1994 VALUATION ACTUARY SYMPOSIUM PROCEEDINGS

SESSION 17

Ask The Experts

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ASK THE EXPERTS

MR. ROBERT W. STEIN: Our panelists are Dick Miller with Tillinghast, Larry Gorski with the Illinois Insurance Department, Donna Claire with Claire Thinking Inc., and I'm Bob Stein with Ernst & Young.

We have received a number of questions before the session, which we'll go review with you. I'm sure that we'll have time at the conclusion of the session to take some additional questions from the floor.

The first question relates to the treatment of projected gains and losses and is as follows. Is it appropriate to transfer capital into the insurance company when the company has losses and to transfer out capital from the insurance company when it has a gain so that the model shows no surplus in each year? Why or why not should that capital be transferred? Both Donna and Larry have a few remarks on that.

MS. DONNA R. CLAIRE: My answer to this one is, no. In general, one of the reasons you're doing the testing is to see whether or not the reserves are adequate. Even if you do have access to a parent that has a lot of capital, if you have unlimited losses, that parent could probably cut you loose. You want to know whether or not you're going to generate losses because that's the point of the testing to see whether how you're currently managing your business is correct.

If you have to transfer money out to your parent to support that, you may want to do that. However, most asset adequacy tests that I have currently seen do not wipe out all the surplus each year. You just transfer a portion of your surplus up to your parent, and it's normally just what has to be transferred up during the testing.

MR. LARRY M. GORSKI: I would agree with most of what Donna has said, but there is a variation to the first part of the question about transfers into the company. I can recall reviewing a couple of actuarial opinions in which there was a parental guarantee relative to the buyout of certain investments at a guaranteed book value even though the assets at that point in time had a market value less than book value. This would be considered a management action and management actions are considered acceptable when performing an asset adequacy analysis. There needs to be documentation that management agrees to the action in order for the actuary to provide a clean opinion. So the answer in my view is not necessarily as cut and dried as Donna indicated, but my first response was exactly the same as Donna's.

MR. STEIN: Larry, I guess there's a follow-up question there in that case. Have you reviewed any documentation concerning the ongoing ability of the parent to actually make good on this guarantee?

MR. GORSKI: Well, that was definitely the case. It was not an Illinois company, but we had received confirmation from the company as to the commitment. The state of domicile was monitoring the situation very carefully. The analyst in our department assigned to this company does a follow-up every year to verify whether the commitments have been honored by the parent. So there is an ongoing follow-up process that is started when we encounter any type of management action.

MR. STEIN: The second question is with regard to the treatment of surplus at the end of the projection period. What is the appropriate basis for judging if the company has passed the scenario: book value or market value surplus? My own view is that the market value is a proxy for the ongoing cash flows that you are not projecting, but Donna, Larry, and Dick all have some thoughts on that.

MS. CLAIRE: In general I agree with Bob's comment that it's tending towards market value at the end of the period. However, some people have concerns about that because most people are doing market value in their assets but not doing market value in their liabilities at that point. I would tend to say, if you're doing the market value of surplus at the end, you should also market value your liabilities. A proxy for a single premium deferred annuity (SPDA) may be the cash value. For products such as single premium immediate annuity (SPIA) or structured settlement a proxy is actually projecting those cash flows at whatever interest rate you currently have back to the end of the projection period. One wants to get market value of both assets and liabilities at that point, not just one side.

I know a lot of people will say that testing interim results is not really reserve adequacy, but if interim results showed huge negatives, you are not going to be around to be adequate at the end. You typically become insolvent on a book value basis. So I do look at both book and market value when I'm doing testing.

MR. GORSKI: I'm beginning to sound like a liberal up here. That's unusual for me. In general I would agree with the response that we do insist on a marking to market of both assets and liabilities at the end of each scenario. However, there have been some cases where the time horizon in the projection period has been very long and the remaining liabilities of the company are very small relative to the starting liabilities, and we haven't challenged the memoranda even if ending surplus was based on book values. And, in general, I don't think I would challenge this particular situation. As Bob indicated, the goal is to run out all liabilities to completion to insure that you have sufficient asset cash flow to cover them. A convenient modeling technique is to cut off the projection period at ten years or 20 years and mark everything to market. I think that's fine. But for those companies that do run out the liabilities for a long period of time, I can accept an analysis where the ending values are based on book value when those ending values are really immaterial relative to the overall analysis.

MR. STEIN: Dick, any other thoughts?

MR. RICHARD S. MILLER: It's going to be an echo I'm afraid. My only thought I'd like to put out is that it is extremely useful to use book value over the short period, i.e., the first five, maybe ten years of the projection. You can get some excellent insight into the progress of your business. This gets perhaps beyond reserve adequacy testing and into the other uses of these projections. And then the other side of that coin that I was going to bring up which Larry has covered is it depends also on how long the time horizon is that you're testing. If you're testing far enough out, what difference does it make? I mean if it's well past my retirement age, I don't care.

MR. STEIN: Why don't we try a poll here. How many tend to use market values at the end of the projection period, and how many on the book value side? I would say that's two to one for market value. The panel can agree, so it looks like the preponderance of people use market values.

MR. GORSKI: I have another point I'd like to make. I think that there is another aspect to the question. The other part of the question is whether one simply looks at the value at the end of the period or does one do a present value calculation to look at the present value of ending surplus on a market value basis. My preference is for a present value calculation. The reason why is that we attempt to monitor the progress of the company from year to year based on its exposure to interest rate risk, and we use as a convenient measure of risk the present value of ending surplus to beginning reserves tested for each of the seven scenarios. In order to get any kind of comparability from year to year because of differences in lines of business and testing horizons, we prefer to see everything on a present value basis. I know there's quite a bit of discussion as to the basis for doing that present value calculation. But notwithstanding that complexity, I do prefer seeing the value results in terms of a present value.

MR. STEIN: The next question I'll paraphrase. In performing cash-flow testing, a model excludes certain short-term liabilities, such as due and unpaid claims, and it also excludes from the asset model an amount of cash or short-term assets equal to the amount of the excluded short-term liability. However, in the chart in the actuarial opinion these liabilities are identified as not being asset adequacy tested. The question is, can we report these short-term liabilities as having been tested or not? My own view is, yes, since it's easy to show that the assets and the realization of the related cash will cover the short-term liability payment requirements.

MS. CLAIRE: I agree with Bob. In fact, this past year I probably did ten or 12 peer reviews, and one of my major comments normally was that the company was only focusing on cash-flow testing because everyone has been talking about it; however, there's a number of lines of business where that may not necessarily be the only method of asset adequacy testing. For example, health insurance gross premium valuations make more sense. In Actuarial Standard of Practice (ASOP) No. 22 it does list other methods of asset adequacy testing: for example, the gross premium valuation, highly conservative reserves for such things as accidental death benefits. Also development methods and some sort of trend analysis for certain health insurance make sense. I would agree that short-term liabilities backed by short-term assets probably could be considered asset adequacy testing.

