1998 VALUATION ACTUARY SYMPOSIUM PROCEEDINGS

SESSION 40OF

ASK THE EXPERTS

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ASK THE EXPERTS

MR. CRAIG R. RAYMOND: The idea is for this forum to be as open as possible. We have an extremely esteemed panel of experts who need no introduction. We have Dave Becker, Chief Actuary of Lincoln National, Donna Claire, President of Claire Thinking, and Steve Sedlak, Corporate Actuary at Nationwide Financial Services.

I have a few questions that we're prepared to answer that were submitted beforehand, but the intent of this session is to get as much audience participation as possible. I'll ask the first question from the ones that were presubmitted, and then I'd like to take one from the audience. Dave is going to take the first question, and then we'll take comments from the rest of the panel. How do you pick spreads for use in your reinvestment strategy?

MR. DAVID N. BECKER: For reinvestment purposes, we model generic assets that are basically simplified securities. For these securities, we examine the historical distribution of what spreads have been on similar securities over the last 20 to 25 years and use the median of that distribution. Since we're projecting out 30 years on all of our blocks, we believe that using an average spread is a better representation of the current-day spread; in recent times, it has been very low and at other times, it is very high. Because we use the median spread, we sensitivity test the results using a revised spread that is one standard deviation below the median.

MR. RAYMOND: Any other comments from the panel?

MS. DONNA R. CLAIRE: It doesn't make that much of a difference for a number of companies. Some of the software firms feed you the current ones. That is probably an acceptable approach. Mark Green of New York Insurance Department commented that one of the things he doesn't like to see is major changes from one year to the next. I think Dave's method of using historical is probably a reasonable thing to do for a long-term projection of rates.

MR. RAYMOND: Steve, did you have anything to add?

MR. STEPHAN A.J. SEDLAK: Yes. We use the same general technique, although we don't go back as far as 20 years and we use an average spread value.

MR. RAYMOND: Donna has agreed to start on this one. What's generally being done in terms of dynamically modeling policyholder lapsation?

MS. CLAIRE: I do a lot of peer reviews, and what is generally being done ranges from one extreme to the other. On the bottom end, the answer is not enough. Since most of us started cash-flow testing in the mid-1980s, interest rates have actually been relatively benign. Most of us really don't have accurate experience on what would happen if rates rise dramatically. The dynamic formulas that a lot of companies are using are probably not dynamic enough or they max out at too low a rate. I have examples of two companies. One, because of other reasons, wound up being about 1.5% below the market in the early 1990s. They had lapse rates on single premium deferred annuities (SPDAs) of up to 60%. The other company had a different block of business, but it was an annuity block of business that did go through the early 1980s. In effect, the dead woke up. When they were way below the marketplace, there were lapse rates of 50% and 60%. It's something that people should consider for SPDAs and universal life (UL), although I don't think the lapses are as high. Basically you should consider what would happen if you're way below the market. You might not get as much premium on UL, and you might not necessarily get the lapses.

MR. SEDLAK: We were very "fortunate" to have a block of annuity business partly issued through our agents and partly issued through our brokers that was just in time for the 1980 interest rate spike to occur. As a result, we have some experience. It's on a very small block, and it didn't last very long. It produced fairly high rates approaching, or even in excess of 50%. In our assumptions, we use that rate for the SPDA business and grade it back somewhat for flexible premium deferred annuities (FPDAs). We're making educated guesses regarding the policyholder sensitivity on such things as universal life and participating whole life. That's less sensitive so we're sort of interpolating, if you will, between the extreme experience and no sensitivity at all (which only happens on things like pure GIC and payouts).

MR. BECKER: I believe most of you are aware of the Society and Life Insurance Marketing and Research Association (LIMRA) study on deferred annuity lapse rates. The study found that lapse rates spiked upward at the end of surrender charge periods; Lincoln National experience is consistent with this. The historical data, as Donna has mentioned, doesn't lend itself to any robust statistical estimation of what policyholders will do.

In 1989 I examined our block and an affiliate's block of universal life business. I performed statistical regressions of monthly lapses from 1981 to 1989 against differences between the crediting rate and an array of potential competitor rates. These potential competitor rates could either be a long rate, a short rate, a moving average, or the maximum of the long and the short rates. Out of all the combinations, only one of them was statistically significant. In other words, the sample correlation coefficient was statistically different from zero. It had lapses going the wrong direction from what you would think based on the difference between the credited rate and the competitor rate. That tells me that the data are all noise and there really is no data signal. It's not credible.

