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Session 27PD
Implications of the AcSEC Statement of Position for Nontraditional Products

Track: Financial Reporting

Moderator: Laura J. Hay

Panelists: Laura J. Hay
David Y. Rogers
Vincent Y.Y. Tsang

Summary: Panelists discuss reserving issues related to sales inducements, persistency bonuses and no-lapse guarantees; reserving issues related to variable annuity minimum guaranteed death benefits; effect of the statement of principals (SOP) on reinsurance; discount rates, assumptions and use of scenarios for determining expected benefits; and numerical examples.

MS. LAURA J. HAY: We've put together an exciting session on an SOP that was released in July and still seems to be living and breathing with implications and practical issues. Let me introduce our speakers for the day.

Dave Rogers is the partner in charge of PriceWaterhouseCooper's actuarial and insurance-management solutions practice and is based is Boston. He's a frequent speaker on financial reporting matters at seminars and SOA meetings and is a contributing author to the famous U.S. GAAP book. He is a past member of the Financial Reporting Section and has coordinated the development and presentation of this seminar for the past four years.

In addition, we have Vincent Tsang. Vincent is a manager of actuarial services at PolySystems. He is responsible for servicing existing clients by providing solutions for statutory, GAAP and tax valuations and insurance and annuity policies and by performing other actuarial consulting services. He's also a frequent speaker at SOA

Note: The chart(s) referred to in the text can be found at the end of the manuscript.

meetings and the Valuation Actuary Symposium. He is the president of the Chicago Actuarial Association. He has a bachelor's degree in mathematics from the University of Waterloo and a Ph.D. from the University of Michigan.

My name is Laura Hay. I'm KPMG's national director for life/health actuarial services practice. I'm responsible for financial reporting-related matters, U.S. GAAP conversions and IAS conversions. More recently I've been spending a lot of time on Sarbanes-Oxley. I happen to be on the task force for this SOP, so I've been involved with the pre-SOP task force for many years. There's a task force post-SOP, which we're going to talk about in a minute, which I'm also a member of. I'm a frequent speaker on issues of financial reporting. With that, we start with SOP 03-1.

I'll cover variable annuity (VA) business. A lot of the material I cover under VAs also has applicability to the life insurance business. Dave Rogers will handle the life business, and some of the more controversial situations have occurred on the life side. Vincent will bring us back down to the world of practicality on modeling and practical considerations. We'll leave time for questions and answers.

SOP 03-1 was approved and released on July 7, 2003, believe it or not. Just like Financial Accounting Standard (FAS) 133 and all those derivatives implementation group (DIG) issues, this seems to have a life in and of itself. After the SOP there was an AICPA insurance expert panel, which met twice in January. The panel was expected to meet once. We met twice. On that panel there were so many issues coming out that two things happened.

One was there was one major issue of disagreement. That one major issue of disagreement ended up with this thing called FASB Staff Position (FSP) No. FAS 97-a. This FSP was exposed, and the exposure period ended in early May. A final draft hasn't been released. The one major issue of disagreement specifically related to this reverse select and ultimate issue and unearned revenue liabilities and whether or not it got released. It was more a life issue than an annuity issue, and Dave will cover it in more detail, but the FSP, which has had an exposure draft, has not yet become final. It's expected to be final this month.

In addition, there was an Academy practice note chaired by Errol Cramer of Allstate released March 8, 2003. It had 38 pages of dense reading. For those of you who haven't looked it, I would say that it has some great industry perspectives. I'll also tell you that not every industry perspective would necessarily be accepted by your auditors. Be careful as you're reading it because there are some areas of controversy and some areas of discussion of whether they're acceptable. It's a great thing to look at because the number of perspectives is incredible, and it has a lot of great contributions, but read it with caution.

The most important recent event, which has not yet concluded, is the AICPA created another task force to address the issues that had been raised in the meeting in January. This task force came up with six inquiries that were raised.

They largely came from the life insurance perspective. In other words, a lot of people thought of this SOP as driven largely by VA, and then when it came into play a lot of the life writers started to put this into the works and said, "My gosh, I had no idea. If I had, maybe I would have commented. I would have spent more time on it." I would say that of the six inquiries that were being addressed, most of them are related to life business.

These inquiries and resolutions have already gone in the first week of June to FASB, and they're not officially publicly exposed, but the resolutions have been released on various listserves, and people are looking for comments right now before they become final. We will be hitting probably all of those six issues in the context of these presentations, but it's important that you take a look at these inquiries and the resolutions that are proposed from these inquiries. That's about recent events, the point being that the train hasn't stopped yet. Things are still happening, and it's important to pay attention, especially on the life side, but the inquiries aren't only life. There are some inquiries that have an impact on VA business as well, but less so than on the life side.

How many of you have dealt with the SOP in your work so far? This is not the first time you've seen it then. How many of you implemented SOP in your company and have been involved actively in the implementation? I want to make sure we leave 20 minutes for questions because I can imagine that some of you have some implementation-related questions.

I'm now going to address the reserving, the mortality reserves, and then I'm going to address sales inducements. Remember, mortality reserves and the rules for mortality reserves don't differ between VA and life. Everything I'm saying here impacts the VA as well as the life side. Dave will probably bring it more to life, no pun intended, when we hit life-specific products.

Let me talk generally about the SOP and then share with you some of the pain and agony that I've seen companies going through as they went to implement this SOP. First of all, here are some of the ground rules. There are two trigger points before you decide whether you're going to set up a reserve. You have to pass through these two trigger points before you say, "Yes or no; I have to again go through the reserve calculation." The first trigger point is a significance test. The second trigger point is a profits-followed-by-losses test. You have to pass through both trigger tests before you get to the point where you're setting up a reserve.

This is Trigger Test No. 1 for "yes," the question of whether you have to go into figuring out if a reserve is needed. Here are the words from paragraph 24. This is more applicable to the VA side. "If the mortality and morbidity risk in a contract is deemed to be nominal, the contract shall be classified as an investment." You could say to me, "Laura, you've lied. Why are you even talking about this? Why is this relevant?" The reason this is relevant is if you classify it as an investment, the answer is therefore no reserve. It's that simple. If it's an investment contract, you

don't even go into the world of talking about a reserve because you have an investment contract. It's a trigger, yes/no.

You have to first go through this classification. This is usually a non-issue on the life side, this first trigger. It's life insurance. A universal life (UL) policy almost by definition has significance. Some people have debated it. The definition of investment contract, yes/no, UL, is not usually a big deal, but they did spend some time on this issue in the SOP because from the VA side, this issue of whether it's an investment contract came alive.