MR. GORSKI: One of the rules of thumb that we apply in Illinois is that the reserves identified in the not testing column be no more than 5% of the company's total reserves. It's a rule of thumb, and invariably when I challenge a company on that point, we identify certain lines of business that a company has put into the not tested column upon which the company actuary really did perform sufficient analysis based on the alternative methods of determining asset adequacy analysis. In fact, the reserves should have been identified as asset adequacy tested. I still think there's a lot of confusion between asset adequacy analysis and cash-flow testing. They're not synonymous. One is a subset of the other, and I think that needs to be better understood by everyone. I think it would make the actuary's job much easier because there are lines of business where cash-flow testing is not necessary, and it would be inefficient and time-consuming to take that approach.

MR. MILLER: The only thing I'd add on the short-term-type business would be some slight caveat in the case the liabilities actually were interest bearing. You would at least want to see to it that the assets that were backing those liabilities were throwing off sufficient yield to cover that interest requirement.

MR. STEIN: We'll move on to the next question. It concerns actuarial guideline 25, and I think we're going to look to Dick. Actuarial guideline 25 is the calculation of minimum death benefit reserves and minimum nonforfeiture values for policies with guaranteed increasing death benefits based on an index. The question is this guideline provides a statutory method for valuing such policies. To what extent would this method be appropriate for either standard GAAP or purchase GAAP? Dick, do you have any thoughts?

MR. MILLER: I'd like to expand on one item that wasn't asked here, but I think it's pertinent. That is, to what extent is it also appropriate for tax purposes? Yes, I think it's quite appropriate for both GAAP and purchase GAAP purposes. Perhaps even more so for purchase GAAP than regular GAAP. For regular GAAP you have the problem of lock-in. So you have a situation where you're looking at only the circumstances at issue. Whereas, under purchase GAAP you're looking at the yield rates and circumstances after the book of business has been in force for quite some time at the point in time when you set your assumptions. And the technique that's described provides an interest rate haircut to the valuation interest rate according to the degree of minimum guarantee that's attached to the increasing death benefit. That type of a risk-based haircut on the valuation interest rate is an entirely appropriate technique. I would caution again for purposes of taxes, if nothing else, that the specific splitting of the valuation interest rate into a discount rate and specific provision for the increase in benefits is an appropriate thing in all of the documentation; the mechanical technique would collapse that into a single calculation, however.

MR. STEIN: I'll provide another spin on that. From a GAAP standpoint, if one were to conclude that these contracts fell under *Financial Accounting Standard (FAS) 60* and all the lock-in rules applied, one might use his or her best guess as to what the pattern of benefits would be at the time the policies were written, selecting interest rates and increases in death benefits at that time and locking them in without any further changes. That would be a relatively straightforward, follow-your-nose sort of approach of applying *FAS 60*. However, if the expected changes are fairly dynamic and volatile, it may not deal adequately with changing conditions going forward. So if this is a material issue, I would probably look to an approach analogous to nonguaranteed premium policies. I would do a prospective unlocking from the original FAS 60 reserves at such time that I thought the future was going to be reasonably different from my original set of assumptions and unlock in a smooth continuum by keeping the existing net reserves the same and funding prospectively for new benefits and expenses with new interest rates and new estimates of increasing benefits. I think that methodology is still considered appropriate for nonguaranteed premium policies, although you don't see too much of them anymore. And I think that companies are still following that methodology for individual guaranteed renewable health insurance. In any event, I think you might look to more dynamic methodologies if this product and these issues are significant in your financials. Dick, any reaction to that?

MR. MILLER: I probably glossed over an item that I think is appropriate, and that is that the haircut on the interest rate need not under GAAP be a uniformed level haircut throughout all time. You can thus arrive at year-by-year assumed increases in the death benefit. And as a mechanical technique I think you get to exactly the same place you're trying to get to, Bob.

MR. STEIN: Next are a couple of questions that we'll combine for those who have international operations. I'll paraphrase these two questions. They basically relate to the reserve valuation rules used in valuing business written in another country.

Are the U.S. statutory rules or the local country rules used, and which set of rules do you use if it's a branch operation and which set of rules do you use if it's a subsidiary operation? I think Dick and Larry may both have some thoughts on that.

MR. MILLER: I've had a little bit of experience with some client companies on this, and the real quick and easy answer is to use the foreign country rules in reporting to the foreign country regulator, and you use the home country rules in reporting on the branch to your domiciliary regulator. Then you get to the question of what do you do with a subsidiary? Well, the subsidiary presumably is incorporated in that foreign country by terms of the question, and there's no question in my mind that the subsidiary books will be prepared in accordance with the rules in the foreign country. You then come to the net worth of the company. How much do you carry back upstairs into your value of the company or the net worth that comes back up to the parent U.S. company and its convention blank? To my knowledge the standard application is to take the net worth on the local basis statutory statement. That arrives at a different answer than the branch operation, and that can be justified at least marginally by the fact that you can cut loose a separate corporation if the losses become unbearable. But as far as the branch is concerned, it's all part of the same company. It is usually not permitted to separate out a branch piece to prevent insolvency of the total company.

MR. GORSKI: No, in fact, I agree right down the line on your response. I was anticipating having to answer this question, and I did give it some thought. I do struggle a bit with the rationale for the valuation of the subsidiary company even though one could conceivably sell it off. I guess I am not sure that the reason stated is sufficient justification for the different accounting treatment for the valuation of reserves, but nevertheless I feel that it would be politically impossible to impose U.S. valuation standards on the foreign subsidiary company's liabilities. In that case I bow to the valuation rules for the foreign subsidiary company. I'm not sure that the rationale you provided was sufficient rationale from an economic standpoint.

MR. MILLER: I'd like to make one addition to that, though, and that is the idea of how material the surplus of the subsidiary is. If the surplus that's carried up to the parent from a subsidiary exceeds the parent's surplus, I'm not sure I'd have the same answer.

MR. GORSKI: As an aside, I am participating in the NAIC Model Investment Law Working Group, which has been meeting over the last couple of years, and the issue of investment in parents, subsidiaries, and affiliates is a big issue. The issue was finally separated from the Model Investment Law Working Group and given to another group that's dealing strictly with that particular issue. I have no idea what direction the new group is taking in terms of limitations on these types of investments. I imagine in discussing the limitations, the issue of differences in the valuation of liabilities may have some bearing on the final position of the working group.

MR. STEIN: Let's move on to investment strategies. This is a rather general question about how companies are determining the appropriate investment strategies for different product lines. What techniques are being used to help set strategy, duration matching, yield maximization, and efficient frontier concepts? Donna, do you have some thoughts?

MS. CLAIRE: First, I have a comment. A lot of people are probably feeling guilty because they aren't doing as good a job as they think they should be doing. You have a lot of company. This is the one area I think cash-flow testing can be used to expand into showing better investment strategies for your company. Right now there are still a number of companies where the investment decision making is very much separated from the liability side, and the investment people are still buying what they consider the best assets, not necessarily doing the asset and liability management. And notice I'm using the word management as opposed to matching. With the liabilities that most of us are selling, it's real hard to do matching. Maybe for GICs it is possible to do duration matching. However, if you actually do an interest-sensitive duration calculation on something like an SPDA, you'll come up with an answer for a vanilla SPDA of about six months. No one is investing in that. You are either deliberately taking credit risk or duration risk. In general, for the SPDA it is duration risk. What I've seen is a lot of Larry's favorite investments, collateralized mortgage obligations (CMOs) backing the SPDAs. These were fine investments if interest rates were going down or remaining level, but they are going to be very interesting as interest rates are going up. So companies should use the cash-flow testing in determining investment strategies.

