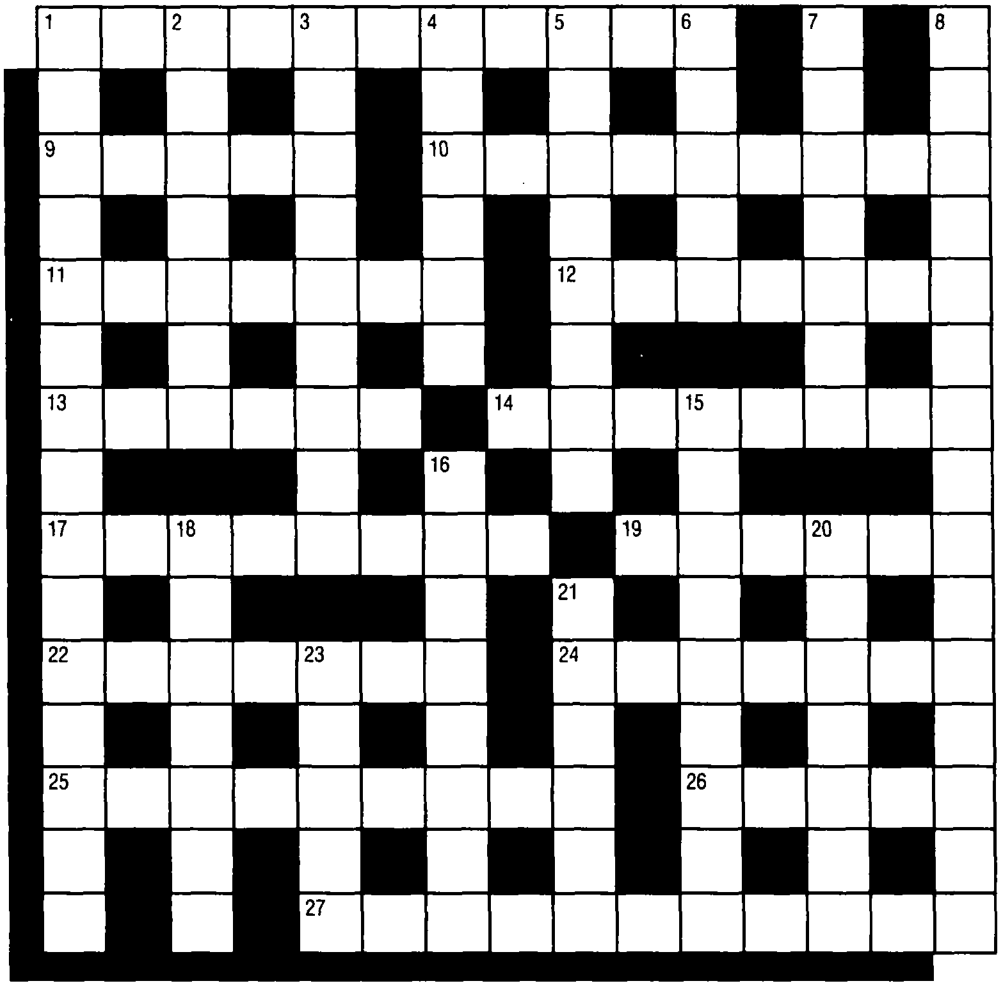
ACTUCROSSWORD

Across

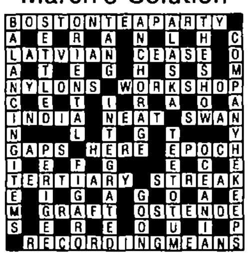
1. Torso tongue for address to errant golf ball (4,7)
9. Fashionable place of races and one of them (5)
10. Flip and faint-trouble in court (9)
11. Real kid from Ireland (7)
12. One who imparts skill to new terrain (7)
13. Garments for those who have taken in too much (6)
14. How the French start at the front (8)
17. Locational variety in cod, etc. (8)
19. Indisposition from Italian gin and tonic required (6)
22. Choose sun god for matricide (7)
24. Crime of terrible senator (7)
25. Decoration to mend a torn article (9)
26. Animal well rated- a 3.14 (5)
27. Mortality depression in California (5,6)

Down

1. Complete protection void, born too soon and the rest between (7,8)
2. Commandments, briefly a month and a power exponent (7)
3. Text cared for, treated and removed (9)
4. The rat left her after the party (6)
5. Idleness, indeed (8)
6. Dye green gables girl returns to an aspirate (5)
7. Papal residence to which one can go in van (7)
8. Means of provision are undefined-try to locate (8,7)
15. Wrongly nominates for political division (9)
16. Privately- possibly light sensitive material here (2,6)
18. Place of romance and violins (7)
20. In all a holy person to fix (7)
21. It forms a loop between a holy person and his church (6)
23. More harmonious part of flat, unedifying spectacle (5)



March's Solution



100% SOLVERS — ***January:*** J & L Abraham, W Allison, T Boehmer, A Brosseau, D Carlisle, R Carson, S Colpitts, S Cuba, J Darnton, Mrs C Edwards, E & G Fairbanks, B Fortier, C Galloway, J Grantier (Dec), R Hohertz, G Horrocks, J Hunt & R Bayles, R Jenner, A P Johnson, A Keys, D Leapman, M Lykins & C Mutti, R C Martin, J Mereu, H Migotti, R A Miller, C Montpetit, B Packer, R Reese (Dec), B Rickards, N Shapiro, G Sherritt, M Steinhart, S Swanson, H Tate, Mrs J S Thompson, J & B Uzzell, D Weill & D S Williams.

