1993 VALUATION ACTUARY
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SESSION 3

Life and Annuity Valuation Issues

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LIFE AND ANNUITY VALUATION ISSUES

MR. ERROL CRAMER: I am with the Allstate Life Insurance Companies. I have responsibility for Allstate Life's financials and serve as the company's appointed actuary. I am moderator for this session.

Karen MacDonald is senior vice president and corporate actuary for the Transamerica Life Companies. Karen's responsibilities include capital management, company ratings, reinsurance, acquisitions, and regulatory issues. Karen has been actively involved in a variety of industry regulatory groups including reinsurance, risk-based capital, invested assets, and the asset valuation reserve (AVR). Karen will be providing an update on life valuation issues. Also, Karen has been working with the NAIC to get relief from the "50 states" requirements that reserves meet the minimums of each state where licensed. Karen will be discussing her efforts in this endeavor.

Keith Sloan is semiretired but still actively involved in the actuarial profession. Keith works part-time as a consultant with Bryan, Pendelton, Swats & MacAlister. Keith has previously worked for three state insurance departments, and consulted to two others. He recently visited Russia and the Ukraine where he was part of a task force advising these countries on modernizing their insurance industries. Isn't it amazing that they are trying to dismantle communism, and we are advising them that what they need is more bureaucracy!

Keith asked me to point out that he first brought up the concept of the valuation actuary at a regulatory meeting here in San Francisco almost twenty years ago, in 1975. So you can either thank or blame Keith as you see fit! Keith will talk about issues involved in meeting the "50 states" requirements.

LIFE AND ANNUITY VALUATION ISSUES

STATUTORY VALUATION -- UPDATE ON CURRENT DEVELOPMENTS

Guideline XXX & Guideline EEE

MS. KAREN OLSEN MACDONALD: The NAIC Life and Health Actuarial Task Force has been working since 1988 to address the issue of reserves for life insurance products with nonlevel premiums and/or nonlevel benefits. They originally envisioned developing a guideline for this, which was dubbed XXX. Guideline XXX has evolved into a regulation because it incorporates new mortality standards. Guideline XXX has a long history that has been reported on at previous symposiums. I will focus on commenting on the current status of XXX.

Statutory reserves have historically been calculated by subtracting the present value of future valuation net premiums from the present value of future benefits. This formula works fine for plans like level premium whole life, but on graded premium whole life, it can lead to negative terminal reserves. This occurs, for example, when gross premiums are steeper than the valuation mortality, since valuation net premiums are proportional to gross premiums.

At first glance, $0 reserves, or 1/2 cx would seem to be a conservative reserve for this situation. However, sometimes it isn't, because long-term sufficiencies could be offsetting short-term deficiencies. For example, if actual mortality occurs at the valuation assumed level for some years and then premiums increase and heavy lapses occur, this could lead to statutory losses.

The generally accepted solution to this problem is segmentation. Segmentation refers to the process of splitting policies into duration segments such that negative terminal reserves disappear within each segment. Most of the discussion has been about how to accomplish that.

I don't have time to explain how the segmentation formulas work in detail, but I will briefly describe the concept. Under segmentation, durations are split into segments. The net-to-gross premium ratio is held constant within each segment. Negative terminal reserves disappear.

One specific approach to segmentation is the New York formula, as laid out in the June 21, 1993, draft. That draft describes reserves as equal to the basic reserve plus the deficiency reserve. The basic reserve is calculated based on the current premium scale. It is the greater of the unitary and the segmented reserve. The segmented reserve is the present value of future benefits less the present value of future modified premiums for all segments. Segmentation is done by either the net to gross ratio method or the levelized premium method. Higher reserves are required for policies with secondary guarantees.

Deficiency reserves are equal to the excess of the element "A" over the basic reserves. "A" is defined as the recalculated basic reserves calculated using the same valuation method, maximum interest rates, and using the lesser of the net and gross guaranteed premiums.