It became such a lively discussion that they put in this rebuttable presumption, which one person in the task force became famous for saying, the rebuttable presumption, that a contract has significant mortality risk if "the additional insurance benefit would vary significantly in response to capital markets." This is almost like saying, "I dare you." If you have something that's a VA contract, and the guaranteed minimum death benefit (GMDB) is largely a function of capital markets, the underlying assumption is it is an insurance contract. You can't get through it unless you disprove that rebuttable presumption. That's the power of that statement.

They didn't only say this. They gave some guidelines about how to determine the significance, and the guidelines were it's a one-time test, you do it at contract inception, and it gave some numerics. It says you compare the present values of the excess benefits versus the contract-holder assessments. It didn't tell you percentage-wise what was significant versus not. It's a principle-based SOP, but it did say you have to do more than just say it is or isn't significant. You have to somehow prove it with some numbers. By the way, in performing this analysis you can't just do it based on expected value. You need a full range of scenarios.

The reason again for this was that at the time this SOP started three or four years ago, most VA writers hadn't gone through the plummet. They said the expected value is zero, and that's when the full range of scenario issues came into play. There was a real reason why the significance test became real. The most interesting thing about this, and it's a little bothersome, is that it says you have to use actual experience at adoption. For contracts in force you use actual experience up until the valuation date.

Your view might have been one thing at the contract inception, but if you just wrote a contract in 2000, and you're three years out, you had three years of plummeting, and your guarantees are very much in the money, you can have a different view of your in force recently written than maybe your new contract. This is a hypothetical. That little thing they added about how you have to have actuals is a strange thing for the significance test and is something people have to be aware of. That was Trigger Test No. 1: It's a significance test, investment versus insurance. It has to be under a full range of scenarios. Mostly it's an issue for the variable writers.

Trigger Test No. 2 is profits followed by losses. This tends to be more of an issue for the life insurance business than for the VA business, and, if you recall, I said there were six inquiries that this task force was recently dealing with. Two of the inquiries had to do with this exact issue of the profits followed by loss and its various components. Again, we'll look forward to Dave speaking about this from the life perspective. Generally, what it says is that you got through your first significance test, which says it's an insurance contract.

The next test is that you have to set up a reserve only if you have profits followed by losses from the insurance benefit function. How many of you have spent some time and pain on this particular sentence? This again has largely been an issue on the life side, but how do you prove profits followed by losses? How do you define the revenues and the expenses in the profits followed by losses? The devil's in the details on this. This, just like the significance test, is also a one-time trigger test. Again, you have to get through this trigger and the other trigger before you get to determine whether you have to set up reserves.

Say you get past both of those. You say, "I have an insurance contract, and I have profits followed by losses. This is the definition of the reserve. It looks like a FAS 60 reserve, and that's where it came about. It's a retrospective buildup, like a net premium reserve. I like to think of it as a hybrid between FAS 60 and FAS 97. It's FAS 60-like in the sense that you have a current benefit ratio times cumulative assessments. Which in a FAS 60 world I think of as premiums, less actual things that have occurred in the past, and bring it forward with interest. And the reason I think of it as a hybrid is that, unlike FAS 60, once I get this benefit ratio, I unlock it every period or I reevaluate and determine whether I'm going to unlock it every period. That's why I think of it as a hybrid between FAS 60 and FAS 97.

It's funny because a couple of years ago one of the things that was important was that we want to set up a reserve. We want to hold a reserve. Even when things are going well, we want to make sure that reserves aren't just released because guarantees are so out of the money. One of the things this reserve did on an implementation and one of the things we observed was in the second part of this definition, "less cumulative excess payments," if you just went through three years of guarantees in the money (and a lot of insurers had some significant payouts), a lot of companies ended up with reserves a lot lower than they expected.

This did not occur because of the first part, "cumulative benefit ratio times assessment," but because, as they went back and did the retrospective buildup, they ended up subtracting a lot of actual death claims that occurred in the past few years. So the reserves were smaller than a lot of companies thought just because of actual guarantees and where the capital markets were.

This is again the definition of the reserve, but the reality we observed for some variable writers is that their intuition of what they expected the reserve to be versus the reality was a little bit different. Because of that second piece, even

though a lot of people spent a lot of time on the first piece, the benefit ratio piece.

Some other things about this reserve are that the additional reserves cannot be less than zero; it must be based on an expected experience based on a range of scenarios, rather than a single set of scenarios; and it's estimated and reevaluated regularly. It also ends up being an additional liability, and it's a charge to benefit expense. The relevance of that is at one point they talked about it like an unearned revenue liability and said that it's not going to be there. It's going to be like another reserve.

These are some of the parameters under the SOP. Let's talk about some of the practical issues that companies were faced with as they were dealing with complying with the mortality reserve. Again, they've passed the two significance tests. They've now decided they need a reserve. They've gone through and calculated their reserve. It's a retrospective buildup. The SOP says that as you go through this process, you should be consistent in the selection of your assumptions. It's critical that you're consistent between the liability and the deferred acquisition cost (DAC). Remember, the liability must be based on a range of scenarios.

When you talk about VAs, I think everybody's pretty comfortable that that range of scenarios is equity yields, and if you have VAs with a fixed account, you might have some range of scenarios and interests, and notice it doesn't say stochastic. A lot of people think it says stochastic, but the SOP does not say stochastic. It says range of scenarios. But what happens if you're in the life world and you're talking about a fixed UL product? Again, without stealing your fire, what's the range of scenarios? This isn't specific to VAs. In the SOP it says range of scenarios for this reserve. What's an appropriate range of scenarios? I'll let you ponder that.

Consistency of assumptions is critical between the liability and the DAC or unearned revenue or value of business acquired (VOBA), and what's interesting is that this change in liability is a new component of the estimated gross profits (EGPs), and this has caused some really practical issues for some companies. How do I build that component in? If I'm doing it in a spreadsheet, I add the line, but I have to do historical and future. That's been interesting. In building it in, sometimes the EGPs can go negative. Do I let them go negative or do I floor at zero? These are some of the things that companies were dealing with as they built this new liability into the EGP stream.