Send solutions to: Competition Editor, 8620 N. Port Washington Rd (312), Milwaukee, WI 53217

ACTUCROSTIC

A. An uncultivated person.
127 88 160 59 152 148 17

B. Unyielding; inflexible.
132 155 7 163 69 34 215 91

C. Mediator of complaints; go-between.
159 181 170 81 16 51 153 38 102

D. Sign to discourage trespassing. (2 wds)
199 94 30 48 140 177 87

E. Fashionable; up-to-date. (3 wds)
6 180 209 214 33 191 83 98 121

F. Mild admonition in crowded line or elevator. (2 wds)
193 54 71 208 154 100

G. I am busy with a metrical foot.
76 128 24 185 217 58

H. Below; under.
158 60 111 95 20

I. The first bookkeepers; they invented the loose-leaf system. (3 wds)
11 204 169 32 119 55 138 73 129 109

J. Be blind or broadminded. (4 wds)
131 96 190 202 31 139 50
172 226 108 86 72 117 151 1

K. Any bare necessity - with taxes added.
123 10 42 198 150 79

L. It is quite ethical to sink these into problems.
218 70 90 105 188

M. Friendly; cozy; comfortable.
224 21 113 196

N. Word P from word V. (2 wds)
15 47 203 175 225 62 192 125 182
75 3 143 89 104 29 161

O. Large mackeral; expression of exuberance.
56 25 37 187 216

P. Overview; synopsis. (hyph)
13 43 116 210 66 135 171 149 27 222

Q. Elimination game using coins. (3 wds)
2 142 23 205 44 137 162 115 168

R. Essential; gist; pith. (hyph)
165 179 39 101 122
99 49 200 183 221 8

S. Festive; joyful; merry.
12 130 112 67

T. A pithy saying; adage; maxim.
110 26 189 133 41 85 207

U. Completely relaxed. (4 wds)
45 9 197 74 103 28 52 124
213 84 219 178 63

V. Report of the Task Force on Strengthening the _(2 wds)_.
5 194 65 156 57 211 145 176 141 120
164 80 220 134 40 114 18 186 97

W. Khadafy under the big top; a legal phrase. (2 wds)
201 64 212 93 53 146 126 22
173 78 36 166 68 107

X. Females of mature sheep.
14 167 144 82

Y. Astonomical hypothesis largely superseded by the Big Bang assumption. (3 wds)
4 157 46 136 35 147 174 92 184 61
195 19 106 223 77 118 206

				1 J	2 Q	3 N		4 Y	5 V	6 E	7 B		8 R	9 U	10 K		11 I	12 S	13 P	14 X	15 N	16 C	
17 A	18 V	19 Y	20 H		21 M	22 W	23 Q		24 G	25 O	26 T	27 P	28 U	29 N	30 D	31 J		32 I	33 E	34 B	35 Y		36 W
37 O	38 C	39 R		40 V	41 T	42 K	43 P	44 Q	45 U		46 Y	47 N	48 D	49 R	50 J	51 C	52 U	53 W	54 F	55 I		56 O	57 V
58 G		59 A	60 H	61 Y	62 N	63 U	64 W		65 V	66 P	67 S	68 W		69 B	70 L	71 F	72 J	73 I	74 U	75 N	76 G	77 Y	78 W
	79 K	80 V	81 C		82 X	83 E	84 U	85 T	86 J		87 D	88 A		89 N	90 L	91 B	92 Y		93 W	94 O		95 H	96 J
97 V	98 E	99 R	100 F	101 R		102 C	103 U	104 N	105 L	106 Y		107 W	108 J	109 I		110 T	111 H	112 S	113 M	114 V		115 O	116 P
117 J	118 Y	119 I	120 V		121 E	122 R		123 K	124 U	125 N	126 W	127 A	128 G	129 I	130 S		131 J	132 B	133 T	134 V	135 P		136 Y
137 Q	138 I		139 J	140 D	141 V	142 Q		143 N	144 X		145 V	146 W		147 Y	148 A	149 P	150 K		151 J	152 A	153 C	154 F	
155 B	156 V	157 Y		158 H	159 C	160 A		161 N	162 Q	163 B	164 V		165 R	166 W	167 X		168 Q	169 I	170 C	171 P	172 J		173 W
174 Y		175 N	176 V	177 D	178 U	179 R	180 E		181 C	182 N		183 R	184 Y	–	185 G	186 V	187 O	–	188 L	189 T	190 J		191 E
192 N	193 F	194 V	195 Y		196 M	197 U	198 K		199 D	200 R	201 W	202 J	203 N	204 I		205 O	206 Y		207 T	208 F	209 E	210 P	
211 V	212 W	213 U	214 E	215 B		216 O	217 G	218 L		219 U	220 V		221 R	222 P	223 Y		224 M	225 N	226 J				

LAST MONTH'S SOLUTION: M(arcia) Bartusiak, Wanted: Dark Matter, "They have predicted the existence of the axion, a particle whimsically named after a laundry detergent. Perhaps more than a trillion times lighter than an electron, the axion is so insubstantial that trillions could be stuck into a cubic inch of space around us and we'd never take notice.", DISCOVER, December, 1988.