The net-to-gross ratio segmentation method is a method of separating a policy into segments so that the length of each is the period to the end of the year with the highest net-to-gross ratio. Specifically, the ratio is calculated as the present value of benefits over the present value of gross premiums. The calculation is started at the beginning of the segment. It goes "t" years into the future, and the segment ends at "t" with the highest ratio.

The levelized premium segmentation method is used only if the policy has no guaranteed cash values. The segment ends at the earlier of the period defined according to test 1 or test 2. Test 1 calculates the period such that the gross premium grows more slowly than the mortality does on a year-to-year basis. Test 2 calculates the period according to the ratio of the mortality to the premium over the entire period on an average basis.

Guideline EEE was originally a separate reserving guideline, but it has now been incorporated into XXX. It covers the problem of term like universal life policies. It was originally proposed when companies started guaranteeing that a universal life policy would remain in force regardless of what happens to the account value as long as specified premium payments are made. In some circumstances the policy account value may drop to zero, but the policy remains in force. This creates a secondary guarantee. In this instance the reserve is calculated as the greater of the regular and the secondary reserves.

The secondary guarantee reserve is calculated using the minimum premiums as the gross premium for the purposes of segmentation. The same valuation method is used as for the regular reserve. The basic and deficiency reserves are calculated and added together as described above.

So where is the NAIC on its formula for XXX? Its most recent draft was dated August 18, 1993. It incorporates the same general concepts as the New York version that I just described. It does not include any test 2 for the levelized segmentation method. It does not include the net-to-gross ratio segmentation method.

Efforts are underway to converge the NAIC and New York versions, for obvious reasons. At this point, New York is tentatively shooting for a January 1, 1994, effective date, while the NAIC version is likely to be effective before January 1, 1995.

Guideline HHH

I am not sure where this guideline came from.

As I understand it, the guideline will call for holding a reserve for the immediate payment of death claims. This is no problem for companies that either use continuous reserve functions or don't have to pay claims until the end of the policy year of death. Companies that use curtate reserves and pay claims immediately on death, however, must set up extra reserves. In addition, extra reserves are also needed if claims are paid at the end of the policy year, but interest is credited from the date of death. If the actual formula reserves held by the company are more conservative than minimums, an alternative is to demonstrate that the cushion covers the excess reserve that would otherwise be required by Guideline HHH.

Companies holding curtate reserves will need to increase them for one-third of the year's valuation rate of interest attributable to the death portion. If interest is payable to the payment date of the claim, then one-half of a year's interest must be held.

In view of the acknowledged conservatism incorporated into the mortality assumptions used for statutory reserves, I am not sure why the regulators think that this refinement to established practices for calculating reserves is necessary. In addition, the asset adequacy analysis required as part of the recent amendments to the valuation law provides an additional check on the adequacy of reserves, which would seem to make this refinement unnecessary.

As I understand it, the Life and Health Task Force has recommended that the NAIC adopt the guideline at its December, 1993 meeting. Once the guideline is adopted, it will apply to new business, effective immediately. There will be a phase-in for in-force business. The phase-in period is set for five years. Any additional reserves required as a result of the guideline will be charged to surplus, not earnings.

"This State" Requirement

The recent amendments to the valuation law required the reserve opinion to state that the reserves meet the requirements of the state of filing, not just the state of domicile, as previous valuation opinions commonly required.

There are a number of practical or ethical difficulties encountered by the actuary in trying to comply with this. It requires the actuary to track rules in as many as 50 states. This is difficult because there are a lot of differences between states. While most of them are probably immaterial, many are not, and significant analysis may be required to make determinations.

For example, there are many timing differences between states, of varying degrees of significance. Illinois, for example, adopted the 1980 amendments to the standard valuation law with respect to annuities later than many other states did. This means that companies domesticated in states that adopted the amendments earlier may be valuing annuities for affected years at higher rates than those permitted in Illinois. A separate state-specific calculation will be required to determine the effect of this timing difference.

In general, the extended time period for getting model laws and state laws changed makes this a significant problem.

Beyond this, there is some degree of ambiguity in the laws, regulations, and interpretations in effect in some states. There is often a jealous guarding of state prerogatives with respect to interpretations, which increases the complexity in this area.

