

**1995 VALUATION ACTUARY
SYMPOSIUM PROCEEDINGS**

SESSION 24

Ask the Experts

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ASK THE EXPERTS

MR. J. PETER DURAN: Welcome to Ask the Experts. We have a distinguished panel of experts and a host of interesting and timely questions. Our first question is, is the appointed actuary personally liable for his or her actuarial certification? Is the opining actuary indemnified by his or her company's errors and omissions coverage?

MR. DANIEL J. MCCARTHY: You are personally liable. I would say that statement is true whether you work for an insurance company or carry out the assignment of the opining actuary in a consulting role. That is to say, not only can the employer or the company be sued, but the opining actuary can also be sued.

Just who would sue you obviously is a question for which the answer might vary. For example, it depends on whether the opinion relates to a mutual or stock company. And there have, in fact, been suits. The ones I'm aware of are against more casualty companies than life companies.

As to errors and omissions (E&O) coverage, I would point out that a reasonable concern of anyone signing an opinion is whether the E&O coverage of his or her employer applies to the individual as well. That is to say, you should be interested in knowing whether your employer's coverage, which is aimed at protecting the employer if sued, also applies to you. That is a question that you, in my view, should know the answer to if you are signing an opinion of this type.

MR. DURAN: May the appointed actuary ever rely on the opinion, relative to a particular segment of a company's business, for example, of another actuary?

MR. MCCARTHY: I'm not sure we have unanimity of view, and there are so many circumstances that it may be impossible to state something unequivocally. But as an example that is perhaps fairly straightforward at the outset, assume, for the sake of argument, that the company for whom you're doing the opinion assumes business from another company.

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In my view, it is quite common for the opining actuary to obtain and rely on information from the actuary of the ceding company. It is perhaps a little less clear exactly what your situation is if you have a multiline company and you are getting reliance from other actuaries responsible for particular lines of business. My view is that you can rely, but you can't totally shut your eyes. There's a difference between reliance and just saying, "Well, Joe gave me the number. I'm not even going to think about it. I'm going to use it because it's Joe's number and not mine."

Peter, do you agree with that?

MR. DURAN: Well, it hinges on a question of what does "relying" mean. I think you have to do a substantial amount of due diligence on what you receive from the corporate actuary, what you receive from the business units, and so I agree with your comments on reliance, but there is a substantial amount of due diligence necessary, too. I don't think it's unrelated to the data quality standard of practice that came out recently.

I have one more question concerning the opinion. A life insurance company qualifies for a Section Seven opinion; all reserves have been calculated according to the appropriate mortality tables and interest rates. However, the company has lost money in four of the last five years, including the most recent two years. If losses continue at the current rate the company will run out of surplus within the next five years. Expenses have been running at 90% of premiums. The company sells in the home service market, and sales have been stagnant. The question is, may the appointed actuary give a clean Section Seven opinion? This is an actual company to which the appointed actuary gave a clean Section Seven opinion.

MR. MCCARTHY: Facts and circumstance questions are tricky to deal with. The idea of Section Seven was that you would be able to rely on a formula reserve basis. It seems to me that the issue you have to deal with is that there is a continuing entity presumption, in my view, in the valuation laws. You have to ask yourself, when are you getting close to that and what are you going to do about it if you get too close to it?

Beyond that, to me, it's a facts and circumstances issue. Are there other sources of surplus available? Are there plans to change the trend in earnings, and so forth?

MR. LARRY M. GORSKI: I'm from the Illinois Insurance Department. I think Dan's response was correct that the Section Seven opinion is strictly a formula reserve opinion. However, the Life and Health Actuarial Task Force is going to be asking us to review that idea. And we may move back to what we've been calling an "old style opinion" where there's some notion of reserve adequacy. As you know, that decision was never one that the task force agreed with across the board. And it's going to be looked at again in the near future.

MR. DURAN: The next question reads as follows: "My company writes graded premium whole life, a product that will be impacted significantly by model Regulation XXX. Our life insurance division has designed a new graded premium whole life product for the post-XXX era. But the company wishes to continue issuing the current product in states that have not yet adopted XXX. The question is, once the first state adopts the regulation, do we need to reserve for our nationwide business using XXX? In other words, do we need to discontinue our current graded premium whole life product nationwide as soon as one single state adopts XXX?"

MS. KAREN OLSEN MACDONALD: My understanding would be that you would need to use the XXX reserves only for the purpose of the state in which you are filing the opinion.

MR. DURAN: Anyone else?

MR. MCCARTHY: It might be worth noting, it really doesn't have anything to do with the states in which the business has been issued. It has to do with the valuation rules of the state in which you're filing an opinion for all for whatever business you have on your books.

MS. MACDONALD: That's right.

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MR. DURAN: What do you do for the state that has passed the asset adequacy type law, but has not created a regulation? Additionally, the state is not your state of domicile.

MR. MCCARTHY: That was the situation, at least at the end of 1994, with Florida. I find it's a good thing, in a case like that, to talk to the regulators of the state. In fact, last year, Florida basically said, "Assume that the regulation is in force, because that's the way we want you to think about it."

Typically, in a case like that, you will get guidance from regulators who understand that you're in a box where all the pieces aren't in place. They typically will be willing to help.

MR. DURAN: Under the spirit of accreditation, is it considered fine to send all states your state of domicile's actuarial opinion and memorandum when requested, assuming that your state has passed the valuation actuarial laws and has passed the Actuarial Opinion and Memorandum Regulation?

MR. MCCARTHY: Accreditation doesn't mean total consistency. It seems to me you still have to abide by the rules of the state that say that you are filing under their law and regulation. Assuming in some instances the rules may be more stringent than your own, you have to deal with that. If you can resolve in your own mind that there isn't any state that has rules more stringent than those under which you've done your home state filing, then you can probably say that and file it. But, unfortunately we are in the position of having to do, in some instances at least, a state-by-state analysis to know what to file.