I have seen some of the good companies using the efficient frontier analysis. Basically the way you set up an efficient frontier is as a company you do have limitations on what you're willing to invest in. For example, you don't want more than 10% of your assets in real estate or more than 20% in commercial mortgages. You set up limitations and you try to figure out how to maximize your yield given certain constraints. The problem is you do have the problem of garbage in/garbage out -- particularly with the CMOs when I've seen people modeling. If you don't have a reasonable prepayment assumption in the model for your CMOs, for example, if you model CMOs as noncallable bonds no matter what interest rate scenario you're in, the model is not worth that much.

For traditional lines a company does typically have more leeway to look at it on a longer-term basis. You do have some room to take a little bit more risk because you're looking at the average return over a number of years. Here people are using a little bit of real estate or common stock, preferred stock, and international investments.

For companies that have been managing universal life well, the lapse rates have not been all that bad recently, although one caveat is that we have been in a down environment. If interest rates continue up dramatically, the liabilities may shorten dramatically, also. So here basically my guess is some people may be a little bit longer than they wanted to be there. For A&H, it depends on what type of business you're in. In general, it's not as interest sensitive. But, in general, here I would look more at the liquidity concerns rather than trying to maximize the interest rate concerns.

MR. STEIN: Any other thoughts, panel? I think that was a fairly good discussion. Let's stay with the investment issues for a second and try to answer. Is it appropriate to vary the investment strategy at any time within the projection? For example, can one select different investment strategies for each deterministic scenario or, also, strategies that change from year to year or quarter to quarter?

MS. CLAIRE: You can sort of gimmick the test to get the best answer. The problem right now, if you're just doing the basic seven scenarios, is you know what the interest rate's going to be five, seven, ten years from now, and you can actually design your investment strategy to fit that. That is never going to happen in real life. However, the real answer to the question is, yes. In terms of, if you feel as interest rates rise, you're going to take one strategy versus if interest rates fall, but you have to look at it. You cannot vary your investment strategy, but you have to sort of be blind as to what interest rates will be beyond the point of that year in which you're varying your strategy. In general, for example, people who are going yield maximization may invest actually longer if you're in an inverted yield curve because it is actually probably a better strategy just for your company. One can invest in different maturities depending on the shape of the yield curve. The caveat is that, when testing the deterministic scenarios, don't try to solve for what is the exact best strategy for a single scenario. I don't think you are really going to do that in real life.

MR. GORSKI: Yes, this is one of the troublesome areas with reviewing memoranda. One of the things I always look for is whether the dynamic strategy looks to historical results or the shape of the yield curve at the point of determination. If it does, then I find that an acceptable dynamic strategy. But if the dynamic strategy is forward looking and anticipates the future, I question that strategy. One of the ways that we deal with that situation is by requesting that the company do additional analysis based on randomly generated interest rate scenarios provided by the U.S. I throw a wild card into the process to diminish the company's ability to know exactly what scenario that one is trying to set a strategy for. There have been cases where I've asked a company to run ten additional scenarios, keeping all of the other assumptions fixed. And while these are random scenarios, I try to make sure that they do capture some of the things we are interested in. We can play around with some of the parameters that go into the random interest rate model to make sure we get a good set of random scenarios.

MR. STEIN: We have a question with respect to the status of the dynamic solvency testing proposal, changes to guaranteed association laws, and the regulator's view of market value accounting. For dynamic solvency testing we'll hear from Donna. We ask Larry to address the regulatory issues.

MS. CLAIRE: I have an update on dynamic solvency testing. The Academy has changed the name to dynamic financial condition analysis. A task force has prepared a new report that goes to the Academy Board on September 27. It still says that this type of testing is very useful. The report emphasizes the testing as a management tool. I think that's why a lot of people are frustrated at it in terms of the valuation actuary: it provides some good information, but it is viewed by many as simply a regulatory tool. I think the most important thing of the testing is for it to be a management tool. In addition, the Society of Actuaries is continuing to do extensive research. There will be a new copy of the handbook out at the annual meeting. In addition, the Society has several research projects, several of which Alan Brender and I have done, on such things as credibility and reliability of the testing, and a time frame for analysis. Work is progressing in terms of the professional standards. In terms of the regulatory end, I'll let Larry answer specifically, but certain regulators have requested dynamic solvency tests from certain companies, particularly those they feel teeter on the edge of insolvency. There's at least one state that will request a business plan that includes the dynamic solvency analysis if you want to be admitted in that state.

MR. GORSKI: On the guaranteed association front, I've had only a limited exposure over the last year with one of the issues that the NAIC is dealing with, and that has to do with the issue of allocated versus unallocated annuities. The NAIC is attempting to clarify the definitions of these two concepts. Additionally, the NAIC is considering whether these definitions should be viewed as clarifications and applied retrospectively to prior assessments or prospectively only. As far as I know that's really the only NAIC activity dealing with guarantee associations. In terms of the regulatory view on market value accounting, my first reaction is that statutory accounting is getting more and more complex, and I have this feeling that someday it's going to collapse under its own weight. We have asset adequacy analysis. We have the interest maintenance reserve (IMR). We have rules for treating the IMR in certain situations such as reinsurance and run-on-the-bank scenarios. The statutory structure is getting more and more complex trying to deal with some of the issues that market value accounting naturally deals with. On the other hand, my feeling is that I'd be trading off a known entity, maybe more complex, but a known entity that I've had a hand in helping to develop, for an unknown entity, market value accounting. So at least at this point in time I would stick with statutory accounting and its complexity. However, that position may change over time.

We received at the Baltimore meeting a report from the General Accounting Office (GAO) on its comments relative to the IMR and asset valuation reserve (AVR). One could tell from reviewing the report that the essence of the criticism and comments relative to the IMR and AVR is the GAO's preference for market value accounting. We rejected the comments on that basis, but there were specific comments where I think there was some value to the criticism, and we may be attempting to address some of the issues in the near future.

MR. STEIN: Larry, I have a couple follow-up questions. First, will the codification project deal with that more directly? And, second, my understanding is that the risk-based capital (RBC) calculations for the property & casualty (P&C) side of the house include a market value component in the interest rate risk measurement that relates to the market value of assets and liabilities. I wonder if you have any thoughts on these two areas and if we'll see some changes regarding market value accounting, either as a result of backdoor calculations through RBC or more up-front through the codification exercise.

MR. GORSKI: I really haven't had much of a hand in the codification project, so I can't comment on that. On the P&C RBC question, I view that more as a recognition of interest rate risk in sort of a backhanded way. I think that, if the casualty regulators had their way, they would prefer something like an asset-adequacy-analysis-type opinion in which the actuary was charged to look at reserves and supporting assets under different scenarios. I don't think that this type of opinion can get adopted by P&C regulators at this time. I think they're trying to address the interest rate risk with RBC as opposed to through reserve testing. I've had some opportunity to review the work of the technical resource group on the P&C side, and my personal view is that it has a long way to go. I think it is a very simplistic view of interest rate risk. But I think it's more of a reaction to that situation than necessarily any kind of direction towards market value accounting.