One other item I would mention regarding policyholder behavior is that Jack Seigel and I are conducting research into fixed/variable premium allocation in variable annuities and transfers between the separate and general account. We have two blocks of business. One is largely tax-qualified 403(b) managed by inside fund managers, and the second is essentially non-tax-qualified single premium or flexible premium annuities and mostly variable. They are managed by external fund investors. We've asserted that the policyholder behavior will vary by different dimensions. These dimensions include such items as product type, distribution channel, target market, tax-qualified or non-tax-qualified. The experience we have on these products with regard to fixed/variable premium allocation behavior and transfer behavior is markedly different. Several statistical tests of the null hypothesis, which was that the two blocks have the same policyholder behaviors are rejected at the 1% level of significance. If you do have blocks that differ materially in certain key respects, you may want to consider using different assumptions for those blocks.

MR. SEDLAK: One other thing. This is such a soft assumption and it is very important to the cash-flow testing. Thus, if you don't sensitivity test anything else, you should sensitivity test this one at least to know how much of an effect it can have on your results.

MR. STEPHEN N. STEINIG: You mentioned having your maximum lapse rate on your single premium annuity block. At how small of a differential to the competition do you reach that maximum lapse rate?

MR. SEDLAK: In our formula I think we used approximately 4%. One question to ask is if the run-up happens over several years, is it going to be worse or better? A number of aging or seasoning processes would probably be at work for which we have no statistics whatsoever. We graded our data to our particular experience. Frankly, it may not be right anymore for a variety of reasons. We do some capping also. It's a "it-can't-be-worse-than-that" sort of thing, but it's typically fairly high. I don't even know if it's worth the bother.

MS. CLAIRE: Yes. One thing that we should realize is the same thing that happened with residential mortgages. Every single investment house had a formula, and effectively they capped what the prepayment rate would be. When interest rates got so low, it created an entire environment change. You had additional mortgage refinancing companies calling you up continuously saying, "refinance" because that's actually how they were making money. You also saw newspaper articles telling people to refinance. If rates go down to approximately 3%, there will be not only the agent telling the customer to refinance, but the general public is also going to be finding out from newspaper articles and other media that maybe this is something they should do. The entire environment has changed over the last 20 years.

MR. RAYMOND: I think that's a real important point. It relates to Steve's comment. Even where some experience and analysis has been done, the market has changed drastically over the time that any of that experience has been developed. In addition, we've really never seen an environment where rates are rising, or rising so quickly, at least in the periods we're talking about for these products. It's difficult to draw any conclusions. As Steve said, whatever your assumption, it is something that needs to be sensitivity tested.

MR. STEINIG: In a similar vein, Donna, what's generally being done in terms of dynamically modeling policyholder loan utilization? Would you like to comment on the factor curve approach?

MS. CLAIRE: Many companies really aren't paying that much attention to it. That's probably not too offbase because most policy loans at this point are probably based on the Moody variable rate. However, one thing you really must consider is that you can have a liquidity crisis. In effect, even though the rates are high, if we go into a bad environment like a recession, no matter what the interest rates are, people can take policy loans out and you will have to surrender assets at that point. It is a liquidity concern. As everyone knows, if you have fixed-rate loans, you're going to see a heck of a lot of increases in the loan utilization. The one thing I think people really should realize is even if you do have variable, you should consider what would happen. Would you have a liquidity problem?

MR. SEDLAK: This is not one of our biggies as far as assumptions. The products we have that are subject to a loan mainly have a variable rate loan, and they tend to be on life insurance where there seems to be a lot less sensitivity. In addition, until recently, most of our life insurance business has been agency sold. We have cut a lot of the loan assumption back from basically the withdrawal assumption for the same product type. The underlying feeling is that there's a decision of some kind being made as to whether or not policyholders will take their money back in the form of a loan or in terms of a surrender. In traditional life insurance, that basically means choosing to eliminate your insurance coverage. On the other hand, for universal life or annuities, they have a very real choice because partial surrenders don't eliminate insurance, at least not immediately. Another consideration is loans are relatively disadvantageous to individuals from a tax standpoint. Thus, we tend to assume the money will prefer to go out the door in cash surrenders or partials.

FROM THE FLOOR: On the subject of assumptions such as policy loan utilization, surrenders, premium persistency and so on, where we don't have experience in increasing interest environments, how do you recommend that companies go about tracking their experience when we do go into an increasing interest environment?

MS. CLAIRE: No matter what type of interest environment you're in, you probably should be tracking it. Some companies do monthly tracking of all of these subjects, and premium consistency is a good one. I think a lot of companies don't realize that on certain blocks of business that's a very sensitive assumption. The premium persistency for certain blocks is nowhere close to what was originally priced for. When this is happening, your cash values are lower, so are you covering your expenses? You basically assumed a certain block of business was going to have a certain level of cash values, and you're going to throw off the loads. You may not be getting those values. You should be tracking your business no matter what because not only interest rates, but also negative articles in the press, generally about insurance companies (specifically about yours), can have a tremendous impact on those items.