MS. MACDONALD: I'd just like to add that I think the state variations issue, which may have been covered in another session here, has been one of the troublesome ones from day one. And the position that we've taken as a company is to apply some common sense and practical judgment to determining whether a separate filing is needed in another state. We're not going to do it for something that is immaterial relative to a \$20 billion company, but for a material amount we would, I think, prepare a special filing.

MR. GORSKI: I have a comment on one question earlier, dealing with the state that has adopted a law but not the regulation. The real challenge there is for the small- to intermediate-sized companies because the law requires that all companies do asset adequacy analysis; it's only through the regulation that there's an exemption. So, those small companies that operate or are domiciled in a state that has adopted a law but not the regulation need to get their requirements clarified.

MR. DURAN: So your answer is, talk to your regulator.

MR. GORSKI: It's very important. When Illinois was in that position, the very first year also, we put out a notice saying that, in effect, we were going to operate as if the National Association of Insurance Commissioners (NAIC) model were in place, which then took care of the smaller company issue and also gave direction for all the other companies that had to do such new testing.

MR. DURAN: I have one more question along these general lines. What good does it do to get home state approval to phase in the impact of the new reserve requirements (for example, Guideline GGG) when the actuary is opining in all 50 states?

MR. MCCARTHY: I think that the principal advantage of getting that kind of approval, assuming you don't wish to go to the trouble of getting it in all states, is that typically a company will file its home state annual statement with Best's or other rating agencies.

So, I think, frankly, it's a political advantage. A company will, in my experience, use its home state annual statement for almost all such purposes. And I think there is still, for that reason, some benefit in getting home state approval.

MR. GORSKI: I would agree with that, but it also has impact on risk-based capital, which is based on the domiciliary state's statement liabilities.

MR. MCCARTHY: That's a good additional point.

MR. DURAN: Let's have some questions now about how to do cash-flow testing.

We had two questions on negative cash flows. I'll read them both because they're so closely related. Actually, the first one has three parts:

How are negative cash flows handled -- by borrowing money, selling assets, or another approach? If money is borrowed to cover negative cash flows, what interest rate is used? How is the interest rate selected and rationalized? Is it related to the expected period between the borrowing date and the repayment date? For cash-flow testing, is borrowing money a reasonable way to cover substantial negative cash flows? I have seen rates ranging from 90-day Treasury bills plus 60 basis points, to ten-year yields. Shane, do you want to take that one?

MR. SHANE A. CHALKE: The whole essence and theme of cash-flow testing is to try to simulate reality. Now, we realize that we're in an artificial box, given the nature of the question as it is, because we are dealing with the issue of reserve adequacy, rather than the larger issue of solvency.

But within those parameters, I think we all should be striving to simulate reality the best we can. So, if you look at the issue of negative cash flows, we want to again tie that back to reality and what really happens if we're in that situation -- but again, as I said, within the constraints of the artificial parameters that we're dealing with, since we're looking at essentially a piece of the company or a piece of the business.

So, if in fact, you're dealing with a situation where you have excessive capitalization and, in fact, an actual negative cash flow would result in absorption of surplus, then it's perfectly appropriate, in my opinion, to treat negative cash flows as if they're just negative assets, the mirror image of positive assets. If, however, you're managing to a capital level that is close to minimum at a time that you realize negative cash flows, then it's more appropriate to reflect what actually might happen, and in many cases that might be borrowing.

Now, what rate do you borrow at? You want to look at the actual company situation, and not only in terms of the company's credit quality, but also what form of borrowing is likely if it should take place. There are companies in this industry that can borrow for as cheap as 15 basis points over short Treasuries, and there are companies in this business that have to pay 600 basis points over Treasuries. It just really depends on the credit quality and the company situation. That's maybe a start to an answer.

MR. MCCARTHY: I agree that there is a reality test that needs to be applied here. And the one thing I would add to what Shane said is that, as a practical matter, what typically happens in many situations is some form of internal borrowing. The company doesn't actually go out and borrow. But internal borrowing has a cost, too. Now, I think you have to think about how that actually plays out in a company's financials and in its management of its products. And there is an implicit cost to internal borrowing that we base on the actual situation. I believe you have to look at that.

MS. MACDONALD: We've struggled a lot with this because this particular assumption has a major impact on results. One thing we found we couldn't accommodate was selling assets because it required better point-in-time validations of market value than we felt that our model provided, so we scrapped that.

Up until this most recent year, we basically did a borrowing approach where we used a longer-term rate that represented the types of things we were investing in, because typically the borrowing would occur at a line level rather than at the company level.

Most recently, we've gone to what Shane suggested, which is negative assets. The rationale here is that, in most cases, the borrowing would be against new business assets. So it's reflective of the current reinvestment policy.

MR. CHALKE: This is an issue that we deal with in other much related areas as well, for example, in the operating budget. We are dealing with an artificial constraint in doing the cash-flow testing; we're dealing with essentially closed blocks of business, and with closed blocks of business you want

to match reality as best you can, but still reflect the fact that you're looking at, at best, a hypothetical situation.

MR. DURAN: I guess I would add that it can happen that the negative cash flows are so great that none of these methods we've talked about passes the reality check, and you have to strengthen reserves. I have more related questions. These have to do with dynamic lapses. Again, there's a series of questions. "What formulas are being used (please give both the structure of the formula and the actual factors) for dynamic lapsation? Do companies change their formula from year to year? What research, within companies and at the industry level, exists to support dynamic lapse formulas?" "With three seasons of cash-flow testing behind us, what systems have companies built on which to base dynamic lapse sensitivity formulas -- experience, formal discussions among senior managers, survey of other company's practice, other? How does it vary by product? For similar products, how much do the formulas vary among companies?" So there are about ten questions there.

MR. CHALKE: The formulas themselves in the past few years have become more complex, taking into account more factors. I'd say in particular there are a couple of areas where formulas are becoming more realistic. The first is the concept of understanding policyholder elasticity with respect to how the contract was originally sold. We would expect that the so-called "hot money" had a more elastic profile out in the field than contracts that were sold in a more moderate rate environment.