Another issue companies are dealing with is that they have an additional liability. When they calculated their investment earnings, their spread, they did it all off the account balance. Now they have an additional liability. Should they give that liability some earnings? Are they holding more assets for that liability? The change in that liability is going through the EGPs, so should they be giving it investment earnings and, if they don't, are they giving it a negative spread? Those are the types of issues. The change in liability itself has an interest component. You have the minus and you don't put in the plus. There are some firms that think that's the

only way to do it, that you should be using additional assets to support that additional liability.

Let's spend a few minutes on reinsurance. The SOP does specifically talk about reinsurance assumed. At a high level it says if you have assumed, do it the same as your directly written business. It doesn't say that much different. You have to do your same trigger test: Assess the significance of the mortality or morbidity risk and set up a liability consistent with that risk. It's saying reinsurance assumed is the same as if it were direct. What it didn't address was reinsurance ceded, and the world of reinsurance ceded has gotten quite a bit of discussion of late. The SOP didn't provide specific guidance for reinsurance ceded and those reserve credits.

One approach discussed in the industry is to calculate the benefit ratio and reserve on a gross basis and then calculate the ceded piece by replacing the gross claims with the ceded claims less reinsurance premiums. That's one approach. Basically, you're overriding the claims in the benefit ratio with a new claim that's the net value of the claims ceded less the premiums.

There are others that have not included the reinsurance premiums in that calculation as well, and we've seen both approaches in the industry. On those six inquiries I mentioned that are coming out from the task force, the fifth inquiry deals with the reinsurance ceded piece and leaves open the door for more than just this first method. It says there might be other approaches. It says FAS 113 is dictating reinsurance ceded. The SOP is not. Keep that in mind.

I have a few final comments about the industry discussion. There are issues companies have been dealing with. One is on aggregation levels. Again, of the inquiries that are coming out, this is another one of them. Reinsurance was the fifth inquiry. The profits followed by losses test is dealt with in the first and second inquiries on the six that just came out. The aggregation levels were also mentioned as one of the six inquiries coming out of this task force.

The issue here is if you think about the formula of it, it's benefit ratio times cumulative assessments less death claims. So if you're modeling at a detailed level, you could have some model cells that are negative because if you have a death claim in one model cell, that makes almost the whole model cell go negative. What do you do? Do you let those negatives be offset with other positives? Actuaries don't usually feel uncomfortable with that. I'll tell you that accountants tend to feel more uncomfortable about that area — about positives and negatives offsetting and at what level.

Let's talk about what the SOP says. All the SOP says about aggregation is that the total reserve can't be negative. That's all it says. It doesn't talk to you about the level at which you calculate it. Some people argue it also says it has to be included in your EGPs for DAC, and many have interpreted that to mean you can't do it at a level higher than DAC. Others have the view that the reserve is there to provide for

a specific risk, and so to the extent that there are certain categories of business, maybe you shouldn't be combining things.

For example, if you have a return-of-premium product and a highly valued ratchet product on the VA side, you shouldn't be combining them because they're not offsetting each other. There's debate in the industry on this point, and, again, this will be another inquiry, but largely the resolution speaks to not doing it at a level higher than DAC. It's hard to provide guidance on this topic, but it's one that your auditors will be paying close attention to.

To give you some perspective, I was working with one company that said, "What if we zero it at the level at which we're modeling?" In other words, what if it zeroes the negatives at that level versus zeroing it only at the top level, and the reserves swung 40 percent? This one item alone can be incredibly significant to the total reserves and is one not to be discounted. I'll also say on the commercial package side that you may not have a choice in some commercially available packages about where the zeroing takes place, and so some systems I've seen haven't had as an option where you zero. It's important for you to be aware of this issue because your systems might be doing something you may or may not want them to do. It's a material item.

Another item is scenario generation, and Vincent's going to get into this in some terrific detail in the last part, but I've seen significant diversity in scenarios and, again, this is coming from the VA perspective, but I generally am seeing 100 to 1,000 scenarios. Some are trying to be more consistent with risk-based capital (RBC), so they might be higher. Some are using techniques where you run a lot of scenarios, and then you select representative samples so that the reserves run faster for practical reasons. There's a lot of diversity on that topic.

There's also diversity on the topic of the frequency of rerunning the scenarios. The SOP says you're supposed to regularly reevaluate assumptions. Does that mean you rerun 10,000 scenarios every month, every quarter or every year? It's a real question. Or do you lock into some benefit ratios and change them only when things change dramatically? We've seen various approaches. I would almost relate them to these corridor approaches people talk about on VA DACs, when they get to mean reversions or corridors. I've heard some interesting practical solutions there.

I'll finish with sales inducements. There are some criteria. Here are the criteria of the SOP: If you have anything that we call sales inducements, they must be incremental to the amounts credited on similar contracts without sales inducements and higher than the contract's expected ongoing credited rates for periods beyond the inducement.

This issue of whether it's incremental or not is a really big issue. What if everything you sell always has a bonus? Is that an incremental bonus? Is that a sales inducement or is that your basic product? That's the heart of the matter. If every

product you sell has a bonus in it, is it incremental to what you credit on other similar contracts? If there are not other similar contracts, how do you define the similar contracts? Is it your universe or others' universes?

There are some discussions about how you define incremental, but generally day-one bonuses, enhanced crediting rates over a period or persistency bonuses tend to fall in the camp of sales inducements. What do you do if you have a sales inducement? You defer it and amortize it during the period for which the policy remains in force. We create this new item called the deferred sales inducement asset, and it's amortized just like DAC, using the same assumptions. Some people say this is no big deal and that they've been doing this for years.

Sometimes the biggest deal that I see is separating this from the DAC if – it's already built into your DAC process. How do you pull this out? You're not allowed to call this DAC. That's what the SOP says. Sometimes it's the practical things. Maybe you have the calculation there, but how do you pull it out to call it the new deferred sales inducement item? That was a canter through mortality reserves and sales inducements and recent events, and I'll hand it over to Dave Rogers, who'll hit the life business.

MR. DAVID Y. ROGERS: I'm going to talk about UL and variable universal life (VUL) contracts. As I look around the room, I see a lot of people and a lot of familiar faces, and I'm sure that your experiences are far greater than mine in terms of applying this stuff. We will leave time for questions, and Laura, Vincent and I will be able to give our perspectives on what you're seeing as well as some of the others in the room.