MR. SEDLAK: Dave commented about the transfer assumptions. We have even less data on that. We've had this wonderful bull market, and one could posit that the transfers would begin and be competing with surrenders if the market was to go down. Another consideration is it is not merely rising interest rates that you have to watch out for with things like transfers and premium discontinuance (or its reverse). Many policies out there don't have that much limit either on transfers from the separate account or on premiums being dumped into the product. If you have a relatively high floor guarantee on your products, there are scenarios where that may become relatively attractive to what's available in, say, certificates of deposit. If so, you'll start getting the other side of the C-3 risk.

MR. BECKER: The issue that Steve mentioned affects both risk management and potential profitability. Many companies have limits on the transfers from the fixed account to the separate account. These limits are to control general account disintermediation risk. Note that those limits are not always enforced, which might create future problems. Often there are no limits on transfers from the separate account to the fixed account. As Steve noted, this might create reinvestment risk as there is a floor guarantee on the crediting rate for the fixed account. Insurance companies compete for attractive fixed-income securities for their fixed accounts. If there were significant transfers from the separate account to the fixed account in many companies simultaneously, then this would drive yields lower as all the companies are competing for a limited amount of fixed-income securities.

Another risk from such transfers is that the liabilities in the fixed account have a larger risk-based capital (RBC) requirement than liabilities in the separate account. If there were significant transfers from the separate account to the fixed account, then there could be a significant increase in the RBC requirement for the company. This could lower the NAIC RBC ratio and lower the capitalization ratios used by rating agencies. This, in turn, could lead to reductions in agency ratings and, potentially, lead to impairment in writing new business and increased surrenders.

MR. RAYMOND: I have a follow-up to that. With the recent turmoil in the markets, have any of you seen movements among funds or into the fixed account? As an example, have you seen movements away from stock funds? Have you seen movements into fixed accounts?

MR. BECKER: In the *Fort Wayne Journal Gazette*, there was an interesting interview with someone at the CIGNA 401(k) operation who talked about this. CIGNA experienced a temporary large upward shift from separate to fixed at the end of August. At Lincoln National we get a report that tells us what the transfers are on a daily basis. We calculated the average daily amount transferred out of the separate account for the first 25 or 26 days of August and compared it to the amount for the last day of August. It increased by a factor of approximately six. In early September the amounts remained higher than normal but they returned to historic levels in roughly a week. The single-premium block, managed by outside investors, had the greater volatility.

MR. RAYMOND: Actually, our experience showed significant movement away from the stock funds but very little movement into the fixed accounts. The most frequent transfer of stock fund money was made into money markets.

MR. BECKER: In our case, it wasn't going into the money markets, but into the fixed account.

MR. RAYMOND: Was that mainly on qualified business?

MR. BECKER: Both.

MR. SEDLAK: We've had at least two periods. There's last year's rundown, which basically didn't last very long. We really didn't see anything happen then. The current situation hasn't had a chance to work its way through. I have a feeling that, depending on who's actually selling this business or who has purchased it, policyholders may tend to jump one way as much as they possibly can, and then jump back the other way. In the long run, it won't make much difference, but it's a little early to actually see a trend.

MR. ALASTAIR LONGLEY-COOK: For statutory valuation purposes, we're faced with trying to prove, through the kind of testing you're talking about, that we're solvent and we're healthy in these low interest rate scenarios where we have these minimum interest rate guarantees and the possibility of additional deposits. On the other hand, some of us are facing kind of the flip side; for Harris Trust purposes we need to prove that our contracts are guaranteed benefit contracts. The definition of that is fairly vague, but it seems to rest upon whether or not there is a significant transfer of risk from the policyholder to the insurance company. For those purposes, you want to be able to say, "Yes, these minimum interest rate guarantees are meaningful. Look, here are some scenarios where we lose money." I wonder whether or not any of the panelists have looked at that side of the coin and justified their policies as guaranteed benefit contracts by proving that, in fact, in some scenarios we do lose money.

MR. SEDLAK: The simple answer is, no, at least not yet.

MS. CLAIRE: The other simple answer is, yes, they're real guarantees because you really can lose money. We're getting very close to the point that certain companies could start losing money because some of the guarantees on the in-force business are 5.5% or higher. That's higher than the 30-year Treasury rate right now. You need the spread to cover expenses.

MR. BECKER: Alastair, are you considering 401(k) contracts as coming under Harris Trust rules?