The second issue is that we're starting to bring more demographic factors into account in our modeling. But the fundamental problem here is that we are unlikely to have good empirical data dealing with policyholder behavior, because the very nature of the products that we write means that the options aren't very deeply in the money for very long periods of time. So our problem is very much analogous to the difficulty of developing, say, prepayment models for adjustable rate mortgages. We don't have much data available as to how people elect options when options are not deeply in the money.

That said, however, over the past 18 months we have seen situations that are unique over, say, the past ten years -- given that interest rates came down, went up again and then came down again. We

have seen a period of time where, especially in the annuity market, we saw large blocks of business with options that were distinctly in the money, if not deeply in the money. And I think just an empirical look at what happened over the past 18 months has caused many companies to make their assumptions about policyholder elasticity essentially less elastic. So we see a fair bit of change between, say, assumptions used at year-end 1993 versus year-end 1994, and we're anticipating further changes for year-end 1995.

One other point that I'll just toss in is that there's a growing recognition that the actual driving variables of policyholder elasticity that we've been using for ten years may not be quite on the money --the variable meaning, in some form, the mismatch or differential between market rates and the rate of interest credited to the contract. By going through role-playing with senior management, especially marketing teams, we find out that maybe the driving variable ought to be a new unit, like basis point months. In other words, behavior is not driven by how far your option is in the money, but by how far it's in the money coupled with how long it's there. That's a very critical component that we tend to miss in the cash-flow testing, and I think we'll see more and more companies do that.

MR. MCCARTHY: I agree. It was really nice of the economy to make that move for us so we could get some data. We were relying until then on data concerning in the money options from the late 1970s and early 1980s, and it was nice to have something that was a little more contemporaneous.

The "basis point months" idea is particularly interesting because the old data for the few companies for whom it existed back then suggested that approach, but it was so old that some of us were reluctant to use it. I think I would subscribe to what Shane says about the emerging concepts.

MR. DURAN: Here is the next question. With regard to assumptions for asset allocations of future cash flows, how simplistic or complex are the assumptions? For example, how many types of assets are assumed to be purchased? How close is the fit by type of asset and duration to prior purchases? And do the assumptions change from year to year? Maybe we could have some comments from each of the panel members. Shane, do you wish to start?

MR. CHALKE: Sure, I'll get us started. By and large, many cash-flow-testing exercises relegate reinvestment cash flows to a fairly minor assumption. So we find that, in comparison to other dilemmas that you face in cash-flow testing, this one doesn't get nearly the attention that it should.

We tend to see fairly simple assumptions. They tend to be reasonably indicative of historical investment experience, provided that the information that's revealed through the process is reasonable. So you'll very often see assumptions where they invest in a ladder of five bonds of varying durations, or something like that.

Now, if things don't work out, then we hope the cash-flow-testing process becomes one that's iterative, where you reveal information, and go back and say "Hey, this doesn't work," or "We're not getting the kind of results that make us comfortable enough to sleep at night." It actually becomes an interactive process where it helps shape investment policy. That happens maybe one out of a hundred times, but that's the theory as to why we're here.

We tend to see fairly simplistic assumptions. I think that as the profession moves from cash-flow testing to more holistic ongoing concern modeling, this assumption will rise from, maybe, number 96 to number three.

MR. DURAN: We had a couple of questions on interest rates: How is the initial yield curve at December 31 defined? For the level scenario, is the curve used throughout the future, or is it normalized in some way? If it is normalized, how is this done, with what interest rate as the pivot point, and over how many years? And for the New York seven scenarios, is the defined interest rate change applied all along the curve, i.e., all interest rates go up or down by the same number of basis points? Or is the percentage relationship of one interest rate to another maintained, so that if a long-term rate goes up a specified amount, a corresponding short-term rate goes up by something less?

MR. CHALKE: There's no right or wrong answer to this. No, that's not true, there is a wrong answer.

MR. DURAN: Several.

MR. CHALKE: There are many wrong answers. But, in general, within the scope of practice there's no hard and fast right or wrong answer, but there are better and worse answers. The first thing to caution folks about is something that we see all too often, and that is the yield curve defined the way it is in the newspaper, which is on a bond equivalent yield (BEY) basis. Then people will frame their scenarios typically on a BEY basis.

It's fairly easy, if you define your yield curve that way to create yield curves that are technically impossible in a market economy. The BEY curve is a proxy for the economic drivers that are really your spot rates and your forward rates, and it's fairly easy to sketch a curve that looks fairly benign that results in negative forward rates. And negative forward rates don't exist very long in market economies, so that's the first caution.

The second point to this question is really a question of yield curve definition. There's very little guidance on a regulatory basis or in actuarial literature dealing directly with cash-flow testing that would help to deal with this. There are many interest rate models that help you determine realistic arbitrage-free yield curve shapes, and ideally such models would be used in determining the shape. There are essentially two techniques. One is to use the drip parameters in the model. The second is to actually stochastically price the yield from any point in time. That's the ideal situation.

On the last point on curve normalization, I get kind of emotional about this point, because I don't know what's normal. When people talk about yield curve normalization, they're generally referring to a fairly heavy-handed approach of finding a pivot point in the curve and twisting it in some fashion. But that begs the question as to what's a normal curve and in what environment. I think we want to come back to fundamentals, look at what we think the underlying process of interest rates actually is, and price yield curves on that basis. So I'm not a fan of normalization per se, but I am a fan of using yield curve shapes that are realistic in the environment that we're modeling.

MR. MCCARTHY: I'd say a couple things about the New York aspect of the question. When people first started testing, and it goes back much more than four years, on the New York seven, there was a tendency to take the increase or decrease and just apply those changes across the curve.

People are moving away from that now, not necessarily to the extent that Shane is suggesting, although I agree that they should. They are at least recognizing, when you do that, you are unconsciously distorting whatever shape you started with and not for reasons that make any technical sense. So people are focusing much more on yield curve shape and maintaining that shape, as they apply the scenarios.