There are a number of potential state regulatory solutions. The NAIC has appointed an advisory committee to look into this. It may propose a change in the standard valuation law, state laws, or state regulations. Alternatively, states could sanction modified language for the actuarial opinion and memorandum that would eliminate the "this state" provision. This could be done on an informal basis, if necessary.

Alternatively, the actuary may decide to ignore the "this state" requirement by using unsanctioned, modified language within the actuarial opinion and memorandum.

LIFE AND ANNUITY VALUATION ISSUES

PRACTICAL COMPLIANCE -- 50 STATES ISSUES OR VALUATION PARK

MR. W. KEITH SLOAN: In this session, we are talking about practical compliance, not only with the Standard Valuation Law, or more accurately the various Standard Valuation Laws currently extant in the U.S., associated regulations and regulatory opinions. Since the others have given us all the details we need about guidelines with designations, which almost qualify as four-letter words, I promise not to discuss them. I must, however, remember that XXX means "love and kisses;" that the CCC was a government program to get young men off the streets, and that GGG could be a reaction to either. A regulatory paradigm will be suggested, which is based on actions that worked for me in a regulatory filing situation in which as much confusion reigns as now exists in the world of the valuation actuary.

The first requirement in the game of compliance is to know as much as one can about what one is required to comply with. In the case of the valuation actuary in the U.S., this begins with statutes and regulations. One of the least satisfactory ways to do this is to ask your company's legal department. Even worse, you could call your local lawyer. In either case, you are likely not to have asked all the right questions, and you are still likely to wind up with a stack of paper and possibly a bill. Don't misunderstand. I'm not saying you shouldn't have the lawyers in the scenario, but you are more likely to be complete and on time if you get the information needed first, and then create the needed solutions in the form of a set of "boilerplate" opinions.

Basic Information

To do that, you need two types of information. The first I call basic information. I can think of five sources:

1. AAA/SOA Life & Health Valuation Law Manual
2. National Insurance Law Service (NILS)
3. NAIC Model Regulation Service, Examiners Handbook and Proceedings
4. ACLI Valuation Manual
5. Life and Health Compliance Association

At the moment, the best is probably the AAA/SOA Life & Health Valuation Law Manual. This isn't yet perfect, of course, but it has the advantage of being all in one binder.

Then there is the old standard source for people I have referred to as "loose-leaf lawyers." This is the NILS. I have not seen an example, and probably won't, but recently I saw an advertisement for that company's services on either diskette, or, I think, CD ROM.

The NAIC is the perfect source for the models from which the various states' statutes and regulations are built, and is also the only source for the backgrounds of them.

The ACLI has, in the past, anyway, had a set of Valuation Manuals, which were available to its members.

One source that could be tapped is a unique organization called the Life and Health Compliance Association. It meets three times a year, has no dues, and keeps track of changes in the regulatory scene as they emerge. It produces very succinct tabulations of the various aspects of compliance with which companies must comply. It met just recently, and won't again until January, and the only address I have is Post Office Box 4382, Houston, Texas, 77210. That is not an organization headquarters, because there is not any, but at least a letter to that address should get you in touch with the group.

Naturally, not one of these sources is without its problems.

The SOA/AAA manual is new. It should become the definitive source of what the laws really say. It was, however, the product of an ad hoc committee, not a standing committee, and it is yet to be seen whether the "hope" of the sponsoring organizations to update it "periodically" will be achieved with appropriate periods. The first set of such updates has come out, and we hope updates will be continued.

NILS requires a bookshelf of at least two volumes per state. It covers so much more than just valuation that it can be very time-consuming to research. The CD-ROM version could improve on that. In the past, I have observed that updates are at least six months after the fact, even with the "Advance Laws" service. I can picture updates of the CD-ROM version resembling a skeet shoot. The advertisements did not specify how and when they would be updated.

The NAIC does track implementation but not in enough detail, and may also be slow to be updated. However, it is specific, at least in the Model Regulation Service, in identifying the locations of each state's versions, so you can find them in NILS.