MR. LONGLEY-COOK: These would be any contracts coming under the ERISA banner. It is primarily 401(k) business, but it would also be some 403(b) business. In those cases, according to Harris Trust, starting January 1, 1999, you have to be issuing nothing but guaranteed benefit contracts or you fall under the requirements of Harris Trust. We're wrestling with the issue. I think many of us don't want to have 4% guarantees anymore, so we suggest 3% guarantee for our new business. But if we feel comfortable through our interest rate scenarios that 3% is safe, then you're faced with the flip side of the coin that there's no transfer of risk or minimal transfer of risk, and it's not a guaranteed benefit contract. You're either stuck with 4% or you have to slap on some additional guarantees, maybe a 12-month current rate guarantee or something else that would assure you and your lawyers that you would be safe from any attack, and that, in fact, these guarantees are meaningless.

MR. BECKER: That's very similar to what companies do with regard to the *Otto* decision. They declare a minimum interest rate guarantee in the contract and additionally declare a calendar-year guarantee. This provides protection from the contract being declared a security without creating additional valuation problems.

MR. LONGLEY-COOK: The advice from the lawyers and the case history indicates that it may fall upon the actuary to prove that there is adequate transfer of risk. So those of you who have this business might want to consider just what they might need to testify to or be deposed on if this comes up, rather than just relying on somebody else in the company saying that there's risk transfer. It seems to me that it would be the actuary's job to indicate this. The case history is that actuaries have been deposed and asked to justify that these were guaranteed contracts.

MR. RAYMOND: The next question we have is on a different topic. We have a few GAAP issues that we received questions on. For *FAS 97* variable products, we're wrestling with methods of smoothing out fluctuations in deferred acquisition costs (DAC) that result when the stock market dips or gains significantly. Are there tried and true ways of dealing with these fluctuations in earnings? How have you seen these fluctuations dealt with?

MR. SEDLAK: By tried and true I assume you mean that your auditor buys off (on it). I've heard of a number of ways. On our individual products we use what you might call a course correction method. I could best describe this by an example. Let's say that your underlying assumption of variable performance was 8%, and for this particular period (I'm going to use the term period because you might want to do this even more frequently than annually), the market goes up 30%. Then the future assumption, instead of being the level 8% that we set up at the issue of the contract, is then revised so that you average at 8% over some period of time in the future. This creates a dampening effect on future growth of the funds and, therefore, on the future estimated gross profits (EGPs). This, in turn, acts to offset the increase in future EGP relative to those that were originally projected which are due to the greater-than-expected funds growth (30% vs 8%).

MR. RAYMOND: Dave, do you have any comments?

MR. BECKER: The first thing to note is that if you really use the strict *FAS 97* algorithm on variable business, you're supposed to discount your estimated gross profits at one plus the crediting rate and accumulate deferred acquisition cost (DAC) at the crediting rate. If you really followed that algorithm using your crediting rate, the following can occur. Let's assume you have a 1% asset management fee and a 1% mortality and expense charge and in the current period the market went down by 50%. Then one plus your crediting rate equals 0.48, and when you accumulate your opening DAC to the end of the period, you're going to multiply it by 0.48. A fall in the market translates into a massive write-down in your opening period DAC. Similarly, a massive rise in the market actually inflates DAC, but you're allowed to let DAC rise by one plus the credited rate.

The first step that auditors will allow, is to pick a rate at the issuance of the block of business that remains fixed over the GAAP amortization period. For example, you might assume a gross earned rate equal to the long-run growth rate on equities and then subtract the asset management fee and the mortality and expense charge to get the credited rate. Using the resulting fixed rate for discounting estimated gross profits and accumulating DAC removes a large portion of the volatility in the change in DAC. An additional technique that reduces volatility is to use a dynamically readjusting future growth rate so that upward spikes are compensated for by permanently lowering the future growth rate in the separate account over the remainder of the horizon and vice versa.

If you do this, the following will occur. Suppose you have two blocks of business, one issued three years ago and one issued last year. Assume the long-run growth assumptions for those two blocks of business are the same. Those two blocks will have different future growth assumptions since the older block has more actual history and the method will not likely solve for the same future growth rate. It will seem to imply that you are assuming that the same underlying funds have different future earned rates. The simple fact is that you should not blush if somebody brings that up. It is the nature of the method that you are assuming the same long-run growth assumption (which is the point of consistency). Blocks issued at different times and investing in the same underlying funds will have different dynamically adjusted future growth rates. That's not an embarrassment. It only seems counterintuitive as the observer is focusing on the future growth assumption as of the valuation date, and not the aforementioned point of consistency in the long-run growth rates at issue. The goal is to avoid introducing undue, unwarranted volatility of reported earnings because of volatility in the stock market.