The other thing I would note in this regard is that, if you happen to be starting on December 31 with, let's say, an inverted yield curve, there's a very strong suggestion in the New York Regulation that says, over the course of your testing, unless you think you have an environment in which you can justify why the yield curve should stay that way, you ought to move it back to something that is more, if you'll pardon the term, normal.

MR. GORSKI: I just wanted to take up on the normalization process. My biggest concern was in unusual environments, whether it be an inverted yield curve or a very flat yield curve, because that shape yield curve would be used throughout the projection period, which clearly doesn't make any sense to me. I'm sure it doesn't make any sense to anyone else. So I wanted to make sure the concept of normalization was built into the regulation, but leave the details of that process to the profession. That's why I chose the way I did: make sure the concept is there, and the details can be worked out over time in a deliberative body like this.

MR. DURAN: Here's a related question: Are there any scenario generators out there that work on more than two points on the yield curve and that include stock information, perhaps correlated to interest rates, and incorporate jump as well as diffusion processes? Note that the existence of jumps is another way besides Paretian diffusion of accounting for the lack of agreement of high moments of lognormal processes with experience, i.e., fat pills.

MR. CHALKE: You can't talk about Pareto in such a short time. Obviously, that's a pretty detailed question. The short answer is, yes, there are all kinds of scenario generators that deal with more random variables than the short-term Treasury rate.

A word of caution is that every time you add a random variable, the number of scenarios that you need to gain any statistical credibility goes up exponentially. I'm actually exaggerating. It goes up a lot. On a one-factor model, where you're just modeling the Treasury short rate, we found that to get statistical stability you need somewhere around 800 scenarios. If you do 30 or 50, you don't get any statistical credibility.

If you move to a two-factor model, you quickly go from about 700 to 10,000 scenarios. If you add a third variable, it keeps going up, and you very quickly blast through human and computer capability. The solution may look more like the way pension modeling is done, where we actually look at various asset classes and the correlation matrices between asset performances, rather than trying to find all the driving variables and model those stochastically.

MR. DURAN: Here's a relatively straightforward question for a change: For cash-flow testing, most models start with an amount of assets equal to the reserves tested with an adjustment for the interest maintenance reserve (IMR) and asset valuation reserve (AVR). Shouldn't there also be an adjustment for deferred premiums since this asset is used to offset the overstatement of the reserve liability? Do common software packages automatically compensate for this?

MR. MCCARTHY: My answer is, yes, you should adjust for it. And you don't need a package to adjust for it; you just adjust for it directly in the starting assets.

MR. DURAN: We have quite a few more questions on how to do cash-flow testing: What is considered state-of-the-art and what is considered acceptable when working with participating dividends? We have used the scale that starts out as a constant at the current level and grades towards a factor scale.

MR. MCCARTHY: In my view, assuming that the company has a history of making its dividend scale conform to its experience as it emerges, I believe you have to have a process which, however crudely, adjusts the dividend scale to be consistent with the scenario as you go forward. There are some systems that do that by using the portfolio interest rate, if you happen to be a portfolio company. There are a lot of ways to do it. But I don't think you can, in an environment where the scenario is still varying as you go forward, simply go to a level dividend scale. You get results that don't make any sense and it would not be what the company would actually do.

MR. DURAN: What level of expenses should be included in the asset adequacy analysis? May improved efficiency be assumed? If so, under what circumstances? There's a related question that asks about whether it's appropriate to include overhead or not. This is a good question.

MR. MCCARTHY: There is a real issue here as to what expenses you use. I think it's appropriate to assume that some levels of overhead are dealt with by investment return on surplus. That is used quite a bit, particularly by smaller companies in testing. This is slippery slope country, and you have to know what you're doing to be sure that you are not giving away the store in the testing. But I do not think it's necessary to include all levels of overhead in a reserve adequacy testing, per se.

If you were doing total company solvency, that would be a different matter. Then you have all the assets; you have to get all the costs. Here you don't have all the assets, and at certain levels of overhead, I don't believe you need to include all the costs.

MR. CHALKE: I think it's most important to do something that actuaries don't often do in modeling, and that is to look at the actual operating budget. You can make a very powerful argument that you want to simulate the company in shutdown mode. On the other hand, if you decide you want to be conservative, let's just use fully allocated expenses. You can actually be aggressive there, because by treating overhead as if it's a marginal cost, as the business runs off, you can understate the expense level relative to the company being in a shutdown mode.

So I think what's necessary is to take a step back and look at it as a finance person, rather than the way actuaries typically try to get to the right answer.

MR. MCCARTHY: I'm glad you used the term shutdown mode. We sometimes think that, because we are not including new business in these tests, we are looking at the company in shutdown mode.

In most cases I would argue that's not the case. It's an artificial construct. I think we are really looking at a piece of the company in an ongoing business mode. I don't think we're looking at shutdown mode, although there will be cases -- and we had one before in the question that asked about the company that was about to go out of business -- where you have to do that.

I would argue that usually shutdown mode is not the right approach, although there could be cases where it would be.

MR. DURAN: Does anybody want to deal directly with the one part of the question on projecting future expense efficiencies?

MR. MCCARTHY: No.

MR. DURAN: Here's an easy question: How should proxy deferred acquisition cost (DAC) tax assets be treated for cash-flow testing and dynamic solvency testing?

MR. CHALKE: They should be treated.

MR. DURAN: How?

MS. MACDONALD: The proxy DAC tax is really a prepaid tax, so we want to make sure we get credit for it in our cash-flow testing. We run it off, as we actually expect to amortize it against the regular tax. We've been pretty conscientious about it since we write so much ordinary business.

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MR. MCCARTHY: The only subtlety here might be how to allocate it among different blocks of business if you have reinsurance or something like that.

MR. DURAN: Now I have some questions about the actuarial memorandum. We have a number of these. Number one is what level of discussion, analysis and support should be included in the memorandum when an analysis method other than cash-flow testing is used? What level of discussion should be included for each material amount not tested?