MR. STEIN: Here is a question regarding statutory reserves for guaranteed minimum death benefits under variable annuities. Essentially the question is, what's the appropriate approach to setting such reserves? Donna has some thoughts and Larry as well.

MS. CLAIRE: The actual question was, what does regulation and its proposed actuarial guideline GGG have to say about this topic, and the answer is nothing. However, in order to do your job properly you probably do want to consider a reserve for this type of benefit. Right now there is a task force looking into what type of guaranteed minimum death benefits are out there for variable annuities, but some methods that I've seen companies do is, first, do lots of testing, figure out what your risk is, and then come up with something that would gradually get up to a reasonable reserve on that. As a second method, other companies are simply holding one half a year's mortality exposure. To determine this, one would look at the proposed maximum exposure, for example, what happens if the market drops 30% in the following year, and hold the reserve for that. That originally was probably the most popular method. The problem with that method is, in effect, you wind up setting up your highest reserve at the worst possible time when the market is probably the worst for you. A third method that I've seen used is, you ask your reinsurer how much it would charge to cover such a risk, and then you set up a reserve that's a similar charge. That's an easy way to do it, but right now the task force is still continuing work needed in this area.

MR. GORSKI: I guess the fact that this question is being asked is the important point of this question. It seems to me one of the objectives of asset adequacy analysis and Section 8 opinions is to give the appointed actuary some discretion in certain areas, some room to apply judgment. I think it's impossible to continually keep formula reserves up-to-date to deal with all these very detailed issues, and so I'm surprised at questions like this. I don't have any specific guidance here. I think this is an area in which the actuary should apply his or her skills to come up with the answer.

MR. STEIN: I have a question for Dick. Financial reinsurance regulations in many states, New York Regulation 102, for example, require that all significant risks be passed to receive appropriate credit. How should the actuary determine if a risk is significant?

MR. MILLER: Well, there are two places you have to apply this word *significant* in determining your action on this. In the first place you will look at the underlying block of business. If the underlying block of business has no significant risks to begin with, then it doesn't take much risk passage to pass all those significant risks. So the scope of significance is defined by the underlying block of business. Most of us would consider a large closed block of traditional life insurance to contain very few surprises. You might even take a look at industrial paid-up business, particularly reduced paid-up. Such a block has very few surprises in it in the future as far as most of us in our expectations. What risks are present? Probably the biggest risks are the assets behind a block. If none of those risks are passed, no, there's been no significant risk passage, but if most of that risk has been passed, yes, there has been. You have to look at this from the standpoint of the business that is underneath. Unfortunately, the Regulation 102 and the NAIC regulations attempt to get too much into a cookbook mode, and if any one or more of these specific items are present, then it's presumed that you failed. I hope that presumption is at least rebuttable by demonstrating that all or a major portion of the significant risks have been passed.

I usually argue on the other side of the coin, however. I've seen a lot of business where reserve credits are claimed, and once you get done doing the cash-flow analysis of the reinsurance contract, the circumstances under which the cash flows on the reinsurance contract will constitute an asset to the ceding company are often few and far between. Moreover, the circumstances are directly contrary to the assumptions that were applied in valuing the underlying business and in determining the direct issue value placed on the reserves. So I maintain that cash-flow testing should be applied to the whole contract, and if the whole contract cash-flow testing analysis does not reveal that there is a support expected under reasonable assumptions coming out of the reinsurance, then reserve credits are inappropriate.

This approach gets completely beyond the point of Regulation 102 and goes to Standard 11.

MR. GORSKI: I have an additional point. You made an interesting comment. Based on the example that you presented, you seemed to indicate that you felt that the asset reinvestment risk may be the only significant risk associated with that block of business, and you felt that that risk would have to be transferred. Then you went on to comment about the cookbook nature of the New York Regulation 102 in terms of the chart. My recollection is that, if one would take the cookbook and apply it to your example, the investment risk probably would not have to be passed in a realistic sense. I think the situation qualified for the simplified treatment for transfer of investment risk, and I'm wondering if your feeling is that the regulation may be deficient in that respect, and in fact, the valuation actuary would have to go further in terms of analyzing the situation.

MR. MILLER: I think your observation is exactly correct. I personally feel that the regulation tries to but does not get to all of the circumstances of inadequate risk transfers. Cash-flow testing usually can reveal the true facts of the situation if all the cash flows under the reinsurance agreement are modeled and modeled with assumptions that are consistent with the underlying basic valuation. Once you take those two steps, you have an analysis of what that reinsurance agreement is going to do to you or for you, and with that information in front of you, it's usually pretty easy to decide whether a reserve credit is appropriate or not.

MR. STEIN: As an aside, what Dick described as the use of cash-flow testing is not unlike the guidelines on risk transfer under *FAS 113* regarding reinsurance, although not many life insurers pay a lot of attention to it. It's viewed as a P&C issue perhaps, but the transfer of risk rules under *FAS 113* are like what Dick described in terms of significant insurance risk being passed. These rules have been interpreted as requiring a contract to contain a significant degree of variability as to the amount and timing of underwriting results. And that gets to the issues that Dick is addressing by evaluating the contract using cash-flow testing procedures. The evaluation is normally done by preparing forward-looking projects and, also, analysis of the variability of underwriting results of the direct and the assuming company on a historical basis. Thus, the ideas that Dick described are not completely dissimilar from *FAS 113* requirements.

A question was asked about the collapse of Confederation Life in Canada. We could probably spend a lot of time on that, but let's just ask for a few comments from the group with respect to the impact of the collapse of Confederation Life on the viability of the valuation actuary concept and dynamic solvency testing. Do you have any thoughts, Donna?

MS. CLAIRE: Any testing that we do, valuation actuary, dynamic solvency testing, is not going to prevent 100% of insolvency, and it's not meant to. It's meant to point out to management and to regulators where there are problems. Some problems are basically insoluble in the time period that you have. In this particular case, I think Confederation's management people were aware at least two years beforehand that they did have problems, and they were trying to correct them. And the dynamic solvency report does go into a number of the items where they had the problems. It was pretty obvious, but no matter what we do, we don't necessarily run the companies. Management makes the final decision, and some problems we will not be able to solve in the period in which we have to solve them.

MR. GORSKI: I have a question for Donna that may assist me in my comments. In terms of the Canadian regulatory environment, is the Canadian equivalent of the asset adequacy analysis report or the dynamic solvency report provided to the regulatory body, or is it strictly a report to management?

MS. CLAIRE: It is a report to management that is also provided to a federal level of regulatory body. I don't have a copy of the report, but indications were that it did identify problems. The regulators can be aware of it, and sometimes even the regulators cannot solve all the problems for us.