MR. RAYMOND: I have a related question. The questioner was interested in knowing what mainstream approaches are used to unlock, how frequently companies unlock, and do you do this differently for variable products where waiting a year could result in big changes? Actually, I have one comment on this, which was related to a few of the comments that you made. As I was reading this question, I realized that there are really two issues that should be thought of separately. I think we often get confused when we talk about *FAS 97*. There's a difference between truing up for actual experience and unlocking for future expectations. I think it's fairly common for companies on a very regular basis (even more than annually), to true up to actual experience, but I often hear the comment that *FAS 97* also requires you to unlock your assumptions every year when you true up. My perspective on this is that *FAS 97* does not directly require you to unlock your assumptions every year.

What it requires you to do is evaluate whether there has been a significant change in experience that would require you to unlock your assumptions. One approach that I've seen for variable products is that, as Dave has alluded to, if you make the argument that your primary assumption for projecting EGPs is the long-term growth rate of your underlying account, you don't necessarily have to continually unlock the projection of your underlying account with every fluctuation in the market. Thus, you don't necessarily change your expectation as far as the long-term growth of the account just because the account is up or down today. I think this is also a technique that you need to keep an eye on, but it does give you some ability to get more stable and reasonable patterns of earnings. Any other comments as far as the timing of how often you look at this?

MR. SEDLAK: We'll unlock once a year, but in this particular instance the variable contracts almost beg to have an unlocking occur more frequently than that. In the current market that may definitely require you to do it quarterly or else you'll have very bad quarterly fluctuations.

MR. BECKER: Retrospective unlocking is the terminology that we use at Lincoln with regard to truing up. Our mechanics process retrospectively unlocks every month. However, our rule of thumb for prospective unlocking is very similar to what Greg was describing. For each block, we review the relevant assumptions on an annual basis. Depending upon the nature of that review, it might tell us whether we need to unlock or not, but we don't necessarily unlock at that annual review. If we were to have some kind of dramatic event, then the valuation actuaries would examine whether there has been a fundamental change in the environment that would lead them to believe that something should be done. So we review them annually. Based upon that review, we may or may not unlock assumptions. However, if something very unusual happened, they would actually initiate a review at that point as well.

When you review for unlocking do not unlock one assumption at a time. Look at all of your assumptions and unlock as a cohort. Because of workloads, there is sometimes a tendency to look at one at a time. All your assumptions are often moving slightly differently, and if you do it one at a time, you introduce volatility into your own process. You don't want to be in the position of having to explain to senior management why you either had some good earnings or some bad earnings in a given period simply because of an unlocking. The reason they get so excited about it is because they have to explain it to the outside world.

MR. RAYMOND: That's a good point, and that's an issue that we often come up against. We don't see a significant enough change in a single assumption that warrants change, but when we do have an assumption that's changed enough to want to go back and change, we reevaluate all the assumptions at that point.

We have one last question on the GAAP side. How do companies treat riders and dump-in premiums and estimated gross profits? I know Dave's prepared for this.

MR. BECKER: On our block, we assume EGPs are on the base policy only. So, we'd look at the revenue items from the base policy and the associated expenses. We neither take into account revenues on the riders, nor the benefits on the riders.

MR. RAYMOND: The underlying assumption is that the pattern of profits on the riders does not significantly distort the results.

MR. BECKER: It hasn't yet.

MR. RAYMOND: This question goes back to the statutory opinions. Is it necessary to sign the opinions and the jurat page for each state in which you do business? I think this is a question that's on a lot of our minds. Is it acceptable to sign and file the original in the domiciliary state with photocopies of the originals going to the other states? Do you need originals? My accountants tell me I need to sign 50 originals.

FROM THE FLOOR: If they can see it's a copy, they'll ask for the original.

MR. RAYMOND: We had some discussion about this, and there isn't a clear requirement. As far as we could tell, we didn't see a clear requirement that you have to actually sign all these copies, but it seems that it's the norm. I know our people always tell me I have to sign all of them. We had a discussion on the jurat page, and whether the actuary really has to sign it. Donna, do you want to comment?

MS. CLAIRE: Yes, there's a line for the actuary, but the actuary isn't attesting to anything on the jurat page. They are attesting on the actuarial opinion. Therefore, if it doesn't mean anything, why sign it?

MR. RAYMOND: If you actually look on the statement above the signature, it refers specifically to the other three people who are signing. By signing, they're attesting that everything is accurate to the best of their knowledge. The statement itself does not refer to what the actuary is attesting to. I've often looked at it and wondered what my signature means. The answer I always get from my accountants is, if there's a spot there, sign it.

