

**1989 VALUATION ACTUARY
SYMPOSIUM PROCEEDINGS**

CHANGES IN FINANCIAL REPORTING

MR. CLIVE S. SMITH: My brief for this presentation was to provide some insight into the problems facing us with regard to the proposed change to the premium policy method (PPM) and other current issues from the perspective of the valuation actuary in a relatively small company. Over the last two or three years, during which time issues facing the valuation actuary have been discussed at great length at meetings of the CIA, the vast majority of panelists have been from medium and large sized companies plus an ever increasing number of consultants. I have personally found this to be extremely useful. First, until now, I have managed to avoid the attention of the program committees. Second, and more important, I find that I can learn quite a bit listening to experts from the larger companies who have far more resources and much more time to devote to the theoretical and technical aspects of many of these issues. Today the situation is reversed. My remarks will be more general than specific and will concentrate on areas of concern to small companies. I hope that those of you in the audience from larger companies will bear with me.

I intend to give you a brief overview of my views on some of the issues facing valuation actuaries in small companies. I will make a few general comments regarding resource and

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cultural problems. I will make some very brief remarks on the June 30 report. And finally I will comment on the dynamic solvency testing soon to be imposed on the industry.

Let's first take a look at the way a small company valuation actuary operates. He has some tremendous advantages over his large company counterparts. He is close to the action, usually a member of the senior operating committee, and privy to all the information he needs to do his job. Rarely are major decisions taken in any area of the company without his knowledge and participation. He will be asked to approve most investment, pricing, underwriting and other policy recommendations before they are implemented.

A further advantage he has is that the company's business is usually relatively simple. Lines of business are often limited, product ranges are narrow and computer systems are manageable. I hope I never have to face the systems problems faced by the large companies. Small company actuaries, myself included, have often complained about their resource problems and the ever increasing regulatory burden. Overall, however, we are probably much better positioned to cope than are the larger companies.

Having said that, Slide 1 summarizes the major tasks that I faced during the first six months of 1989. Similar tasks were, of course, faced by all companies. Only small company actuaries, however, have to get involved in every one of them. The actuarial staff in my

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SLIDE 1

ACTUARIAL TASKS

JANUARY - JUNE 1989

- 1988 Valuation
- 1988 Financials (Canadian and U.K.)
- AIDS Provision
- Investment Income Tax (IIT)
- Input to Worldwide Strategic Plan
- Repricing
- Tax Reserves (New Method)
- Model Office Development
- Expense Allocations
- New Valuation System
- New Agents Contract
- Asset/Liability Matching System
- June 30 Report

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company consists of myself, one associate and two students. As well as the valuation related tasks, there have also been demands on my time to deal with repricing, AIDS, IIT, revisions to agents compensation and many other internal requests. On top of that the company itself has experienced extraordinary growth over the last year both in existing product lines and in new ones. Anyone who has ever worked in this environment can appreciate the challenge that this poses, including demands from the parent company to justify the additional financing required to support the growth. It is becoming increasingly difficult for the small company actuary to cope with this workload without increasing staff.

Here we move from resource issues facing smaller companies to cultural issues. In my experience the CEO and management of the smaller company perceive the company to be receiving very little value from additional actuarial staff required in essentially backroom functions. They do not appreciate me spending over a month preparing a report for the Office of the Superintendent of Financial Institutions (OSFI) when I have long since made them aware, in broad terms, of the impact of moving to PPM. They do not appreciate actuarial staff spending enormous amounts of time first trying to understand and then having to calculate investment income tax liabilities. They will not appreciate me spending large amounts of time testing future scenarios for regulatory purposes when we already, in their opinion, spend too much time projecting financials for our parent company. There is a real danger that small company actuaries will become more and more restricted to

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backroom activities regarded with suspicion and skepticism by others in the company. In my experience, this is not usually the case, and it would be a pity if the current appreciation of the actuary's contribution to front-line management of small companies was to be replaced by a grudging acceptance of his control over functions that are perceived as necessary evils.

It is important for small company actuaries to take a positive approach to these issues. It is easy to become overwhelmed by the numerous demands made by the company itself, by shareholders or parent organizations, by regulators and by the profession. In the final analysis the actuary is usually able to meet these demands by taking as practical an approach as possible without violating professional standards and without getting sucked into unnecessary theoretical complications and the resulting procrastination.