MR. GORSKI: We just hope we don't make them worse. I think it does point to one of the problems that I and other regulators face in dealing with the asset adequacy analysis report and the dynamic solvency report in the future, and it is that it's still viewed primarily as a report to management, and the report is available to regulators only upon request. The issue is, when should that report be requested. I don't want to beat a dead horse, but that's really the purpose of the memorandum executive summary idea that I've been trying to get adopted at the NAIC. That document is designed to be a bridge between the opinion, which is very brief and oftentimes says very little of any real consequence, and the memorandum. We can't possibly review all memoranda. So if there's anything I would learn from this situation is the necessity for some type of bridge document. I am hoping that this situation accelerates the adoption of the memorandum executive summary concept.

The other thing that I'm hoping is that this failure doesn't put a crimp into the adoption of the model investment law. It seemed like every time we had a meeting of the Model Investment Law Working Group, there was some horror story in the press about derivatives or mortgage loans, and so on, and it made the process more difficult. So I hope that this doesn't slow things up even more than it already has been.

MR. STEIN: I might have an opposite view on that. I saw that as a reason for a harder effort, if you will, for creating a really integrated, coordinated, U.S. regulatory framework. We've had a number of efforts in recent years. The accreditation process should be part of that, cash-flow testing and valuation actuaries are part of that, RBC is part of that, the codification project on accounting standards and perceived abuses in certain practices is all part of that. I think what we're seeing argues strongly for taking all of the different threads of the regulatory process and tying them together so that we have a decent blanket of regulatory supervision. I hope that the U.S. regulators take note of that and move more rapidly to create a comprehensive and integrated set of regulatory structures, as opposed to what I sometimes see as conflicting and ad hoc reactions to emerging events.

We have a rather specific question concerning cash-flow testing for the participating products of mutual companies. How should apportioned dividend liabilities be handled in performing the testing? Should 100% of the liabilities be reflected, with the related assets supporting those liabilities also included in the model?

MR. MILLER: I assume the genesis of the question is the instinctive evaluation of a 100% dividend liability as being a redundant reserve. And the fact that a reserve is redundant doesn't mean that there's still not a reserve being tested or a liability being tested. So my answer would be that, yes, 100% of the reserve liability should be included for the apportioned dividends, and yes, full assets to back that should be included. Maybe or maybe not you'd want to have some short-term assets available for it, but that's a judgment call depending on the cash-flow situation in the block of business.

The other side of the coin, though, is at the end of the projection the liabilities should also be considered at 100%, and while this is an obvious overvalue of the dividend liability or at least it is argued to be, it at least should be consistent with what you brought in at the front-end. If we do get to market-value-type analysis, it's going to be very difficult to apply a market-value analysis at certain points and not at the opening point. And I get real leery about starting off with market values as to my assets and liabilities for this cash-flow testing.

MR. STEIN: Larry, do you have some thoughts?

MR. GORSKI: Well, I agree with about 90% of what Dick said. It was at the tail end that I began to disagree. I would have taken the position that, at the end of the scenario, one could apply some kind of discount to the apportioned dividend for lapsation. I view asset adequacy analysis as running out of all assets and running out of all liabilities, and I would find it acceptable to run out that apportioned dividend and take into account the fact there may be some lapsation of policyholders. So I would not have come down as strongly as you did on that particular point.

MR. STEIN: Let's take a general question concerning the effect of the "in this state" requirement of the actuarial opinion. The example is, since California and now Florida require valuation interest rates for universal life no greater than the guaranteed rate in the contract, does this imply that all universal life reserves must be calculated on this higher reserve base? It's, in effect, asking about the effects of the "in this state" requirement. Both Larry and Donna have some thoughts.

MR. GORSKI: I've always felt that the valuation law is extraterritorial in nature. When an annual statement is filed in Illinois, reserves should be calculated based on Illinois standards, and that is independent as to whether it is a domestic company or a foreign company. I recognize that this presents a very difficult auditing assignment for us to try to monitor that, but yet I felt that was the proper interpretation of the law. I also recognized that the old style actuarial opinion was inconsistent with that interpretation.

I believe that the new actuarial opinion has put the opinion in sync with my interpretation of the valuation law. My only comment is that we do recognize meeting reserve standards in the aggregate. So I could see where in a particular situation, and this is for a foreign company, basically, that a company could have less than Illinois required reserves on one block of business, but in the aggregate the reserves would meet the Illinois standards. I believe that things have finally got into sync in terms of actuarial opinion requirements and my interpretation of the Illinois valuation law.

MS. CLAIRE: He's talking about it from a sort of theoretical basis. From a practical point of view this is a real pain. Basically, yes, you are responsible. You have a choice of either filing separate annual opinions or going up to the higher reserve. The real problem is knowing all the laws, regulations, circular letters, and so on, of all the states that you're doing business in. One source of information is the American Academy of Actuaries handbook on it. It is not complete, and I would recommend any state regulator out there to make sure it's as good as possible because that is one of the sources a number of actuaries are looking to. However, it is certainly not one that you can totally rely on. Another source of information is the ACLI does have a state-by-state review of virtually all laws and regulations and, again, it strives to have a complete set. There's even one about not being totally complete. The bottom line right now is the actuary is responsible for knowing all the laws, regulations, circular letters, and so on, of every state, and the actuary can be called into question for it. This can be a major problem, for example, whenever Arkansas passes this new opinion. It did not pass the dynamic interest rates until 1986. So I have a feeling a lot of companies may wind up with reserves that may not be adequate, for example, in Arkansas, because of the timing differences in passing laws. This is an issue that the industry is still looking at, but there has been no real action on it as far as I can tell.

MR. MILLER: This is the most difficult practical problem that nobody has been able to pose any decent solution for. I'm seeing more and more separate state filing. In fact, I'm not so sure that it isn't the exception anymore that a company files a single blue book in every state that's identical. And that's unfortunate. But it also reflects the reality of the variations that are out there. The whole purpose of the NAIC was to bring uniformity of regulation and reserving.

MR. GORSKI: I think one area where regulators are sympathetic with the goal of standardization is with respect to the timing of the adoption of laws and regulations. I know Karen MacDonald headed a group that reported to the Life & Health Actuarial Task Force, and she had provided some support for the position in which differences in reserves based simply on the timing of the adoption of a law and regulation wouldn't be considered material or necessary to reflect in the valuation and actuarial opinion.

MS. CLAIRE: But the bottom line for 1994 is you're still stuck with the same requirement.

MR. STEIN: Here is a question on developing deferred acquisition cost balances for variable annuities. What interest rates are used for gross profit calculations and what are the spreads? My experience suggests that one should make an assumption with respect to the long-term asset growth of the underlying funds, which are the drivers for the investment charges, investment management fees, and mortality and expense charges. This initial set of projections is then used as the basis for developing the margins. The discount rated used under *FAS 97* is the credited rate for that kind of product, and rather than use radically changing credited rates, my strong preference is for the use of the originally anticipated credited rate when you write the business. *FAS 97* has some options regarding the choice of credited rate, and I think some stability is desirable, as opposed to using the actual pattern of net returns provided to the contract holder under rapidly changing investment scenarios. Then, as one goes forward, the unlocking process takes over, and you can continue to replace the gross asset performance and the actual margins for the original assumptions, but keep the credited rate the same so there's more stability in the calculation. This avoids a great deal of discontinuity in terms of the present values of gross profits when one goes from a 30% market one year to a 20% down year. If used for discounting, that creates a lot of turbulence in reported results, which I believe should be avoided.