If you look at the scope statement of SOP 03-1, it applies to all entities that FAS 60 applies. It applies to all insurance enterprises. It's an interpretation of FAS 97. FAS 97 is about UL-type contracts. I think early on there were some voices in the industry saying that UL should be excluded, and I'm saying it can't be excluded. It's fundamental to the SOP, and so everything that's in the SOP applies to life contracts as it does to annuities and VAs. I think the task force would agree that the focus of the SOP was VAs, but the application is certainly broader than that. It's to all contracts issued by any entity to which FAS 60 applies, and that could be investment contracts, as well, on some of the annuitization option language in the SOP.

Features that are at issue with respect to UL and VUL contracts, as we'll see, are certain cost of insurance (COI) scales that could require different accounting, persistency bonuses generally, contracts that have a no-lapse guarantee or that offer GMDBs, and annuitization options, which I'll touch on only briefly.

Laura discussed this. When is a liability accrued? She indicated there were two triggers. The first one was that you had to have a death benefit or an "other insurance benefit feature." One of the issues that is being addressed by the task

force and for which it has issued a draft set of questions and answers deals with what is an other insurance benefit feature? Second, you have to have profits followed by losses. A question came up that the task force dealt with, which is what happens if you have losses followed by losses? I guess the answer is if you have losses followed by greater losses, you would need to accrue something, but I think it's any profits followed by losses that are addressed by the SOP.

I don't know how many of you have had the opportunity to review this guidance that has come out in draft form from the AICPA, but it's helpful in terms of defining what another insurance benefit feature is. I'm going to read to you what I wrote down from that. You should take the opportunity if you disagree with what I'm about to read to find the nearest copy of this guidance and send a comment back to the task force because I think the task force would be interested in hearing it.

Other insurance benefit features are those features that create incremental mortality or morbidity risk to the base contract. They could include those with explicit incremental charges — which would be a dead giveaway — that are offered separately in the market. So if there's somebody out there offering this feature on a stand-alone basis that you've included in your contract, that would be considered an additional benefit feature, described in the contract as a separate benefit. And then, last, if the contract holder has a choice to accept or reject the additional benefit without rejecting the base contract. Those are four indicators, I should say, of another insurance benefit feature.

One of the issues that came up with that definition was what about a standard waiver of premium rider or waiver of COI charge rider? The answer is if you have a rider on the contract and the terms of the rider are fixed and determinable, for example, you can look at the rider separately and view it as a FAS 60-type of arrangement. If you're already accruing for it on a FAS-60 basis, you wouldn't need to apply the SOP to that additional insurance benefit feature. This is talking about additional features where the terms are not fixed and guaranteed, where there's some unknown element to them.

One thing that is mentioned in this guidance specifically, and I think most of the firms were broadly interpreting the SOP this way, is a no-lapse guarantee is effectively considered another insurance benefit feature. I know there was some debate about that, and we'll talk a little bit about how to apply the SOP to a no-lapse guarantee situation later, but there are lots of open issues there.

In terms of identifying whether you have another insurance benefit feature, you don't need to consider reinsurance. In fact, you shouldn't consider reinsurance in making that determination. If you do have reinsurance, you can account for that separately and at a later point in time, but in terms of establishing a liability, if you're a direct company, you need to look at the direct company risks with the contract holder.

Laura talked about profits followed by losses. This is the language exactly out of the SOP cut and pasted here for your benefit." If the amounts assessed against the contract holder each period for the insurance benefit feature are assessed in a manner that is expected to result in profits in earlier years and losses in subsequent years from the insurance benefit function, a liability should be established in addition to the account balance to recognize the portion of such assessments that compensates the insurance enterprise for benefits to be provided in future periods."

There are too many words, but the issue has been, "What if I don't know that I have profits followed by losses, and what if I have losses at all points in time? Does that mean I still have to accrue an additional liability under the SOP?" The real issue has to do with the fact that it seems natural that losses followed by greater losses is the same as profits followed by losses. It has the same slope. It just has a different starting point. I think the issue has to do with UL-type contracts that are priced on a packaged basis where perhaps the COI charges were not considered to be independently required for the insurance benefit feature, and the company was looking to expense loads or investment spreads to make up the difference on the COI charges.

The interpretation or the guidance that has recently come out in draft form suggests that it's OK to consider a contract to be priced on a packaged basis and to look at all elements of the contract together in evaluating this profits followed by losses, but it has some strict tests. I think you'll have to demonstrate that that was your expectation from the beginning. It might involve producing pricing-related memoranda and the like to support the assertion. It's another rebuttable presumption. The question I have is what's the difference between a regular presumption and a rebuttable presumption? Which one is more likely to be rebutted? I'm not sure. We can hold that question for later.

The test that's in this additional guidance says the real test is if the contract offers an additional or another insurance benefit feature for which it charges amounts in future periods that are less than the expected value of the insurance benefits to be provided. That would be a indicator that you need to set up an additional reserve. That is what is meant by losses: that the amounts you assess for that feature are less than what you expect that feature to cost in some future point in time. It's not possible to look at it on a present-value basis.

The question is what are my assessments? If you have an explicit assessment where the election of the other insurance benefit feature creates the assessment, and by not electing it you avoid the assessment, it would be hard to argue that that assessment was not for that additional feature? But, after that, there seem to be openings for people to make arguments as to what a feature is and what is profits followed by losses.
This is a simple example that I produced myself in PowerPoint (Chart 1), and I did it before this additional guidance came out. It's simplistic, but if you look at the red line as being the COI charges or mortality assessments and the yellow line as

representing the company's expected mortality costs in the future, the top graph, which I labeled A, would not generate an additional liability. It's not profits followed by losses. The bottom graph does have profits followed by losses. However, I think our firm and others would also agree that materiality is a question here.

There are apparently some products out there where in the later ages it's not clear whether the COI charges had been priced appropriately, given current expectations about older-age mortality. And there might be small losses generated way out in the future if you look at it on a contractual basis rather than for a group of contracts. By making the argument that you do have profits followed by losses, particularly on a base mortality benefit on a UL contract, you will significantly alter the earnings pattern that's developed by that product.

You want to take that and seriously consider whether you have profits followed by losses so that you want to go ahead and take that action, accrue the additional liability and alter the profit pattern that way, although it is a requirement. You'll have to balance that out. It's one of those areas where judgment's going to have to be applied, and materiality is obviously going to be a consideration.