Moving on now to the problems I encountered with the June 30 report I would say that they were twofold. First, I had problems explaining to others within the company what it was that I was spending so much time working on. Second, it was tough attempting to meet the required standards without devoting an unreasonable amount of time to the project. Fortunately, the company's business at the end of 1988 could be broken down into just a few distinct blocks, and our valuation systems are manageable enough and flexible

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enough to calculate reserves quickly and efficiently using different methods and different sets of assumptions.

Overall, I found that changing to PPM would significantly reduce reserves for much of the old traditional business that had previously been valued using implicit methods. The conservatism inherent in the implicit assumptions became very apparent. I also found that business written between 1983 and 1987, when the company was relatively uncompetitive, when most of the sales were of adjustable products and when the 1978 Canadian Method was used to value the business, was somewhat less sensitive to the change to PPM. And finally I found that the business currently being written is almost totally insensitive to the change from the 1978 Canadian Method to PPM. This business is extremely competitive and consists mainly of several Term-to-100 type plans and renewable and convertible term plans. Front-ending of profits on this business is a non-issue. The Term-to-100 plans, especially, generate significant deficiency reserves. The net premiums under the 1978 Canadian Method are therefore equal to the policy premiums, and the PPM reserves only depart from the 1978 Canadian Method reserves as a result of changes in the assumptions.

One of the issues still to be resolved as we move from the 1978 Canadian Method to PPM is the application of the existing valuation technique papers. From a practical point of view I have found these papers to be extremely useful. They really make the valuation

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actuary in a small company focus carefully on some of the more sensitive areas. Some of the papers, however, seem to need reviewing in the context of GAAP.

For the June 30 report to OSFI we were asked to recalculate reserves using the PPM method. This required the application of the exposure draft on provisions for adverse deviations which states in various places that the valuation technique papers take precedence over the recommendations contained in the draft. Some of the technique papers, however, seem to work against the objective of producing a more realistic income statement and were written with solvency considerations in mind.

In particular, for a small company writing a significant amount of Term-to-100 business, Technique Paper No. 1 causes a substantial distortion in the timing of emerging profits. The technique paper was published as a result of concerns in several quarters that the lapse rates being used in the calculation of reserves for Term-to-100 were too high. In my opinion, the lapse rates mandated by Technique Paper No. 1 are overly conservative in years 5 to 15 and would certainly not represent my best estimate of the future lapse experience of the product at all ages. If I ignore Technique Paper No. 1 and use my best estimates of future lapses, the pattern of profits emerging changes considerably. The strain in the first year is reduced, and the pattern of emerging profits is much smoother in subsequent years. If the overall intent is to produce a realistic income statement and to

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allow solvency standards to be dealt with elsewhere, then it seems inappropriate to override specific estimated levels of experience with technique papers written with solvency concerns as the primary motivation.

Having said that, the only technique paper that causes me a real problem is Technique Paper No. 1. Even without the change to PPM, I believe that the lapse rates mandated by this paper reflect an overreaction to a situation that should now be reviewed. To a lesser extent Technique Paper No. 3 seems to take a relatively conservative approach to reinvestment rates that may not be appropriate in a GAAP environment. I understand that the technique papers are to be reviewed in the light of the change to PPM. I believe that to not do so will result in some smaller companies only partially moving to the intended GAAP reporting situation. It will also result in smaller companies having to put up more capital than is really necessary.

I have one final point on the June 30 report, or rather on my findings prior to putting the report together. I spent some time looking at the sensitivity of the reserves to certain assumptions, applying the additional AIDS mortality, and testing the amount of administrative expenses allowed for. For business issued in 1988, however, much of which was Term-to-100, future investment income tax liabilities had the greatest impact on the reserves calculated. In my estimation the additional reserves on many competitive products

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required for future IIT liabilities far outweigh the additional reserves for future AIDS claims. The additional first year reserves to cover IIT for competitive Term-to-100 plans range from \$3 to \$5 per thousand compared with maybe \$1 to \$2 per thousand for AIDS. I mention this to illustrate the importance of recognizing the concept of materiality in all these valuation issues. We often spend a lot of time analyzing the effect of a change in assumptions which has a marginal impact on reserve levels, only to have something like IIT thrust upon us and not reserve for it properly.