The ACLI manuals were always, if anything, a bit slower than NILS.

You have to attend the Compliance Association meetings to get the material. However, the fact that this is an organization without dues makes that less of a problem.

Basic Information Is Not Enough

The other information isn't what the laws say. It is closer to the real world, in that it consists of the states' individual interpretations of what their laws say. Some regulators can and do read, but not all read things the way the drafters meant them, and fewer read them as you and I might. Again, there are several problems. Here we are in the situation described by those who take part in the periodic debate over federal versus state regulation as being "nibbled to death by 50 piranhas." Maybe it would be better described today as being attacked by herds of velociraptors. I understand there is a movement to substitute, not the one federal great white shark, but 50 specimens of Tyrannosaurus rex, but with the rule that only one of these can bite you with respect to any opinion you submit.

One of the difficulties is the impermanence of regulatory employment. The average tenure of an insurance commissioner was, the last I saw, about 18 months. Usually, the people who do the work stay longer, but those are not very good jobs, and not many stay.

There are situations in which a regulator wants a law changed. This is most often found in states where legislatures have more important things to do than enact model bills. In such cases, the best way to get a law changed is to enforce it to the letter. (I've done this in connection with one of the earlier versions of this law, which my state's legislature thought would help companies without helping insureds).

Sometimes model bills are not completely clear. For example, Section 4 of the current standard valuation law could be read as requiring revaluation of all policies issued (if there still are any) before the effective date of the first standard valuation law on the 1941 tables.

A major source of other information is the Practice Guides being developed by the Society. Those who have developed them must be not only congratulated but also admired for having translated the new law into usable pieces of information in a remarkably short time. Those guides zero in on specific problems, and, unlike the statutes and regulations, are written for the actuary. When it comes to getting right to brass tacks, these will be your most frequently used sources.

This Worked for Health Rate Filings

Even after you use all of these, though, there are problems. There is a way of coping. It is the same method a major property/casualty company I was once associated with managed the analogous problem of health insurance rate filings.

First find a database program, preferably a relational one, so that items can be compared and summarized.

Record the basic information for each state in detail.

Produce a report (for your own use) showing what is alike and what is different in the laws and regulations of the various states. This is not unlike cluster analysis, but it is done with words instead of numbers. I am reasonably sure this can be done on most database software, but be sure before you buy. You are trying to identify how many variations of the same information you have to create, and where each is required.

You will have to do the best you can with what you have for one year, recording feedback. This first year is also the time to bring in the lawyers. Show them your initial report (before feedback can occur) and your boilerplate opinion or opinions and ask if it (or they) will work. You should have a copy of the appropriate standards of practice for them to read. They don't need the Practice Guides, unless you have a dispute over what something means. At this stage, you want their expertise, not the other way around. Ask for a critique, and try to find ways to use suggestions.

Go ahead with the filings the first year, and record feedback. Do not be surprised when you get different responses from different people in the same insurance department different years. Just keep recording them. It is a good idea to keep in touch with personnel changes before they result in problems, but that is not always possible.

Finally, keep in touch with the things being proposed, especially in the Life and Health Actuarial Task Force. Also, of course, be sure to attend the Valuation Actuary Symposium every year.

MR. STEVEN A. SMITH: I have a couple of real quick comments on Guideline XXX, New York style. As I understand it will apply to accredited reinsurers as well as domestic companies, and New York has a list of all the companies that are approved for credit for reinsuring your statement. So, if you file an annual statement in New York, the fact that it applies to accredited reinsurers may have some implications for your company. One additional thing that just came up recently is that New York is looking at January 1, 1994, as a potential effective date for domestic companies writing business in New York, but it is considering pushing that effective date back to January 1, 1995, for accredited reinsurers. However, reinsurers of New York domestic business would have to go with the January 1, 1994, date. That is not final and firm yet, as it is still in the process of discussion.