How is the liability accrued?

o Liability = Benefit Ratio x Cumulative Assessments - Cumulative Actual Claims o Benefit Ratio = PV of expected excess benefit payments / PV of total assessments o Assessments = Total assessments (COIs, loads, investment margin)	o Assumptions should be best estimate and consistent with DAC amortization. o Consider a range of scenarios ✓ VUL: Equity scenarios ✓ UL: Interest rate scenarios o True-ups and unlocking

The left-hand side is basically the information that Laura had put up with respect to the VA reserve. It's the same language. It's the same section of the SOP. It's the same formula. Again, the assumptions for determining the liability are based on a variety of scenarios, multiple scenarios that could be stochastic. They certainly don't have to be. The other assumptions that aren't varying should be your best estimate. The scenarios that you use, as well as those other assumptions, do need to be consistent with what you're using for DAC amortization, and certainly that test will be used in evaluating these liabilities when your company is audited.

You need to consider a range of scenarios. For VUL it's pretty straightforward. It's equity scenarios. I think people talked about whether you needed to consider policyholder behavior scenarios, and I think the answer to that was not independently of the equity scenarios, so that policyholder behavior should be modeled appropriately or consistently with whatever the underlying equity scenario is. But you don't need to independently generate, per se, one equity scenario's

multiple policyholder behavior scenarios. For UL you would need to use multiple future interest-rate scenarios and, accordingly, the policyholder behavior scenarios that would go along with those. Again, this is an area of interpretation. You do have true-ups and unlocking as you would for any FAS 97 contract.

Regarding no-lapse guarantees, what we found at a general level is that they're a lot of work for a small liability. It's hard to say what people are doing. I think that the answer is that it's been a huge investment. At one company I'm familiar with, I estimated the cost of doing the modeling work, compliance and all of the calculations related to the no-lapse guarantee liability exceeded the value of that liability. But it could have had something to do with the point in time that it was doing the calculation.

There are a couple of alternatives that we've talked about in terms of what the benefits associated with the no-lapse guarantee are. The two that we've identified are only those death benefits that are paid during the period the contract would have lapsed. So if you have a no-lapse guarantee that's based on a negative account balance or an account balance that's below zero or below the surrender charge, it's only the death benefits that would be paid during that period that go into the calculations.

MR. ROGERS: On the assessment side, I think that's tricky because most of these guarantees that I'm familiar with have no explicit assessments. It relates to the ongoing payment of a target premium amount or maintaining the account balance at a certain level. It's difficult to identify an explicit assessment, but if there are some, clearly those would be the assessments that you would use in determining whether you had profits followed by losses.

It's possible because of the nature of these no-lapse guarantees that you could consider them to be packaged and multiple assessments. But you still might have profits followed by losses because if it's related to an account balance falling below zero, you're not collecting any assessments when you have to pay the death benefits anyway. I think you would end up in the same position whereby you would have profits followed by losses. When you do the liability calculation of course, you use total assessments, and there shouldn't be any question about that.

Laura discussed briefly practice issues related to contract grouping. The modeling efforts can be intensive. I think there are some issues regarding administrative systems being able to identify the actual benefits that are paid on policies where the death occurred in the no-lapse period, and that's an element of the calculation. You'd have to make sure you're going to be able to get the information needed to do the calculation. Purchase business is an issue for many of these benefits, not just life insurance. The question is how do you do it? How do you do the liability calculation in a purchase situation? My interpretation of the philosophy of purchase accounting is that it's possible that whoever buys a company has no records of any information prior to the purchase date.

It would seem reasonable that you could start accruing this liability at zero on the date of purchase and roll it forward from there. There are other interpretations that people are using. The purchase accounting, which probably comprises another eight or nine sessions at this meeting as well as future meetings, is you're fair-valuing the assets and the liabilities in a purchase situation. And so whether or not you accrue a liability here shouldn't make any difference because the fair value of the liability would be the same in any event, and you would just end up grossing up the balance sheet a little bit if you did accrue the liability.

Regarding materiality, like I said, companies are going through the mechanics on this, and many of them are finding that the liability is small and immaterial. I'm not encouraging you not to do the work. You have to do the work, but keep an eye on where you think you're going to come out.

Unearned revenue liabilities is a big issue because some firms were taking the position that the SOP effectively superseded what many companies were accruing as unearned revenue liabilities under FAS 97, and I think it turned out to be a big misunderstanding. Some companies have accrued unearned revenue liabilities related to COI scales, particularly if those scales are in the category of reverse select and ultimate, where the initial COIs are large relative to the expected benefit, and then after the select period they move up naturally. I think that some of those companies were accruing that unearned revenue liability and then releasing it in a pattern that would level mortality profits over the contract.

That's a no-no. That's specifically discussed in the discussion of FAS 97, and it's quoted in the FSP, and that's not allowed. If your company is doing that, you've probably been doing it wrong all along. You can accrue an unearned revenue liability if you're collecting an amount before it's earned, which I think would mean that you needed to demonstrate that in the early years you were collecting some COI charges for some deficient COI charges further out. In which case you could say, "I'm not making a fair charge out there for this benefit and, therefore, I need to accrue a little bit of this excess in the beginning to provide for these charges later," which is, I think, the spirit of the unearned revenue liability.

The other reason you can accrue an unearned revenue liability is if you make the charge only in certain periods. I think the argument for reverse select and ultimate would say, "It's only in the select period that I'm creating this additional charge. I need to accrue it as an unearned revenue liability and release it as I would DACs." That's great, but when you go to consider profits followed by losses, that's not a mortality charge. That's an expense charge, so it wouldn't be considered in the profits followed by losses equation, and you have to think about that. Anyway, take a look at FSP No. 97-a.

The other noise when the SOP came out had to do with the circularity issue around unearned revenue liabilities, so I'm going to spend a minute talking about the circularity. The response to the circularity issue was, "That's too bad." Nobody got a

lot of sympathy here, but basically unearned revenue liabilities, as we all know, are released in accordance with EGPs. That's the basis for releasing unearned revenue liabilities, but the release of the unearned revenue liability is also included in total assessments. Total assessments are used to accrue any additional liability that you have under the SOP.

The accrual of the additional liability is an element, as Laura indicated, of EGPs. You have a circular formula in your spreadsheet, your software or whatever you happen to be using to do the calculation, and a lot of people said this is unduly burdensome. The answer is, "Sorry, but do the calculation." People like me say that it doesn't make much difference. Take a look at the structure of the product and the different charges, and you can get close by simply ignoring the unearned revenue liability in the total assessments. It might not materially affect the pattern of those assessments, in which case you'd be OK, or you could ignore the additional liability in the EGPs. Again, that presumes that the total assessments in the EGPS had similar patterns to them, which is a test you should take a look at.