The next question is, what's the status of the Society's SPDA Lapse Study?

MR. MILLER: As you know a few years ago the Society put out a lapse study in cooperation with the Life Insurance Marketing and Research Association (LIMRA) on SPDAs. The question I posed to the Society office, the research people, was whether that is going to be done again, and the answer is probably. The better question is when. Right now the next item on the drawing board is to do a similar study on lapse rates and, more particularly, premium continuation rates for universal life, and that is the study that is currently being worked on.

The alternative to doing an SPDA study next is to do a study on flexible premium annuities. There's some fairly strong desire on the part of several people to put flexible premium annuities ahead of the SPDA. In any case, if you're interested in either contributing or influencing the choice, I suggest you talk to Pete Deakins who is the Chairperson of the committee that is working on it. You can determine what you can do to influence the decision on the next study after the universal life study.

MR. STEIN: Here's a question that probably everyone's interested in. What is the status of guideline XXX? When do we think we'll have a final statement? Donna and Larry, do you have some thoughts?

MR. GORSKI: I doubt if we'll have a version of XXX adopted prior to 1995. It's unfortunate, but it has been given a backseat to the annuity nonforfeiture law and life nonforfeiture law. I don't expect much discussion of it at the upcoming meeting in Minneapolis. We did have a conference call on this issue. I would characterize the conference call as dealing with second- and third-tier issues. We really didn't get to some of the big questions that were raised just prior to the Baltimore meeting such as using current versus guaranteed premiums. There was no discussion of the five-year grace period for deficiency reserves. The universal life secondary guarantee question wasn't addressed, and I don't see much opportunity to discuss that at our next meeting. One of the goals I think we're striving for is to try to have the New York regulation and the model as close as possible. So maybe a better question is, when will the New York regulation be finalized.

MS. CLAIRE: Mr. Callahan of the New York Insurance Department told me the current New York regulation is totally effective for new business as of 1/1/94, and for in-force business, in effect, you have to hold the point one of half a year's mortality for all business, but, again, that is not a final decision. So probably soon you'll hear more on that one.

MR. STEIN: Let's move on to a fundamental question, and that is what constitutes an acceptable asset adequacy test? How many scenarios can result in failure before the test is described as unacceptable? I think all have some thoughts on that. Donna, do you want to lead off?

MS. CLAIRE: I don't know the answer to that one either. However, it's one of those questions that is asked every year, and a few basic things that I say when this question's asked are, it would be real nice to pass the level scenario. It would be real nice to pass at least some of the scenarios. Beyond that I don't think it's a question of, do you panic when you fail one or two scenarios? It's more a question of, try to understand why you failed the one or two scenarios. And it may be a limitation in your model. It may be that you really could use a better investment strategy or an interest crediting strategy, so you may be able to improve the business by understanding why certain things fail. It may simply be, for example, for the down and die scenario, the one that goes down 500 basis points and stays there forever, the structured settlements may not be realistic, so you may want to test additional scenarios. Understand the failures, don't tweak the assumptions just to come up with a so-called passing. If you felt comfortable with the baseline assumptions, just understand their failure and see if corrective action is necessary, and it may not be.

MR. GORSKI: Over the last couple of years I've challenged many aspects of opinions and memoranda. I've challenged the use of reliance statements, assumptions, and so on. I've never really challenged the interpretation of results, and frankly, I don't think I'm going to challenge the interpretation of results. That's really a professional decision judgment made by the actuary. So I don't think there is an absolutely right or wrong answer to the question as it was posed. It really is a subjective judgment. I want to clarify one point, though. Even though I say we've never challenged an opinion or a judgment in this particular area, it doesn't mean we've not taken or contemplated actions in certain circumstances. Our judgment may be different, and we may act on our interpretation of the results. However, this doesn't mean we question the actuary's professionalism. We just interpret the results differently.

MR. MILLER: If we're looking at this in the total aggregate as to the basic question of whether additional reserves should be held for the company, then the question becomes one of the appropriateness of the aggregation up to that level. If you've aggregated your tests as much as you think you can, if you're still failing a significant number of them, and if the causes of those failures are items that are possible enough that it makes you uncomfortable, you failed. At that point, you have obligations to your management that are even stronger than your obligation in just performing the testing and signing the opinion. If you get to the point where you feel you have to take action to management and start screaming wolf, you've failed the cash-flow test. If you've legitimately aggregated and really are not at that point, take another look at it and see if you can't take a different step on the aggregation and pass the scenario to keep your own professional judgment clean. I would not take action to increase reserve on a specific block of business, perhaps even if it failed all of the scenarios, if the total company aggregation for all of the scenarios came out fine. This is a total company opinion. It is not a specific item opinion, and that focus needs to be emphasized when this question is being asked.

MR. PETER H. MOELLER: It seems to me one of the scenarios that is going to cause a problem this year is the pop up scenario, 3% pop up. In 1993 medium term rates were maybe 6%. We're already two-thirds of the way through a current pop up. They may be around 8%. Historically I'm told that the maximum pop up has been about 50%, which would get us up to about 9%. Now that's not to say it can go higher, but if you go from where we are today, another 300 basis points up, you'll have close to a doubling of interest rates from where we are, where we were last year. I just would like a comment on would that be beyond what historically has happened in this short period of time, and how much credibility would be given to some blocks of business failing that particular scenario?

MR. MILLER: I could give an answer in a relative sense. I would give more credibility, put more emphasis on that scenario than the down interest scenario that was producing a lot of negatives when interest rates were already low. So I will put more emphasis on the up scenarios. I suspect I'll probably put most emphasis on the gradual up scenario as opposed to the pop up scenario. I may ask for some additional sensitivity testing somewhere in between to find where that demarcation point is between passing and failing. So there may be a call for additional work in that particular area. I might also try to inquire as to how a company is positioned, what its plans are in the event that interest rates do pop up there at higher levels. So I am not necessarily going to take that as a failure calling for additional reserves, but I will give that much more emphasis than I did with some of the down 500 basis point scenarios when interest rates are already low.

MS. CLAIRE: I would point out it's probably a good idea to start testing early this year. From what I can see, a lot of the portfolios were asset/liability mismatched, and you may wind up with a lot more negative scenarios this year, and you should start thinking about it early as opposed to February 28 and panicking.

MR. STEIN: Well, thinking of another thing to panic about, the next question addresses the issue as to whether valuation actuaries have any additional responsibilities under the new Federal Crime Bill. There are apparently some relevant provisions. I'll read from a *National Underwriter* article: "Under the legislation, anyone who deliberately makes a materially false statement that overvalues the assets of an insurance company . . . would be subject to a $50,000 fine and imprisonment for up to 15 years." I certainly haven't studied the crime bill, but I would not think that the valuation actuary opinion, a professional opinion on reserves, would get swept up in the notion of deliberately overstating assets in the financial statement. Any other thoughts, Larry, perhaps as a regulator?

MR. GORSKI: I guess one thing I expect to see more of is reliance statements this year than in the past. As I've thought about the issue, I was wondering if the disinvestment strategy could somehow be swept up into the issue. In the event that certain scenarios require the sale of assets, could the Crime Bill and the provision that you've discussed have any implications with the disinvestment strategy, so it may be possible that the Crime Bill can actually be extended to the work of the appointed actuary?