MR. ARMAND M. DE PALO: Regarding Guideline XXX, this is really directed to all actuaries in this room. Guideline XXX is making fundamental changes in how reserves are done in this country. In addition, the New York version is looking at relating the changes in cash values and the patterns of premiums in some very complicated ways. What's wrong with the process that has occurred on Guideline XXX is a lack of involvement with a wide range of companies: A very small group of people in their own good conscience have come up with what they think is a solution to the problems that they face. There are some people who don't disagree with them, and there are other people who totally disagree. If we are going to be a group of professionals, you need to take what's out there and bring it to your own products and look at what it may mean to products where you don't think it applies because, I want to tell you, Guideline XXX applies to a wide range of products, not just five-, ten-, and 15-year guaranteed term life. It is not going to stop at XXX, as we are dealing with a fundamental issue of what is being guaranteed and what is not being guaranteed by companies. Where it really leads to is that we have discovered that net premium valuations can be manipulated. As a result we are trying to find ways of putting a gross-premium-type analysis into a net-premium structure. One of the comments I have made to many people is that it is time the Society of Actuaries, and particularly the industry, get involved in this issue and considers going to a gross-premium valuation with prescribed assumptions set by the regulators. What we have here is a complex situation. To summarize, I have argued that there are solvency issues, and I have argued that there needs to be more involvement. I don't care where this ends up as long as everybody gets involved. This is a very major issue.

MR. JOHN D. MURRAY: There has been a lot of discussion on what I would call technical enhancements to the determination of formula reserves. I think we have also over the last few years done a lot of work on asset adequacy testing. However, it seems to me that these two subjects are diverging, and we are just ending up with two layers of regulations, for regulation sake. I wonder if the panelists have any comments on how asset adequacy testing might fold into, as it is related to, Guideline XXX and other topics under consideration?

MR. CRAMER: I think it is very much a chicken-and-egg-type of question, i.e., should formula reserves be set and then asset adequacy tested, or should asset adequacy testing itself be used to set the level of reserves? If we could determine reserves based on asset adequacy testing, or even a gross-premium method such as the Canadian method, it would certainly make statutory-net-premium-type valuations superfluous. This theme has come up very often lately. However, I think the reality is that the state of the art for cash-flow testing is currently quite basic, and I don't think the regulators, or for that matter many other actuaries, would feel comfortable yet taking away formula reserves as a minimum floor to the reserves. There is also the practical consideration that formula reserves serve as a basis for tax reserves. At least in the foreseeable future, then, I see minimum formula reserves being here to stay, and we have to do our best to make sure they are at least somewhat logical.

MR. DENNIS L. STANLEY: I would say I agree with Errol. I like Armand's earlier comment that gross-premium valuations with prescribed assumptions, similar to what Canada has, is a direction I would like to see us go. I think until we get the prescribed assumptions set by the Society of Actuaries, or some other group, it is going to be very difficult to move in that direction. I think we really do need this gross-premium method with prescribed assumptions.

MS. MACDONALD: I agree also with Errol. I think that regulators are troubled about how do they look at these cash-flow projections and tell if they are legitimate, or if they are professional, or if someone is trying to pull a fast one on the regulators. And I think until they get to the point where the regulators can look at the projections with some confidence, the regulators are going to continue to rely on formula reserves. The concern that I have with the continuing development and enhancement of formula reserves is that I think that there's a danger that formula reserves will be taking the place of risk capital -- you are overlapping risk-based capital with an upward pressure on minimum formula reserves. As far as I am concerned, you can hold surplus or you can hold "inflated" reserves, but you don't want to be holding both for the same purpose. I think that this is the danger.

MR. JOHN W. H. TAYLOR: I think Karen hit it on the head -- actuaries are looking at reserves separately from surplus. Care must be taken as to the tax implications of carrying redundant reserves not recognized for tax purposes as well as required surplus also not recognized for tax purposes. Actuarial efforts in this area must be carefully fit into the practical world.

MR. SLOAN: You might be interested to know that I recommended to Russia that it not adopt our valuation law, but, instead, look at New Zealand's, which I think is a little too complex, or just go next door to Finland, which has a very good stochastic requirement.