MR. MCCARTHY: This is a great unanswerable question. In my view the discussion in the memorandum does not need to be exhaustive, but it needs to provide to the reader of the memorandum enough to understand there is an issue here and the general framework in which it was dealt with.

My thought is that the memorandum is intended to provide the regulatory reader with enough indication of what was done so that the reader can ask more knowledgeable questions if he or she needs to. That is the standard I would use in testing the level of description.

MS. MACDONALD: For methods other than cash-flow testing, I think the practice notes provide some guidance regarding what the other methods are and how you might describe them.

On the specific issue of material blocks not tested, when I first read the question, I thought it said “immaterial,” and I saw it said “material.” I would presume we'd be talking about a noninterest-sensitive block, and that might be a good reason for not testing that. But whatever it is, you need to explain your rationale in the memorandum and be prepared to defend it, particularly if it's material.

MR. DURAN: If asset adequacy analysis suggests that the formula reserves for a material block of business are inadequate or in error, should an investigation be undertaken and discussed in the memorandum?

MS. MACDONALD: We were puzzled over that question a little because it involved two really different issues: one, the reserves being inadequate, and two, the reserves being in error. If the appointed actuary thinks reserves are in error, then he or she has to correct them. You have to file correct reserves. I don't see any issue on that. Yes, they have to investigate it.

If the reserves in question are inadequate, then I think you have to consider, what level are you opining on? If there are offsets elsewhere and you're using a whole company analysis method, then I don't think there's any reason in the opinion to state that one block is inadequate when looked at on a stand-alone basis if you aren't providing an opinion on that basis. You might want to investigate it for your own internal management. I don't see any reason to include it in the filing with the regulator.

MR. DURAN: Here are two different questions that I'll read together because I feel they're related. Number one is: Should Exhibit 8A Change in Basis entries always be discussed in the memorandum? And the second question is: Is it ever appropriate to fold additional actuarial reserves due to asset adequacy analysis into formula reserve annual statement entries?

MS. MACDONALD: If there is a change in basis, yes, you should disclose it in the memorandum, and, again, I believe that one may be covered in a practice note. Regarding the issue of additional reserves, and whether you can somehow call them formula reserves so that you can presumably tax deduct them, I don't know of a basis for doing that other than, again, by a change in basis. I presume you could change your basis and say that you need to change the assumptions to be adequate, but that then goes through the change of basis reporting, which is different than just unilaterally changing your formula reserves. If anyone has found a way to do this, I think there will probably be a lot of parties interested in it.

MR. GORSKI: One thing you have to consider, though, if you somehow can find a way of folding additional reserves into the formula reserves, is that, if at some future date you want to again reduce reserves, that becomes subject to commissioner or department approval, as opposed to the release

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of additional reserves. While you may gain something upfront, you do lose some flexibility in the future management of your company, so there is a trade-off you need to consider.

MR. DURAN: Here is the next question: If market value results differ significantly from book value results at the end of the testing horizon, what consideration should be given in forming the statutory actuarial opinion?

MR. MCCARTHY: This presumably happens in a situation in which your interest scenarios are varying all the way to the end of the testing horizon, as opposed to leveling out at some point.

My view is that, at that point, you have the market value of both your assets and your liabilities that you'll be discounting back in the testing. I think it's appropriate to do that whether they match book values or not.

MR. GORSKI: I think the first point to make clear is that, at least in my view, asset adequacy analysis implies a complete running out of all assets and liabilities. Of course, that's not done in practice; one cuts things short at the end of a projection period, and if one does that, one has to look at the market value of assets and liabilities.

So I think that's what has been given the primary consideration and the book value consideration is, in my view, somewhat secondary. It's the market value at the end of the projection period that is the crucial point for rendering an opinion.

MR. DURAN: Here is a judgment question if ever there was one: Does it make sense for the opining actuary to be responsible for tracing underlying data records back to the annual statement versus the reserve listings, especially when, oftentimes, the opining actuary is not the valuation actuary?

MR. MCCARTHY: Well, first of all, you are allowed to state reliance for data. Second, the data quality standard says that you should investigate it to the extent practicable. That to me says that

gross tests of reasonableness are things you should perform, but the very fact of being able to rely says to me you don't need to go back and do a line-by-line check of a reserve listing. So to me it points you in the direction of reasonableness testing but not detailed testing.

MR. DURAN: Would anybody from the floor like to pose any questions relating to the general topic of actuarial memorandums?

MR. GLENN A. TOBLEMAN: Back to the issue of cash-flow testing, my question is that, if you're doing cash-flow testing and you have a company that has a book loss prior to the end of the projection, or suppose accumulated surplus turns around by the end of ten years, or fifteen years, what do you do in that situation in terms of setting up additional reserves?

MR. MCCARTHY: I believe that the adequacy requirement is not a year-by-year adequacy requirement. There's also a question of aggregation, but I won't hide on that. Let's assume that your block was the only block.

I believe that you are not required to meet the standard on a year-by-year basis, but rather on a lifetime basis. There are doubtless common-sense exceptions to that. It's nice to say you'll come out fine, but you'll be below water for a whole bunch of interim years. The standard does not, in my judgment, require you to achieve year-by-year profits. If you did, by the way, there might not be enough surplus in some cases to go around.

MR. CHALKE: I'd agree with that. I'd like to tie this back to what Larry said, i.e., that the fundamental purpose of this exercise is really one of understanding whether there's enough economic value on the asset side to cover the economic liability. That's fundamentally what we're trying to do. And we call it cash-flow testing. That's a euphemism for value testing. This is really what we're looking at.

If you take economic value as the fundamental tenet, it's perfectly appropriate to overlay on top of that accounting solvency or insolvency circumstances along the way. But, keep in mind, that has to

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be tempered by the fact that we are looking at assets only equal to the reserves, and some subcomponent of the organization. So I think that the primary emphasis should be on economic value.