Last are persistency bonuses. Persistency bonuses are generally considered accruable as a liability, and you accrue them ratably over the period that the bonus is earned. Ratably, by the way, is not using EGPs. EGPs are not an identified ratable method, but ratably is using the interest method or a straight-line basis, and you can't in accruing the liability assume surrenders or death, which in this case is assumed to be another form of surrender.

Persistency bonuses are sales inducements that you can accrue an asset to offset the bonus accrual, and the asset is amortized like acquisition cost, which means in proportion to EGPs. You capitalize it as costs are recognized, which means that as you accrue the persistency bonus you're also setting up an offsetting asset, but you can do that only prospectively. If you've accrued a bonus in the past before the adoption of the SOP, it's only amounts going forward that you get to put up as an asset and, as Laura indicated, you have to separately identify deferred sales inducements. Generally costs will be recognized relative to EGPs with excess costs released as lapses occur.

MR. VINCENT TSANG: I have four agenda items. The first thing I'm going to talk about is what the definition of a cohort is when you are doing the SOP 03-1. The second is what equity scenario we should use when we are doing this SOP. The third one is an illustration with a numerical example. The fourth one is special considerations when we are modeling the UL and the VUL products.

If you remember the good old days when we were still doing the FAS 60, the GAAP reserve in the DAC capital was calculated on a per-policy basis, and everything was fine. With the introduction of the FAS 97, the GAAP reserve is still using the account value, but the DACs are no longer calculated on a per-policy basis. In fact, it is calculated on a cohort basis. The industry had a little bit of a struggle back then, but after a while people got on with their lives and defined the cohort for DAC

usually using the definitions of "by issue year" and "by product."

With this new thing coming in called the sales inducement asset and also the additional liability of the GMDB and the annuity reserves or what people sometimes call guaranteed minimum income benefit (GMIB) reserve or variable annuities with guaranteed living benefit (VAGLB) in general, the next question is what should be the cohort for these new liabilities, or assets in this case? Should it have a bigger cohort, a smaller cohort or a different cohort? This is the first question.

The second question is if we are going to use a different cohort, what will be the pros and cons for doing that? Let me assure you that when we first started out at PolySystem we were thinking that the company would just use the DAC cohort as the normal cohort to do the sales inducement and also the additional liability. In fact, we had some requests from our clients saying that they want to have their cohort a little bit different from their DAC. We could do that, but after a while we recognized that there are a lot of practical issues, and let me share them with you.

First of all, before we talk about this, let me assure you that I don't believe that the SOP has anything to do with affecting the cohort definition for the DAC. And SOP is good at being silent on a lot of key issues, so they'll leave you to interpret what they mean. One of them is what is the cohort for the sales inducement assets? As we all know, the sales inducement liability is a DAC-type asset and is supposed to be amortized according to the EGP. If the cohort definition of the DAC is different from the cohort definition for the sales inducement assets, how are we supposed to separate the EGP into these two pieces?

That's assuming that you just have a sales inducement asset cohort combining many issue years together. How do you separate them again afterward? The answer is it's difficult. If you have to separate them, what should be the appropriate allocation basis? Shall we use the account value or shall we use the net amount at risk? So far we haven't found a viable solution for that. It's my opinion, if you're looking at it from a practical perspective, that it is probably convenient if the cohort definition for the sales inducement asset is kept the same as or is as consistent as possible with the cohort definition for the DAC.

How about the additional liabilities for the DAC and annuitization benefits? The SOP is also silent on how you define a cohort for calculating this additional liability but, as Laura mentioned earlier, EGP now has two new components, and they are the change in additional liability for the GMDB and the annuitization benefit reserves. If we look at it from a different angle, the law of large numbers is a key thing. If your cohort is too small, the benefit would drive your result into a wild spin. You should try to maintain your cohort definition in a fairly large context so random fluctuations will not affect you too much.

It's also my opinion that from a practical standpoint it is probably more convenient that you keep all the cohort definitions for your DAC, sales inducement asset and

your additional liability the same. If they are all the same, the change in additional liability of that thing can go into the EGP and then amortize to DAC. Everything would be on a clear path. Otherwise you will have to stop the train, reallocate people to different groups or combine people from different groups and then go forward again.

I think you are creating nothing but trouble for yourself, so try to do yourself a favor by treating everything as consistently as possible. The other thing is when you are changing the cohort definitions so they are all different, how do you explain it to your friendly auditors? Your friendly auditor will be asking for all types of documentation for it.

Let's talk about the equity scenarios. The SOP never mentioned that you have to use stochastic equity scenarios, but you are supposed to use something other than just a deterministic scenario. Assuming that your equity is going up at 6 percent a year forever, that time is gone for good. You are not going to do that again. I'm going to show you with an example why we have to keep up DAC. That's an important point. The second thing is there are many equity generators or models out there.

One of them is the so-called linear lognormal model, which is based on the log of the real return of your equity that is normally distributed with a mean mu or sigma square. Those are the good old days. Now there is a new model called a regime-switching lognormal model. I think it was first introduced by a professor at the University of Waterloo, my old school, and it's a good model. What he said is you can classify the equity markets into a bear market and a bull market.

When you are in a bull market you have certain types of return, but there is a chance that you would jump into a bear market, and you can stay in bear market for a while, and then suddenly you jump back into the bull market. It switches back and forth. I believe that that is a more realistic viewpoint on how the equity market works. In general, the regime-switching lognormal with two regimes is perceived as a better model to assess the risk of your products, even though this one is not mentioned in the SOP.

It's not a compulsory thing for you to do, but I believe it is one thing that you should consider using, and I highly encourage actuaries not to work in a vacuum. Instead, they should try to reach out to the investment professionals in their own department or call up some investment bankers and talk to them and ask them for their opinion with respect to what type of model to use, and also what type of assumptions to use.

While the FASB is busy coming up with this SOP 03-1, the statutory side is not at rest. It also is working diligently trying to set up a statutory reserve requirement for something like that. In fact, the Academy has prepared 10,000 equity scenarios using regime-switching lognormal. If the so-called RBC, Phase 2, or the VA

Commissioner's Annuity Reserve Valuation Method (CARVM) model regulation is going to be approved, these 10,000 scenarios will become required scenarios to be used to calculate RBC, Phase 2, and also your VA reserves. SOP was never requiring you to do these 10,000 scenarios, but statutory authority may be asking you to do these 10,000 scenarios. In fact, there are 10,001, and the additional scenario is called a standard scenario. We are not going to get into that.