Finally, a few words about scenario testing from a small company's perspective. First of all, I am thankful that I work in a small company. This task must produce monumental challenges in a large company. Producing financial projections for a small company is relatively easy, and I would think that many small companies in growth situations would be producing financial projections of one sort or another as a matter of routine. It is pretty difficult to keep asking for more capital without being able to illustrate its impact on projected financials. The rate of growth of some of the smaller companies also require them to monitor very closely their capital and surplus positions, and financial projections, apart from being a useful management tool, can be a necessity in these situations. The Big Six companies on the other hand have my sympathies. I may be way off-base, but I cannot believe that the dynamic solvency testing process as prescribed can be much more than an interesting academic exercise for those companies. For other companies, too, whose capital

and surplus positions are way in excess of their required positions and whose business is relatively mature, the exercise at the level of detail prescribed seems a little unnecessary.

However, from a small company's perspective the combination of scenario testing and the minimum continuing capital and surplus requirements (MCCSR) formula provides us with a tool that makes it very easy to communicate with the rest of management and with shareholders on the issue of capital requirements. Whether you agree with the formula or not, it provides a simple answer to the question, "What is the minimum amount of surplus that we need to have?" Non-actuaries hate the long and complicated discussions of how much is enough, and this formula certainly provides something that they can relate to. My company recently transferred some of its business from a branch operation into a Canadian subsidiary, and we found the formula extremely useful in discussions with the parent company on how much surplus should be transferred. We have also been using it in our long-range plans to indicate the timing of future financing requirements.

It enables us to focus extremely well on this question and is relatively easy to incorporate into existing projection systems. Overall, the projected ratios represent an excellent management tool for a small company, and one that most people can understand and relate to. The formula itself may produce relatively conservative levels of required surplus, but that, of course, is another issue.

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Turning now to the specifics of dynamic solvency testing as detailed in the primer recently issued by the Institute, I cannot help but think that maybe we are overdoing things a bit. I said earlier that producing financial projections was relatively easy for a small company. What I should have said was that producing financial projections for a small company was relatively easy prior to the publication of the primer on dynamic solvency testing. I was once very happy with my projection system. Now I can only look at it and wonder wistfully what it would be like to have a system that could do all the things that the system described in the primer can do. I suppose that over time the degree of sophistication that any one company can achieve in this process will be limited by the amount of time and money the company is willing to allocate to it. Anyone who has read the primer carefully will be aware of the complexity of the exercise. In my own situation, even though we have developed systems which do a relatively good job of projecting each line of business, the work involved in complying with the recommendations is enormous.

Let us consider for example, the following situation (Slides 2-4). My company sells just three lines of business, namely individual life, individual deferred annuities and individual retirement products. I wish to project a scenario that reflects declining interest rates. To do the exercise properly this will require the following occurrences to flow through each line of business.

SLIDE 2

SCENARIO TESTING EXAMPLE - DECLINING INTEREST RATES

INDIVIDUAL LIFE

- ADJUSTABLE PRODUCTS: - premium increase
 - additional lapses
 - deteriorating mortality
 - lower sales
 - reserve assumptions change
- GUARANTEED PRODUCTS: - higher sales
 - rate review
 - reserve assumptions change
- PARTICIPATING PRODUCTS: - dividend scales change
- TAX RESERVES: - possible change if rates change
- BOND PORTFOLIO: - market values increase
 - call options exercised
- INVESTMENT STRATEGY: - possible change
- MCCSR: - impact of asset and liability changes
- ENVIRONMENT: - management influence and market conditions

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SLIDE 3

SCENARIO TESTING EXAMPLE - DECLINING INTEREST RATES

DEFERRED ANNUITIES:

GUARANTEED INVESTMENT CONTRACT TYPE

- lower sales
- rollovers for shorter terms
- shift to variable
- maturities deferred
- shorter terms for new sales

INVESTMENTS:

- mortgages
- increased repayments
- longer terms for new mortgages
- longer terms for renewals
- possible mismatch

RESERVES:

- impact of mismatch

SLIDE 4

SCENARIO TESTING EXAMPLE - DECLINING INTEREST RATES

RETIREMENT PRODUCTS

- IMMEDIATE ANNUITIES:
- lower sales
 - shift to Registered Retirement Income Funds (RRIFs)
- RRIFs:
- possible lower sales
 - shorter-term interest guarantees
- INVESTMENTS:
- investment of RRIF funds
 - possible mismatch