MS. MACDONALD: I'd just add another point on that. Typically, the models that are used for cash-flow testing are focused on economic value. When you look at incidence on a period-to-period basis, particularly over the short-term, the models may not be reflective of true accounting reality in those periods. So, I think you really have to focus on longer-term numbers when you use this sort of modeling platform.

MR. TOBLEMAN: Just as a point of clarification, please understand I'm not saying that one particular year is a negative. I'm saying that over a three- or four-year period, you're in a deficit situation on a statutory basis, but then you climb out of it. What I understand the panel to be saying is, that's not necessarily something that you would panic over.

MS. MACDONALD: Right.

MR. CHALKE: If, in fact, you have negatives and you do climb out of it, that's a reserve incidence problem, not an economic value problem.

MR. BARRY L. SHEMIN: Peter, I wanted to follow up on the question that you alluded to but didn't answer about the treatment of actuarial reserves as a result of asset adequacy testing. Are they above or below the line? I'd be particularly interested to know if there is any difference between the establishment of such a reserve and its subsequent release.

MR. DURAN: Well, my understanding is that the change in reserve basis reported in Exhibit A would go below the line. That practice has varied with respect to cash-flow-testing reserves. Furthermore, the NAIC codification will probably require that they go through income.

MR. MCCARTHY: In some respects that makes more sense as the cash-flow-testing time moves on. Presumably, if you were adequate in the prior year, and you're not adequate in the current year, it is a current year event as opposed to some kind of cumulative event.

MR. GORSKI: I agree with the application of some of the earlier thoughts to that last question. There is one area in which, if the actuary has some concerns, for example, for interim statutory losses, it can be disclosed. That's in the Regulatory Act, actuary issuing summary -- the follow-up to the old memorandum executive summary.

There's an item in the summary where the actuary is asked to comment on any significant items. I would consider interim statutory losses a potentially significant item, and if the actuary does have concern over it, that would be the place to discuss it. However, it should not have any direct bearing on his or her opinion.

MR. DURAN: We had a couple of questions relating to using data as of September 30 or even earlier. I'll read one of them: Some companies use September 30 information for asset adequacy testing. How specific should the statement of reliance be about this and about reconciliation to December 31 information? Furthermore, what reactions have companies had from regulators about September 30 information? Is there a trend in this area?

MR. CHALKE: It is very common to use a date earlier than December 31. It's quite a formidable task to get everything done that you need to get done, if you want to start when financial statements close on or around January 22. So more and more companies use third quarter data.

There's another advantage to using third quarter data as well. Using these data actually provides a much higher probability that this process achieves some management value and becomes interactive in the process. Rather than being historical, you focus on how you're trending. And yes, we can change policy or practice, or hedge, or whatever. There's still time to do that to improve the situation by December 31.

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Now, using the September 30 data does imply or, in fact, does mandate that you disclose the timing of the study and that you give a reasonable amount of inspection as to what has changed between the end of the third and end of the fourth quarters. Ultimately, you're providing an opinion that is submitted with the December 31 balance sheet.

This raises a lot of interesting questions. Especially in 1994, we saw a number of companies where cash-flow-testing results as of December 31 looked pretty sour. But, by the time the opinion was filed, things were all better. So, you can come down to a philosophical issue, because we had a dramatic fall in interest rates this past year from December 31 through about March 1995. But, ultimately, we are providing an opinion that coincides with the December 31 balance sheet.

MR. MCCARTHY: It can be a particular nuisance if a company, for tax or other planning reasons, has a significant amount of portfolio turnover in that last quarter, which, in some years, has happened. That means that you have to scramble. But certainly the trend is toward using September 30 data.

MR. CHALKE: I understand that the accounting profession is moving toward the principle of continuous accounting and, in many different areas, not allowing you to do that reinsurance deal on December 28 or do this particular bond trade for five days or a week over the year-end, will be history at some point.

MR. DURAN: What happens after year-end but before you file your opinion is definitely relevant if something very bad happens in that time. I think there's no question.

We actually managed in all that time not to answer the questions, which were: "How specific should the statements of reliance be about this and about reconciliation to December 31 information? In the memorandum how much should you discuss that?" Does anybody have any thoughts on that?

MR. MCCARTHY: I don't think you mean reliance, do you? You have to say that you did it, that's straightforward. And you have to make a reasonable case that it reconciles appropriately to December 31.

MR. DURAN: Maybe Karen could talk about what reactions companies have had from regulators with respect to using September 30? Does anybody want to share a story about using September 30 information?

MS. MACDONALD: We use year-end data, so I don't have any practical experience with that one.

MR. CHALKE: I have just an added comment: it's not an either/or situation. It's fairly common practice to build your liability model and your asset inventory on September 30 data. You'd run your analysis, and at year-end, you'd rerun that analysis using the December 31 yield curve. You would also consider the extent of changes in the composition of the asset pool and the liability pool. So, in-between positions are quite reasonable, as well.

MR. GORSKI: I would prefer that companies ask for an extension on the filing of the opinion and supporting memorandum. We've always granted extensions. But, in the event that a company does choose to use an earlier date for the asset and liability in force, that generally has been acceptable.

One thing we ask is to make sure your assets and liabilities in force have the same in-force date. The level of discussion in the memorandum, I think, is directly related to the sophistication of the asset portfolio. If you're a simple company in terms of investment strategies, and so on, I think the level of documentation necessary is probably limited. If you're a company that invests in a wide variety of investment classes, i.e., different collateralized mortgage obligation (CMO) tranches, and so on, I think you'd need to justify that your asset portfolio is the same with respect to many different criteria, not only asset quality and coupon rates, but also duration, convexity, and so on. I think the level of your asset configuration dictates the level of discussion in the memorandum.

MR. MCCARTHY: Larry, did I understand you to say that it would be your preference that a company ask for an extension rather than use an earlier date?

MR. GORSKI: Yes.

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MR. MCCARTHY: My experience with other insurance departments tells me that your preference is not a universally held opinion. The reason for it, I believe, is that some regulators have taken the view that you really don't know if the final annual statement that has been submitted to you is the annual statement or not until the testing is done. Insurance departments have preferred the use of earlier data to eliminate that potential ambiguity.