MR. STEIN: Well, there's a happy thought. Let's move to a question that concerns standards. This one is with respect to general guidance for the valuation actuary. There currently is not a requirement for the reconciliation of the prior year's reports or outlook of the future to the current report. The individual suggests that it would be desirable and beneficial if a roll forward of projections were provided both in the reports internally and to senior management. Any thoughts on that, Dick?

MR. MILLER: As far as the standard is concerned, there was no specific mention of this type of validation because of the focus of reserve adequacy and not solvency. The practical mechanical requirements for being able to do this kind of a roll up validation from year to year requires items out of the accounting system that are not generally available, and special inventory runs would have to be made under most company's accounting systems. For example, first-year claims and benefits paid during the first policy year on business that was newly issued subsequent to the prior evaluation date need to be excluded and do not routinely fall out of most accounting systems. Even the supposedly easy ones of first-year premiums and first-year commissions don't routinely and easily fall out of the accounting systems, because if you get into them very deeply, you'll find out that the definitions of the two things are not the same generally. So that's the practical answer.

As we get further into solvency testing or as you get into management reporting making use of these projections that you've invested huge amounts of man hours in, the answer is absolutely yes. There is no particular single exercise that reveals more about how your business is working than doing an accurate, as best you can, evaluation of the roll forward from year to year and the validation or nonvalidation of the assumptions. In one of the earlier sessions there was at least a brief reference to the economic value analysis. This roll forward is an integral part of that type of analysis. So the question is leading the pack and interesting as regards to the restricted level of reserve adequacy. It's perhaps more pertinent with regard to the broader concepts of management reporting and solvency. There it will be required.

MR. GORSKI: I don't believe that the members of the Life & Health Actuarial Task Force have considered such a far-reaching proposal as was posed in the question, but in the proposal to modify the opinion and memorandum regulation, there is some material dealing with documentation in the memorandum, and part of the documentation requirement deals with details concerning assumptions.

In terms of the correspondence that we received back from the various respondents, there was some concern expressed over the level of documentation. In several cases, the respondent offered a compromise saying that he or she could supply an actual-to-expected-type of analysis for the assumptions. I think that's going to get a considerable discussion among the working group members. I know that personally in many cases I've asked for that type of analysis. For example, if I know a company is very active in the structured settlement annuity area, I'll ask for actual-to-expected mortality studies. I may ask for actual-to-expected studies dealing with expenses. So I think we'll probably be getting a validation on an assumption basis as opposed to the total projection basis because of some of the problems I did point out. I think we're moving in this more limited direction.

MS. CLAIRE: For 1994 there are changes to the annual statement blank in terms of certain numbers that have to be audited on both the asset/liability side that the valuation actuary has to reconcile to. One could get information from that from the instructions to the annual statement blank, and actually the instructions themselves appear as Practice Note No. 3.

MR. GORSKI: The practice notes discuss the issue that arises when a company uses as a basis for asset adequacy analysis the September 30 inventory, and the instructions say that the actuary has to reconcile those data to an annual statement exhibit.

MS. CLAIRE: The practice notes mention things that you should look at, such as the in-force numbers, liabilities, average age, sex, whatever. Make sure your business hasn't changed if you're using September 30 versus year-end numbers. Make sure the type of assets you're using are similar, the earnings are similar, and so on. It does give some guidance to that. I'm not going to say it's a perfect answer, and it can probably be improved.

MR. STEIN: Let's take a selected technical question. This is with respect to a gross premium valuation used to cash-flow test a disability income block. Is it necessary to reflect federal income taxes in the calculation? Dick has some views on that one.

MR. MILLER: Well, this is one where we're not going to have agreement on the panel. I strongly feel that for reserve adequacy testing that, no, taxes should not be recognized. A similar question is whether to recognize shareholder dividends. The point is that the number you're testing is the reserve amount and cash flow from assets equal to that reserve amount. Are the assets and the mechanics of the policy self-supporting over the future period? That question is not one that needs to get to the general corporate solvency level questions of taxes and shareholder dividends. Admittedly, we may get there. Some want it sooner than others, but the distinction needs to be made that, as of this point, we're not there yet, and I don't think we have developed the techniques yet. Cash-flow testing just for reserve adequacy is only really becoming settled down. Witness the fact that these meetings have increasing attendance. That isn't because people feel they've learned everything there is to learn about this question.

MR. STEIN: Larry, do you share that view?

MR. GORSKI: No, I do not. I feel more strongly about the federal income tax issue than the stockholder dividend question. I think federal income taxes should be part and parcel of asset adequacy analysis. When it comes to stockholder dividends, I feel that this is more a side consideration in developing an opinion as opposed to an integral part of the calculation itself. I was a little surprised at Dick's comments concerning the evolution of cash-flow testing and asset adequacy analysis. Not having the tools ready to do a good job is not a reason to not consider that item in the overall process, because if that really was a guiding principle, I think many insurance companies would have to divest themselves of two-thirds of their investment portfolios because they don't have the tools to analyze all the assets they have on their books. So not having the tools doesn't necessarily imply that the issue should be exempted from consideration.

MS. CLAIRE: I have one more point. We do have an actuarial standard of practice on cash-flow testing. I believe it's ASOP No. 7 which specifically mentions federal income tax. It does not mention the shareholder dividends. But actually as far as anything within the ASOP is concerned, you should be real sure if you're not going to follow them because those do have a lot more legal standard than anything else.

MR. STEIN: I have one additional technical question. How many companies switched to stochastic approaches for cash-flow testing? Let's have a few thoughts from the panel, and we'll try another poll.

MS. CLAIRE: I used to be very much in favor of stochastic interest rate testing. I still am, however, I was doing a review of one company that hired a prestigious actuarial consulting firm. I was working on the state side at the time, and the state came up with its 100 random interest rate scenarios and the most different it had in the testing area between the level scenario and the most severe scenario was 100 basis points. We, obviously, have a lot more to do before stochastic is a well-accepted methodology.

One of the issues we're looking into is discussed in the report that Alan Brender and I did; we have not come up with a really good stochastic interest rate model that can be used for everything. That's not saying that it can't be used. There are certain purposes for them, but right now I would certainly not get away from at least doing the basic seven scenarios and seeing what the results are so you could understand your business.

MR. GORSKI: This year I saw much more utilization of random interest rate paths in the sensitivity analysis than I had seen before, so I think it's become more accepted. I share some of Donna's concerns over the interest rate paths that are being generated. I think right now the best use of that analysis is sort of as I had described. It's sort of a wild card in the process. You could do your testing. You develop your opinion based on the results. And then if we find some problems or are somewhat skeptical of the results, we may throw in some random interest rate paths for additional testing.

MR. STEVEN A. SMITH: I have two comments. One is in regard to what Donna had said before and that was with regard to the CMOs. If you have the possibility of garbage in/garbage out, then doing random scenarios isn't going to necessarily prove anything. The same is true with real estate or anything else where you really need to have good results.