Even though this is a statutory requirement, it should shed some light with respect to what type of scenarios you should use. If you're using something different from these 10,000 scenarios, you better have a good explanation of why you are deviating too much from these 10,000 scenarios. By the time you choose your equity scenario assumptions for it, I think you should also consider being consistent with the assumptions that you use for your DAC. For example, if your DAC is assuming that your equity return is approximately 10 percent per year forever, I believe that your equity scenario for your additional liability should somehow relate to it. Even though I don't believe that this type of one-line approach is appropriate anymore, you should think about a more modest equity return going forward in your DAC.

The next question is there are 10,000 scenarios out there, and for statutory I have to use 10,000 scenarios. Do I need to run 10,000 scenarios for my GAAP? The answer is no. I don't believe you need to run 10,000 scenarios. Assuming that your block of VA business was chopped into 10 cohorts, can you imagine yourself running 10,000 scenarios for each cohort? You're running 100,000 scenarios. My gut feeling is that the 10,000 scenarios are only for the statutory, but it's not required for your GAAP. You are allowed to do it if that's what you want, but I would highly recommend you not to.

I have done some numeric examples, which I will show you shortly, and I recognize that for some simple or more common GMDB and VAGLB benefits, the results tend to stabilize after about 500 scenarios. If you ran another 9,500 scenarios, the result would change little. You will be asking yourself whether it's worthwhile to run 10,000 scenarios when your result is changed by an iota.

I highly recommend that when you do that, you select a few key blocks of VA with just GMDB or VAGLB business. Try to run it with 100 scenarios first and see the results, and then try to run it with 200 scenarios, 300 scenarios, 400 scenarios and 500 scenarios. Once the results start to stabilize, I believe you have already reached a so-called optimal point, and you may consider stopping at that point in time. Always use professional judgment.

The amortization of the front-end load into the total assessment that has this circular calculation generally requires you to use three iterations before the number becomes stabilized. If you are running 10,000 scenarios, multiply that by three, and if you have 10 cohorts, you run another 10, and you have 300,000. This is not a practical solution. I highly recommend you to choose your number of scenarios

wisely.

One of our clients called up and asked us to get rid of this iterative process. I wish I could, but the client recommended a method. I thought about it, and last weekend when I finished mowing the lawn, I decided to sit down and try to figure out whether it is possible. I proved that it is possible. I couldn't believe it myself. I woke up the other day and tried to do it again, and it works, but it comes with two big ifs, and let me say what they are. The first is the interest earnings on the additional liability now becomes part of the EGP, which is what David has been saying.

The second condition, which is hard for me to digest, is the interest earnings are based on the credited rate, not on the earned rate. The additional liability would have to earn the credited rate, whereas the other assets earn only your investment yield rate. If you do it that way, you can get rid of this iterative process.

It's not an easy thing to do, but it can be done. However, before you think about doing it, check with your auditors to see whether they buy into that. If they don't buy into that, the whole thing is still meaningless. There is a way to get around the iterations, but it is based on two big ifs, and I want to stress that carefully. The company that came up with these ideas will remain nameless to protect its confidentiality and privacy.

The next thing I want to talk about is a numerical example. This is basically a typical VA with a GMDB rollup, kind of like return on premiums or having the DAC benefit rollup at a 6 percent interest. Remember, the items I mention in here, the regime-switching lognormal with two regimes, are suggested parameters that I use for my own example. They are by no means the only ones you could use. Check with your investment professional before you decide what to do with that.

In paragraphs 26 and 31 of the SOP, a benefit ratio is defined as the present value of future excess payments divided by the present value of total assessments over a range of scenarios. What does that mean? There are many possible answers, and here are at least three. The first one is the present value of the average excess payments divided by the present value of the average total assessments. The second one is the present value of the average excess payments divided by the present value of total assessments, but this time you want only the base scenario. The third one is the present value of the two things, and then take the average. There are three possible definitions, and the first one is probably the one I like the most and will use.

Chart 2 is a graph of the output of a GMDB reserve having just a return on premium. As you can tell, it's small, but if you look at the bottom line here, this is the one that ran with just the base scenario. You will never have any reserves because you're assuming that it's going up at about 4 percent a year. You would never run into a reserve.

If you go into the other scenarios, like 1 to 50, 1 to 100, first 200 and first 300, you will start recognizing that you have to have a reserve. As you can tell by going to 500, which I believe is the top line here, the difference of your reserves – from running just the first 400 and the first 500 differ only by a little bit, and the results tend to stabilize after 500 scenarios.

My suggestion is if you see something like this, you may want to stop and say 500 scenarios are enough. If you don't want to be safe, you can run 1,000 scenarios and see where that 1,000th scenario sits. This is just a coincidence that the 500th scenario happens to be the tallest one, the highest one, the top one. I have other numeric examples where the 500th scenario is sitting lower than the 400th. It depends on your liability design. My suggestion would be to run a progressive number of scenarios and then stop once the results become stabilized.

Chart 3 is an example with the return on premium at 6 percent, and once again the results stabilize after 500 scenarios.

Chart 4 is a third one. These are the three methods of calculating the benefit reserve. In these examples they make some difference, but if you go into your own calculations, you may recognize that the difference is not that great. I would say that no matter what you do, document it carefully and justify your steps. It's not just protecting yourself. It's also required. With the regulators and attorneys breathing down your neck, I believe that to protect yourself, you need to fully document your processes. Otherwise you are just opening yourself up for future legal processing, which I wish on no one.

FROM THE FLOOR: Your first method is that black line you've got there at the bottom?

MR. TSANG: Yes.

FROM THE FLOOR: For clarity, average excess payments would be the average of the excess death benefits you're paying over 500 scenarios?

MR. TSANG: Yes.

FROM THE FLOOR: Divided by the average total assessments.

MR. TSANG: That's correct. There are other things that we have to worry about, How do you combine the policies? In the past you may have been combining your VAs together with or without your GMDB, with everything grouped together to do your DAC. With this new SOP you may have to separate them because if I'm mixing two contracts together, one of the contracts is nothing but a return of premium, and the other contract has a GMDB rollup of 6 percent.

By mixing the two contracts together and taking an average, you may be

underestimating the risk exposure by this type of grouping. You have to be careful about how you do your modeling by trying to keep the cells within your model cells as homogeneous as possible. Try not to mix apples and oranges. Otherwise you will be understating your risk exposure, and then your results will be once again meaningless.