MR. GORSKI: We've handled that question when an actuary requests an extension by imposing a couple of conditions. One condition is that a Section Seven opinion accompany the annual statement, so at least we know that the reserves meet the formula test. Second, we require routine status reports on, let's say, a monthly basis through the actual filing date. Also, in almost every one of those cases, the memorandum is filed with us. So, we take care of the reserve question by requiring a Section Seven opinion.

MR. DURAN: We also had a question about whether it was ever acceptable to use information as of a date prior to September 30? I wonder if anybody has any very brief thoughts or comments on that.

MR. MCCARTHY: There's nothing magic about September 30, but all of Shane's comments about being able to justify the consistency just get more complicated the earlier out you go.

MR. BRENT P. MARTONIK: One of the practical problems that you would run into in asking for a waiver in the situation where you might want to use December 31 data, is that you have up to 50 states from which you might have to secure an extension from. Some of them may not go along with your request, and you're going to file something. Larry's state is going to have you do a Section Seven, as well. So, from a practical point of view, it seems difficult to have extensions.

MR. MCCARTHY: That's a real problem. And, in fact, I disagree with Larry as to his preferred approach. Of course, abide by Larry's request with respect to filing in Illinois. I think if we want statements at February 28, we ought to have statements at February 28. I think it is much preferable to use, with appropriate justification and reconciliation, whatever you have available to use to get that

done -- part of the reason is because you have to deal with other states, and part of the reason is because you want the integrity and consistency of that statement on that date.

MR. DURAN: We had a few questions about health insurance. One is: What are the appropriate procedures for asset/liability matching and cash-flow testing for group health and individual health products?

MR. MCCARTHY: This is actually a serious problem in companies for whom health is a major component of their business. For many life companies, at least on a dollar amount of liability basis, it is not.

With fairly small numbers of exceptions, it's been my experience that people have been using a relatively simple process of testing: examine the claim reserve runoff on a cash basis and consider any known short-term premium deficiencies.

With the exception of organizations that are wholly or principally health organizations, and leaving aside things like long-term disability income (DI) contracts, I have not seen testing go beyond that simple process for short-term health business. Where there are some longer-term issues, it may be possible to justify that they are not material, particularly when you have the right to change rates.

MR. DURAN: What are the critical issues in testing DI insurance? What modeling issues should one pay attention to when shoehorning DI into a traditional life plan description?

MR. MCCARTHY: The answer to the first question, as anyone who's been reading the trade press for the last couple years knows, a critical issue is the dramatic shifts in morbidity, which may overwhelm anything else you're testing. Cash-flow testing is not only for asset changes or interest rate changes; it also includes morbidity, and you have a serious issue to deal with there. I would note that the second part of the question regarding modeling, is that a typical model designed for life insurance will not deal in any smooth or convenient way with the run-out of the claim reserve. You're

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going to have to get that in separately, typically by special programming or using a model that's suitably adapted, because the cash implications of claim reserve runoff are significant.

MR. CHALKE: I'd just add that claim run-out, of course, is a very major issue. In order to do it right, you have to have a good handle on what your actual claim run-out has been and use that as a starting point.

MR. DURAN: In valuing reserves for recurring DI claims, is it appropriate to use the original date of disablement or a more recent date, such as the latest date of reoccurrence?

MR. MCCARTHY: The question is at two levels. At the first level, to me, it's a read-your-contract-provisions question and determine what it is that gives rise to the eligibility for disability. But as we discussed in our group earlier, another issue is, what's going to dictate the morbidity continuation for that risk? Is it the original date or the subsequent date?

I don't know of anybody who is doing anything more sophisticated than picking an incurral date that is consistent with the contract provisions and letting claim run-out go from there. It would surprise me if recurrent disabilities, as a subclass of DI, or as a subclass of the company's total business, would be material in that respect.

MR. DURAN: I do know of a company that has a major block of DI that has a separate liability for reopened claims, claims that they think will come back.

MR. MCCARTHY: I think that's a different question.

MR. LAURENCE R. WEISSBROT: My company is only in group insurance, and our two major liabilities are the disabled life reserve on group life, and the waiver of premium reserve. Morbidity, at least, termination rates from death, strikes those reserves in opposite directions. In doing the testing, can I assume a gain in one offsets a loss in the other in doing the adequacy?

MR. MCCARTHY: You can use appropriate experience or your best judgment of experience. If that's what happens when you apply it, you're absolutely entitled to apply it.

MR. DURAN: Are companies establishing a liability for the expense of settling resisted health claims?

MR. MCCARTHY: You could leave out the word "resisted," and the answer would still be yes. There's much more regulatory focus on that than there used to be.

MR. DURAN: Here are a few miscellaneous reserve questions: Given a universal life product with a pattern of long-term book losses, what reserving approach is required, permitted, or recommended under (1) statutory valuation law, (2) *FAS 97* GAAP, and (3) sound actuarial practice? By "long-term book losses" I mean negative statutory book profits in the usual sense. For the product in question, statutory reserves under the universal life model regulation method collapsed to the policy fund value. Hence, *FAS 97* gross profits are equal to statutory profits at that duration. At issue, and for several years after issue, the present value of future profits is positive. The incidence of loss problem has its roots in higher, early-year cost of insurance charges and interest spreads relative to later-year experience. Assume that management has no intention of revising these aspects of the product if current experience holds.

MR. MCCARTHY: The answer to the statutory reserve question is that formula reserves are the formula reserves, no matter what. Your asset adequacy tests, whether on a cash-flow basis or something else, are what they are. You may get some help out of aggregation, if you have other positives elsewhere.

MR. CHALKE: I think the question about statutory valuation as it relates to cash-flow testing really has to do with the level of aggregation that you choose to avail yourself of.

MR. DURAN: On the *FAS 97* GAAP question, my only comment there is that you can defer high early cost of insurance charges as unearned revenue.