MR. SEDLAK: It's like the mountain climber response—because it's there. It's clearly an anachronism now because what you're really signing is the valuation actuary's opinion. You are statutorily responsible for this, and it arguably supersedes the signature on the annual statement blank.

MR. RAYMOND: I have seen numerous blanks that do not have the actuary's signature on the jurat.

MR. SEDLAK: It's something I'd love to avoid. It's just a big time waster.

MS. CLAIRE: Actually I have a similar question. How many of you sign the quarterly opinions? Does that imply that everybody else doesn't? The discussion we had indicated that, as far as we can tell, there is no requirement for quarterly opinions for the actuary now that we invented Actuarial Guideline ZZZ. For at least equity-indexed products and probably the newer products coming down, we're back to requiring an actuary's signature. As far as we can tell, actuaries do not have to sign quarterlies.

FROM THE FLOOR: They say when you're signing these you should not use black ink because it looks like a photocopy. You should use blue or something other than black.

There was a discussion about the quarterly opinions on Actuaries Online. The conclusion was there's no need to file quarterly opinions, and we stopped doing it this year. So far, the sky hasn't fallen.

MR. SEDLAK: Once you sign your opinion you also have a number of reliance statements. Many of the states are not terribly worried about having original signatures; however, a number of them are sticklers for this. I think our accountants say there's five or six so we have streams of paper that are going through the various subsidiaries with people signing reliance statements. I think it's another example of form over substance. How many people address this issue or ride herd on it, or do your accountants do it for you? You really should be getting those reliance statements and herding them together for your opinion. We do it for the states that are sticklers, and then are thankful the majority are not.

FROM THE FLOOR: Yes, I have a comment on the jurat page. We do have an actuary at my company that signs the jurat page. It's not the same actuary that signs the actuarial opinion.

MR. RAYMOND: In our company, there have been times when the appointed actuary has been different from the chief actuary. The chief actuary has signed the jurat page.

This year, I delegated the appointed actuary work to somebody else. I'm not sure what's going to happen next time the jurat page comes out. I don't know whether they're still going to expect me to sign that or not. We'll find out. I find it interesting when it comes down to a discussion of how many times you actually have to sit down and write your name—we get a lot of interest from everybody here.

FROM THE FLOOR: A related question. What about electronic signatures? I use them on faxes.

MR. RAYMOND: That was an issue we talked about. Electronic signatures are being used in many different ways right now, but there doesn't seem to be a clear change in perspective from either the lawyers or the regulators as to what they're expecting. The company people seem to think those original signatures are important. I'm not sure how often the question is actually asked. As we start talking more about electronic filing, hope we can get beyond the need for original signatures. I do have another question. Donna was going to answer this one. The model regulation states the actuary includes in his or her opinion a statement that the reserves are as great as the minimum aggregate amounts required by the state in which the opinion is filed. The Idaho statute seems to define CARVM to be the accumulation of the net premiums and interest credited less withdrawals. The Idaho requirement appears to be the accumulation account. How has this been handled for companies filing in Idaho?

MS. CLAIRE: The official public answer to this is call the Idaho Department. Roughly translated, you can probably convince the Idaho Department that those words didn't quite mean exactly what most people thought they did. As an actuary, we cannot say you can legally violate the actual words or the letter of the law. The letter of the law comes real close to accumulation value. It's a real stretch to come up with any other words. Therefore, I would strongly recommend that you call the Idaho Department if it is a major part of your business. Get them to write you a letter saying it's fine.

MR. RAYMOND: In addition to the Idaho case, there are a number of other cases in which we find there is a lot of state variation that is unclear or unreasonable. We have very actively gone out and documented the discussions we have had with regulators regarding their interpretations of what some of these deviations mean. It has been extremely helpful in gaining comfort that our reserves are sufficient. If Idaho is a state that concerns you, I'd encourage you to talk to the regulators in Idaho.

MR. SEDLAK: As many of you probably know, this is an ongoing and fairly actively debated issue within the NAIC. There has been a proposed revision to the Actuarial Opinion Memorandum Regulation. A central issue is where the Section 7 and Section 8 exemptions should fall, how they should operate, or if there should even be two different requirements. The other issue is what do we do with the so-called state-filed requirement? The regulators seem to be having their problems dealing with state variations and how they fit into the codification. I really hope that we can resolve this in some manner because it is very difficult to try to keep track of the various states and their requirements.