And then I have to go with that story of the three bears. We decided not as part of cash-flow testing to do some random scenario generations about a year-and-a-half ago and the first thing was to generate the random interest rate scenarios and draft them. And I looked at the results of the first 100 sets that we generated, which just seemed like it was too wild. So we generated another 100 truly random scenarios with the same program, and I looked at this set, and it seemed like it was too mild. And we did another set, and it seems like it was just right.

MR. GORSKI: I'll be requesting your memoranda.

MR. SMITH: Which set would you like?

MR. GORSKI: I guess the question I have for Steve is whether his comments about CMOs and garbage in/garbage out implied that he is not confident about the modeling of CMOs in the asset adequacy analysis that he performed to support his actuarial opinion for his company. It seems to me that there are many investment classes that insurers hold in which there are modeling questions or problems related to their anticipated cash flows. CMOs are a perfect example of that. Am I to take your comments as meaning that companies should not be investing in CMOs?

Should companies be doing more sensitivity testing relative to CMO prepayment rates? You sort of left open a question in my mind there.

MR. SMITH: The only comment I was trying to get at is that the true randomness of random testing is going to be influenced by garbage in/garbage out. One of the speakers at a previous session was talking about, when you do random scenario testing, the thing that's of most interest is the 5 or 10% that you fail. Why it's of real value is you go in and try and find out why. If you do 100 scenarios and you pass 90 of them, you can then find out what the risks are just by doing deterministic scenarios, specific ones that you really want to look at. I wasn't really speaking to whether or not CMOs should be invested in. It's the same argument though for real estate or other assets that are difficult to model or to understand for whatever reason. I think the actuary does have an obligation to try to understand as best he or she possibly can what kinds of assets are supporting the liabilities. You know CMOs are a good example because I don't think it's easy to get the information about the other 60 tranches in a 61 tranche deal when you have one tranche. You have to find out all of that information, and it has to be good information. The process is developing and improving, and maybe we'll get to where stochastic testing will be of a little bit more value in the not too distant future.

MR. GORSKI: The concern I always have is that with deterministic scenarios you can cook the other assumptions to optimize your results. And as investments get more and more complex, such as structured notes and derivative instruments that modify cash flows under very specific circumstances relative to the slope of the yield curve, I don't believe that the deterministic scenarios have the opportunity to catch all these features. So I believe there is an important role in this whole process for stochastic scenarios.

MR. SMITH: Yes, but you can't just come up with different reinvestment assumptions. Try to keep those uniform through each of the scenarios. The same thing can be done with stochastic testing. What you're talking about there is you have some fixed reinvestment assumptions or things are pretty much fixed, and maybe the solution is on the deterministic scenarios you ought not to allow people to cook the books for the up scenario versus the down scenario because the rationale is that you don't know in advance which way interest rates are going to go.

MR. BRADLEY M. SMITH: Larry, I have a question for you, and it's not shareholder dividends. In response to a question on formula-based reserves for minimum death benefits for variable annuities, you answered that you thought it was incongruent with the concept of asset adequacy testing, whether it's solvency testing or reserve adequacy testing. But we're seeing the continued proliferation of formula based concepts hitting us, whether it's XXX, 147, RBC, the model investment law, flux scores on CMOs, and then your particular opinion that the "in state" filing requirement is extraterritorial. How do you reconcile those two regulatory approaches, and do you see the frustration that many valuation actuaries have in having to live under both approaches?

MR. GORSKI: I understand and appreciate the frustration you are expressing. Don't get me wrong. I do understand that. My point relative to the minimum death benefit guarantee under the variable annuity products is that ancillary benefits such as this one should be dealt with by letting the valuation actuary make decisions relative to the proper level of reserves for the benefit. This idea was behind the development of asset adequacy analysis. I view the next five or ten years as being a testing ground for asset adequacy analysis and eventually dynamic solvency testing. And I do see at some point in time, maybe not in our lifetime, but at some point in time when reserving will be completely within the realm of the valuation actuary and some of the regulatory constraints of formula reserves will be eliminated. I can't possibly conceive of formula reserves keeping up-to-date with the proliferation of products and investment strategies to support those products. So I view this as a testing period to see if the valuation actuary concept really is the best way of dealing with valuation and solvency issues.

MR. WAYNE E. STUENKEL: Is there any move going on in the Society of Actuaries to update the 1980 CSO Table? Do we expect to see a 1995 CSO or 2002 CSO Table?

MS. CLAIRE: Actually the next table that will be updated will be on individual annuity mortality because that itself has the major differences. The reason the 1980 CSO was not next on the list was XXX with its new select scale may solve most of the problems on the old not having a life insurance table updated. However, it is one of the subjects that is on the list to be updated in the future. I don't know which year.

MR. STEIN: The last question is aimed at the regulators, but I'd ask everyone here to comment on it. What are the most common problems and major issues that regulators have seen with 1993's valuation actuary opinions? Larry, do you have some thoughts, and then we'll wrap up with comments from Donna and Dick.

MR. GORSKI: I'll stick with the technical issues. I won't get into interpretation issues. We still really don't have a good handle in all cases as to whether the actuary is doing a reasonableness testing of data and assumptions that is necessary when the actuary relies upon another. I alluded earlier to the not tested column of reserves. It's still baffling to me how people are still confusing asset adequacy analysis with cash-flow testing. The modeling of CMO cash flows is a major issue. Also, the necessary and appropriate recognition of derivative instruments in asset adequacy analysis is an issue.

I just finished reviewing a memorandum and some correspondence on that memorandum. The company is an active user of derivative instruments, primarily futures contracts, and they are not being incorporated into the asset adequacy analysis. I find that a big problem. Active portfolio management is another issue. I have no problem with active portfolio management. The problem I have is that the value of the opinion and memorandum quickly diminishes over time as the portfolio changes very rapidly. I've worked with various companies to try to supplement the annual asset adequacy analysis with some form of monitoring throughout the year. Stockholder dividends is an issue. Capturing the actual reinvestment strategy is an issue. Personally, starting with the 1994 review, I'll be putting more emphasis on C-1 credit risk issues. I think I shortchanged that somewhat with my emphasis on interest rate risk and CMOs. It's my feeling that companies will be looking more towards taking on more and more credit risk, maybe through private placements or re-entering the mortgage markets, so I will start to put more emphasis on credit risk analysis.

MS. CLAIRE: I have just a quick couple of issues. Most actuaries have the liability side done pretty well. The problems I see in general are on the asset side. I think it's a learning process for actuaries, but I think we still have a lot more learning to do. The other issue that I'm concerned about is the dynamic assumptions because the last ten years have been pretty gentle in terms of what the interest rates have done to the company, and it may not always be that way. The early 1980s was a very bad time for life insurance companies. Right now with more sophisticated consumers I think, if we do have a spike up in interest rates, you'll have an even worse problem in terms of who's going to surrender. So I think the actuaries have to pay more attention to what they're doing for dynamic assumptions.

MR. MILLER: About the only one that's much worth putting out here is that I think the biggest problem is getting better handles on ways to test but don't involve what is being classically referred to as cash-flow testing. And projections that are sensitive to things other than C-3 risk really need to be emphasized. The gross premium valuation test is applied to lots of business. It is still perhaps the best test there is as to whether you have an adequate reserve or not.