MR. TIMOTHY A. HINCHLIFF: I have a question on the implementation of Guideline 33. I was chairing a workshop in a prior session, and this topic was discussed quite a bit. Most of us had felt that we understood how Guideline 33 should be implemented. Basically the idea was that you look at each income stream alone, e.g., annuitization, 100% cash value surrender, and so on, at any particular point in time. But, at the workshop, it was brought up that there was a need to consider, for example, mixed benefits, like mixing death and surrender and annuitization. In our group, we really didn't know how that was going to be done, and we were surprised that there was a difference of opinion about how it should be done. I wonder if there are ideas on how mixing death and annuitizations is really going to work?

One of the issues is selecting the appropriate interest rate. Consider the death benefits stream. I think the guideline calls for using valuation interest rates appropriate for life insurance. But if it's annuitization, then you're into annuity interest rates, which are different. Would someone like to address that?

MS. DONNA R. CLAIRE: This is one of those areas where I have a feeling actuarial judgment will be involved. If you actually went back to the original call for issue papers, it was said that you have to check every single path. GGG was actually pretty narrowly defined. The discussion we had at the Life and Health Actuarial Task Force said there are two alternatives. You can use actuarial judgment to figure out all the little paths as to how to apply the death assumptions, e.g., continuing to exist until year five then dying, or continuing to exist to year five and then affecting the accelerated death benefits provision, and so on.

The other alternative that appears to be acceptable, at least to the group of regulators, which represented 15 states at the time, is, in effect, set the total reserve equal to the sum of the basic reserve, which would be either the cash value or annuitization values, and then some conservative reserve estimate for death benefits, if necessary.

MR. DURAN: Is it ever reasonable to conclude that an asset adequacy analysis suggests the possibility that reserves may need to be strengthened at some future date, yet are adequate as of the valuation date? This actually relates to something Shane was talking about earlier.

MR. CHALKE: I think that's without a doubt possible, because what we're looking at is economic value on both sides of the balance sheet. And there are contingencies that can play out in the future and relatively weaken one side versus the other. You could definitely come across external environments that could cause reserve strengthening in the future, but would not indicate reserve strengthening now.

MR. DURAN: You could also simply have a pattern of profits where there are profits now and losses later; as a result, you may need to strengthen reserves later.

Now for another question. You have issued a substandard universal life policy where the cost of insurance charges are on a table-rated basis. Is it common practice to calculate the statutory basic reserve by applying the rating to the guaranteed costs of insurance and the valuation mortality rates? If you calculate the reserve in this manner, must you apply the rating to the mortality rates used to calculate the alternate minimum reserves?

MR. CHALKE: It's fairly common to rate the table in order to calculate the basic reserve. On the minimum reserve, you're starting to get a couple of orders of magnitude from relevance, but I think practices go both ways.

MR. DURAN: We had a number of questions on Regulations XXX and 147. There have been whole sessions on those topics, so we have deliberately not included many of them.

But one question that was asked by several people is: What is the timetable for adopting XXX? How many states will have adopted it by the end of 1996? And how many states will have adopted it by the end of 1997?

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MS. MACDONALD: What was reported to me was that XXX is progressing very slowly. There's been a backlash against it, and the adoptions that were expected to occur this year, to be effective on January 1, 1996, basically haven't happened.

I think that there's a lot of doubt about whether it will go forward. I've heard a rumor that Michigan has actually adopted it, but that's only a rumor. As I understand it, the consumerists have launched a pretty effective lobbying effort against it.

MS. CLAIRE: In the last session, we found out that Larry Gorski's best guess is that Illinois will actually pass a law in late 1995, or in early 1996, for a January 1, 1997 adoption date. It doesn't look like there are other states that are looking at it. There is actually an Academy committee that has been asked to comment on XXX. There is a potential, after the Life and Health Actuarial Task Force reviews those comments, for more states to go forward, potentially with a July 1, 1996 date. So 1996 is possible.

MR. DURAN: Another question that Donna might have some information on is whether it is likely that New York will make changes in its Regulation 147 to bring the two models more in line?

MS. CLAIRE: The two models actually are not that far apart. And, again, New York is closely watching what happens on XXX. I think New York will reserve judgment while things are unsettled.

MR. ARMAND M. DE PALO: I represent the Life Insurance Council of New York (LICONY) on these issues with New York state as the chairman of reserve issues for New York State.

Bob Carmello, who is acting in place of Bob Callahan after his retirement, has asked for a provision-by-provision review of XXX versus 147 and what changes needed to be made to bring 147 into compliance without eliminating the extra things that are in New York State law.

This has been done. In effect, Bob Carmello's position is that he's going to make the changes, but he's in no rush to do it. He'll catch up to it some time in 1996.

MR. DURAN: Is there an existing model, or one in development, that fairly compares the investment portfolio results of an insurance company with those of its peers, given that each company has a different mix of liabilities to match? And what is the best method to measure the performance of an investment department, given the asset/liability matching and management constraints imposed?

MR. CHALKE: The only comment that you can make in this limited amount of time is that people are moving very strongly away from peer-to-peer comparison, toward market comparison, and finding ways to abstract out the three difficult elements in investment performance: price behavior (i.e., duration and convexity), quality, and liquidity. And that's really the nature of the framework, to abstract out those qualities and find attribution of performance related to market.

MR. MCCARTHY: There are at least two intercompany groups that are doing period-to-period comparisons, attempting to adjust for liability differences and so forth on an ongoing basis. There may well be others, too.

That whole exercise is fraught with difficulty, needless to say, but there are groups that are attempting on an ongoing basis to do that, recognizing that, for the first year or two that you do it, you're really just getting an education rather than useable results.

MR. DURAN: There was one other question: Where does someone new to the area get information on how to be a valuation actuary? Of course, there's the dynamic solvency testing handbook under development. There are the practice guides of the Academy. The Life Insurance Specialty Guide Committee, which I chair, has a specialty guide on statutory reporting and the valuation actuary that was done a couple of years ago. That's going to be updated within the next year. There are plenty of places to go for information.