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First, consider individual life. Premium rates on existing adjustable products should be increased as they reach their review dates. This in turn will result in additional lapses as the policyholders will be reluctant to pay the higher premiums. The mortality experience of the remaining policyholders will deteriorate. Sales of new adjustable products will decline. Reserve assumptions for adjustable products will be changed to reflect the new interest rate environment. Sales of guaranteed products will increase. Premium rates for the guaranteed products may need to be changed for consistency with the adjustable products. Reserves for guaranteed products will change. Dividend scales for participating products will change. Tax reserves will change. On the asset side the market value of existing bonds will increase. Call options will be exercised. This will affect the MCCSR. Investment policy may dictate a shortening of the average term of new bonds purchased, or the investment division may seek lower quality bonds in order to maximize the yield. This again affects the MCCSR. All of this assumes that the market moves in a consistent manner, and allows the company to make the theoretically correct rate and dividend adjustments.

Second, consider deferred annuities. GIC-type annuities will respond to the declining interest rates in several ways. Existing annuities that roll over will do so for shorter guaranteed periods. There will be a movement from GIC annuities to variable fund annuities. Surrenders may increase. Transfers to RRIFs and immediate annuities will be

deferred by the client wherever possible. Sales of new GIC contracts will decline. Average terms will be shorter. On the asset side these liabilities are generally backed by residential and commercial mortgages. Repayments will increase as refinancing becomes attractive. Mortgages will be renewed for longer terms. New mortgages will be longer in duration than existing mortgages. A mismatch could occur. This in turn will affect the reserves held.

Last, consider immediate annuities and RRIFS. Sales of these products will decline as decisions to purchase are postponed. The mix will likely move in favor of RRIFS, in general, and RRIFS with short-term interest guarantees, in particular. As funds within existing RRIFS increase, new investments to support the previously guaranteed interest rates will not be available. Again, a mismatch could occur which will need to be reflected in the reserves.

I have probably missed quite a few other repercussions of declining interest rates which according to the primer should be reflected in the projections. I would love to have a system which could provide such projections with minimal manual intervention. Unfortunately the development of such a system would require an unreasonable allocation of resources in the short term. On the other hand I do not believe the authors of the primer would expect companies to suddenly develop or acquire systems with such a high degree of sophistication. I may be wrong, but I regard the model described in the primer

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as the theoretical ideal. I believe that the systems I currently have at my disposal enable me to at least make an attempt at providing the required opinion. Unfortunately, to project the base scenario, ten prescribed scenarios and possibly another ten discretionary scenarios would require an effort that I am not sure is really justified.

Assuming that the ideal system does not exist, there will inevitably be a lot of time spent reconciling results with operational plans and budgets, updating the data, finding ways to approximate the effect of some of the required assumption changes, and generally upgrading the model. I have seen several excellent systems. I have also worked with some good systems, and I have found that no matter how good the system, a major commitment of time and effort is always required to get the model to accurately reflect the current and future financial results of the company.

Will the CEO believe that the money spent on this exercise is money well spent? Probably not. Do I believe that the money spent is money well spent? Yes and no. I certainly believe in the value of financial projections. I also believe that the actuary in a small company can develop models that will enable him to do a good job on the base scenario and to make reasonable comments on the effects of changing certain assumptions. I do not believe, however, that the degree of sophistication outlined in the primer is totally necessary

for a small operation. I sincerely hope that the future development of solvency standards will allow for a realistic application of the concepts.

I have one final comment on dynamic solvency testing. The primer states that an annual report should be prepared on the surplus position, with a recommended delivery date of August 31 to provide timely input into the planning and budgeting process for the subsequent year. The audience for the report is primarily company management. I therefore believe that company management people should be the ones who determine the most appropriate time for them to receive the report. This could and probably would vary from company to company. Extending this argument a bit further there may well be some value in receiving input from some non-actuarial CEOs in the development of this whole process. The final report after all constitutes one more piece, albeit an important piece, of management information. The users of the information may well wish to provide some input to the whole process before it is imposed on them.

To end on a slightly different note I would just like to comment on the new procedures implemented by OSFI. As the only actuary in a small company, I often work in isolation. I file a valuation actuary report each year which I believe meets professional standards. Each year I attempt to improve the quality of the report and the integrity of the results. Without feedback I have no way of knowing if in fact I am accomplishing this. I would like

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to believe that contact with OSFI on a personal basis will be seen by both sides as more than just a policing mechanism, and that a two-way dialogue will evolve that will lead, eventually, to higher standards.