There are many requirements beside legislation and regulations in some cases. We have letters, bulletins and other such things that have greater or lesser validity from the standpoint of due process. I can't even get our general counsel to give me an opinion as to how much force of law attaches to regulatory letters that impose requirements with no apparent due process. When you write your opinion, one of the things you might think of doing is to be fairly narrow and specific as to what it is that you're actually signing. You're signing with regard to enacted laws and duly adopted regulations, whatever that means. However, you probably want to exclude things that came out three weeks after the end of the year to be effective retroactively, and, others that really didn't go through an actual regulatory adoption process.

FROM THE FLOOR: Maybe Donna can comment on it. There's a task force of the Academy that has been looking at this issue for probably three years now. I'm on the task force, and we spent two years working toward what we thought was a solution which wasn't accepted by the NAIC at that time. We think now that they're using a different approach. It is an issue that is being addressed.

MS. CLAIRE: I back what Steve says. In the meantime, we really are exposed. Again, I do expert witness testimony, and if it ever comes down to it, you're better off qualifying your opinion by at least saying that you followed the laws and state what you looked at. Let me know what you've looked at because when it comes down to it you looked at everything. As we said, that's somewhere close to impossible. Even if you did do that, some of the states aren't quite following all of their guidelines, either. So, even if you thought you were following it, they may have a different interpretation than you do. At this point, there is major legal exposure, and there are actually certain actuaries who have been called before state insurance commissioner boards because they did not follow the letter of the law in certain states.

MR. SEDLAK: As a defense, you have some extra reserve margin. In our case, it was wonderful. We used to be 100% owned by a mutual property/casualty company, and it didn't matter if some extra capital was tied up in extra reserves there. So you had some padding. We're now publicly traded, and there's all the incentive in the world to squeeze these reserves down to the minimum levels, free the capital up and deploy it elsewhere. This makes it much harder to say that you meet the minimum standards of each state you operate in without tripping on one of them.

MS. CLAIRE: Mark Green made a comment in a previous session about how two large companies normalized the yield curve much differently than the other. Mark commented that that was not what he would like to see. I would say there is no right answer. You're not really selecting against it. There is no correct answer. If we're going to have actuarial opinions, and if we're going to rely on the actuaries, let the actuaries use their judgment. Obviously I'm not representing the New York Department on that one.

MR. SEDLAK: I agree wholeheartedly with Donna. Of all the issues that we have discussed, like the dynamic lapse assumption, policyholder behavior, and many other important things, normalizing the yield curve is kind of like rearranging the deck chairs on the Titanic. It's a case of emphasizing the minutiae. If you're running stochastic scenarios, I also think it's irrelevant. If your scenario generator provides a good representation of what's going to happen, it will normalize and unnormalize the yield curve when you create your stochastic scenarios.

MR. BECKER: The issue on normalizing the yield curve seems to be so overwhelmingly important to some because they're testing rigid fixed curves. If you just take the term structure or the yield curve at the date of valuation and hold it level or pop it up or down, and if you have a really anomalous initial yield curve, it could be construed as very favorable or unfavorable. As Steve correctly points out, our definition of reserve and asset adequacy is based on a stochastic methodology. The interest rate generator is calibrated so it reproduces historical empirical and stylized facts of interest rates. As a result, even if we start off with an anomalous curve, it will evolve over time according to the character of the generator and according to whatever set of random numbers was used.

It's more of an issue because of the classic required seven scenarios. I personally find those discussions unfortunate because I view our whole profession as trying to be scientific and to bring correct thinking about how to do things. I frankly regard legal attempts to define how we normalize the yield curve as a couple of states' attempts in the past century to define pi as being equal to three or equal to twenty-two sevenths because it made the arithmetic easier for people.

MR. RAYMOND: I have another question. When we look at what's happening in the markets today, we see interest rates that are at a level that most of us thought wasn't going to happen in the foreseeable future. Every time I pick up the paper I keep reading about the fact that they're going to continue to go down. As you look at doing testing this year, what impact does the current interest environment have on the work that you're going to do in testing this year, or does it have any?

MR. BECKER: We have a standard methodology, and that's what we'll use. We'll start off with the yield curve on the day of valuation. Since we test most of our business on September 30, we'll start with September 30 and let it evolve. We define the criteria for adequacy in our memorandum, and then we put the results of the required New York seven scenarios in appendices. They are required by law, but they, in no way, form the basis of our opinion.

MR. SEDLAK: As far as the methodology it's not going to really change anything unless, as Dave points out, you're doing things as of the third quarter. We're moving to the third quarter just to get around some of this lead-time and because we're also converting from a home-grown system to another one. An issue arises here because further rate drops may be a material change from when you actually did your testing to the date of the statement.

Aside from that, the results are probably going to change because your portfolio yield relative to new money has a lot to do with what your results are. For example, even if you haven't changed much of anything, in a lower interest environment, rates go past your portfolio yield by a much smaller amount than they would have otherwise. That tends to damp out the optionality that's contained in those scenarios and they don't tend to look as bad. On the other hand, you're closer to the other side of the C-3 risk, and the reinvestment risk starts to bite you. The scenarios and sensitivities that you were all used to explaining tend not to be as problematic. The important ones are now the down scenarios.

MR. RAYMOND: That really touches on the direction of my thoughts. Do you have new sensitivities that you think are going to be important that you want to focus more time on? Policyholder behavior issues and low interest rate environments are becoming much more critical when you start from where we are today. We talked about the movement between fixed accounts and variable accounts.

MS. CLAIRE: Back in the 1970s, people were telling me about the 1940s when interest rates really did get to 1% and 2%, and everyone thought there was no way interest rates were going to get into double digits. Nowadays we can probably give the opposite lecture. Interest rates can get down to 1% or 2%. We've seen it; Japan is experiencing it. Anything is possible. We don't control the environment, and there are a lot of outside forces at work.

MR. RAYMOND: What about cash-flow testing for variable accounts? Do you see it as the norm that companies do cash-flow testing on their separate accounts? Are you seeing more of that?

MS. CLAIRE: This is one of the subjects that a lot of regulators are looking at. There are more companies doing cash-flow testing on separate accounts, specifically those in California. In cash-flow testing, you need to know if you have enough expense margins within your load spread depending on what the stock market does. For example, stress testing is done to see what happens if rates go down to zero. It's worth stress testing just to make sure that your margins aren't going to go away, and to ensure that you will have the money to cover the expenses.

MR. SEDLAK: I'm a real believer in the need to test the separate accounts. Over half of my company is made up of separate account products. It's very hard to wave your hand over half of your company and say, "I've done a real good job over here in the general account, and I'm done." Aside from that, you have some aspects of variable products that sensitivity testing won't address very well. I don't think you can really get the true flavor of what's going on unless you're doing some kind of stochastic testing. You need to have an economic generator that will give you a reasonable, acceptable picture of the future.

For example, you can't wave your hands and say guaranteed minimum death benefits don't really cause you any risk because they really act a lot like unhedged put options. There are also risks that can arise from transfers to and from the fixed account. You also have an upside. You really can get some extra margins from separate account products as long as your economic scenarios also predict upward movements in the markets. The bull market that we've experienced can happen again, and you don't want to ignore this possibility.

FROM THE FLOOR: Are there any suitable techniques for trying to aggregate the variable products with the fixed products?

MS. CLAIRE: A number of people actually do aggregate. If you're aggregating, you really should, in effect, be stress testing the variable. Those margins are allowed to offset, even in New York.

MR. RAYMOND: One possibility is to take the New York seven scenarios and then, for each of those, do a range of sensitivity tests of what happens if separate account performance occurs in a range of ways. This would help to map out the set of possibilities. Obviously the variable accounts are an important piece of our testing. We do a wide range of testing and looking at the sensitivity of the separate accounts. It's important when you do a wide range of testing in the separate accounts that you don't follow the basic seven scenarios. You have to realize the fact that the accounts can go down, otherwise those minimum death benefits don't cost you anything, as Steve said. You need to look at a wide range.

MR. BECKER: We model our deferred annuities and our variable life with both the fixed and the separate account. Currently, the debt side is stochastic, and the separate account side is more or less a deterministic assumption. We rerun with various other assumptions for the variable side in terms of zero growth or maybe slightly negative growth. Ideally you should have stochastic debt equity scenarios, especially as we start getting more significant guaranteed minimum death benefits and guaranteed living benefits, and guarantees from the general account to the separate account. We won't be able to do it this year, but we hope to be able to do it in the following year.

If you're using something like the required seven, and if you start taking every scenario and overlaying significant deviations on the separate account side, two issues can occur. One issue is that if you assume enough negative things happen, you don't need to do the run. A few years ago, a fellow consulting actuary suggested that we sensitivity test mortality by assuming it goes up by 300%. I told him that I could save him the effort and the computer time and just mark it down as he failed. The other issue is that there is some historical pattern. There is a correlation between the debt and equity markets. If you were using the New York 7 scenarios with certain adjustments, it would be reasonable to use equity assumptions historically consistent with the corresponding interest rate assumptions.

MR. RAYMOND: That's a good point, Dave. You can be extremely conservative and look at some pretty bad scenarios for separate accounts on most variable products and find that you still get good results. Keep in mind what the result means. I think you can get to a point where you can step back and be very comfortable that under a very wide range of scenarios and bad results, you can sign your opinion.