The other thing is that in the past companies may have mixed the UL contracts with or without secondary guarantees together to form the DAC. Now you have to separate them. My word of advice is try to group your policies together into your model cells so you will not underestimate your risk exposure. Try to group them as homogeneously as possible. The former definitions of "by issue age" or "by risk class" are gone. You probably need to be more refined than that. Obviously, that would increase the number of cells within each model. In the past your model may have had only 100 model cells. Now you may have 500 because you have to be a little bit more careful about this.

If you separate UL policies that used to be grouped together, another common question is now what do you do with the prior actual gross profit? In the past it was just one gross profit for everyone in that cohort. Now you have to separate them. Let's say you are successful in separating them. You recalculate your DAC and so forth. Would it come back to your original number as of the implementation date? Most likely not, and you will have to report that as either a change in accounting principle or practice depending on the situation. Check with your auditor.

The conclusion is we have a lot of implementation issues, and I hope what I said and what I wrote in those three papers helps you along. Keep track of the new developments and the announcements from the FASB board and try to keep yourself updated about ongoing developments. Finally, understand your valuation system. Here I want to make one clarification. Laura mentioned that some of our vendor systems have the liability zero or some negative number. At the beginning we set the number to zero, and then we got yelled at. Why zero? Give me the negative number. We had to switch it back to a negative number. We switched it back to the real number, calculated the real number for you, and now it's for you to decide whether you want to use a negative additional liability or you want your floor as zero. Sometimes you cannot please everyone.

I would say the most important thing is to ask questions, and don't get overwhelmed by work or you will lose focus easily. If you are smart enough, you may look like someone who can pull a rabbit out of a hat. That's what I had in mind for this session.

MS. HAY: As promised, we have time for questions. Don't feel as though you have to just ask questions. What comments and observations do you have regarding implementation issues? I think the group would appreciate hearing about what other people have experienced.

MS. BARB HILLIGOSS: I have some implementation questions. Related to a persistency bonus, which is a sales inducement, we've accrued a bonus using an EGP-type method, so implicit in the method is both the accrual process going on before the persistency bonus is payable and the spreading or the DACing going on during the life of the contract. In interpreting the SOP and the rules in terms of going forward only in DACing, we're dealing with the implementation issue of splitting out ours into a DAC element and a bonus, but it seems that we already had it set up for prior issue years. My question is wouldn't it be appropriate to continue the DAC and split the two out?

MS. HAY: Yes. That is such an unfortunate place to be, isn't it? I'm going to try to follow the rule of short answers, but I don't know that there's anything you can do about that particular practical issue because the SOP is clear on anything previous to the SOP. You can't defer it if it hasn't been deferred and that type of thing.

That's one area I've heard people deal with it. Another area is to say, "We did it before, but we took into account future lapses in coming up with our persistency bonus before, and so now this would give a much bigger number, and there's two effects that you have on both the liability and the DAC side." Dave, do you want to make a comment? It's not a great situation to be in, but I don't know if there's a practical solution.

MR. ROGERS: I can only be compassionate. I don't think there is a good solution. I think you have to go back and …

MS. HILLIGOSS: … read the regulation and rules.

MR. ROGERS: … read the rules and apply them, yes.

MS. HAY: Right. It's an unfortunate consequence.

MR. DENNIE PRITCHARD: My question relates to the practical application of making SOP assumptions, especially the equity assumptions, consistent with your DAC, given that the SOP says you are to consider a range of scenarios. I hear what you're saying — that they are not stochastic, but in practice that seems to be where the industry's going with that. Relating that to DAC, which is typically deterministic…

MS. HAY: And one scenario, yes.

MR. PRITCHARD: … and one scenario and typically a mean reversion type of scenario, whereas with the SOP, the history of the market performance has nothing to do with where you project going forward. The question is how do you relate a benefit that has meaning only if you do stochastics with the DAC, which is just a timing of your amortization?

MS. HAY: Do you want me to answer that or do you want to?

MR. ROGERS: You can.

MS. HAY: A short answer is you can't marry them completely because one is multiple scenarios and one is typically a single-set scenario. I don't know many people doing stochastic DAC. The way I've seen companies marrying them is in their long-term assumptions. If you're doing stochastic equity scenarios, for example, in the VA you typically have a long-term mean assumption. If it's 8 percent pre-fees, you make sure that the DAC is consistent on that basis with the mean where there's a potential for consistency, but I haven't seen companies necessarily bringing in all that volatility into their DAC. It's the consistency of the assumptions and the mean 8 percent, for example, and that's where I've seen people trying to marry the two.

MR. ROGERS: I would say definitely a consistent longer-term equity assumption would be called for, and I think some companies for SOP purposes will use a generator that uses the same mean equity return as in the DAC amortization, even if it's a mean reversion. It's a "you made your bed" type of thing, but I think you could argue that possibly, as long as you had this consistent long-term rate, you were being relatively consistent.

MR. DARRYL WAGNER: I think this question's for Dave. It's a little technical for 5:30, but it's on the unearned revenue, which I think is probably the most evolved part of this, but there's still some confusion about it. If you had a reverse select and ultimate type of contract with profits clearly followed by losses, I think FAS 97 would say that that's one of the things, profits followed by losses, for which it's OK to have an unearned premium. As you said, you can't make it so you level out the death benefits. You'd have to amortize it over EGPs like you do with unearned revenue.

The FSP, as I read it, essentially says unearned revenue can arise for reasons other than profits by losses, but if you have one that is caused by profits followed by losses, the SOP essentially is the way you handle that now. Does that mean for the company with a reverse select and ultimate who had an unearned revenue that basically now it would say you take that down, and the SOP becomes the proxy? You could theoretically do both, and they interact. That's the question.

MR. ROGERS: Right. As you know, Darryl, even though the SOP has all been adopted, it's emerging. I read the FSP to say that if you had an unearned revenue liability that was justified under FAS 97, after carefully reviewing what FAS 97 requires, the SOP would not require you to release that unearned revenue liability. In the example that you gave I would have said that the release of that unearned revenue liability would be considered in the profits followed by losses analysis. Presumably if the totality of the COI charges were profitable, you would be freed from an obligation for requiring an additional liability under the SOP. That's just me.

That's not my firm talking.

MS. HAY: Darryl, I think you could end up having both. You could have an unearned revenue liability and, even after the unearned revenue liability, you could still imagine the situation where you could have an SOP reserve in addition.

Chart 1

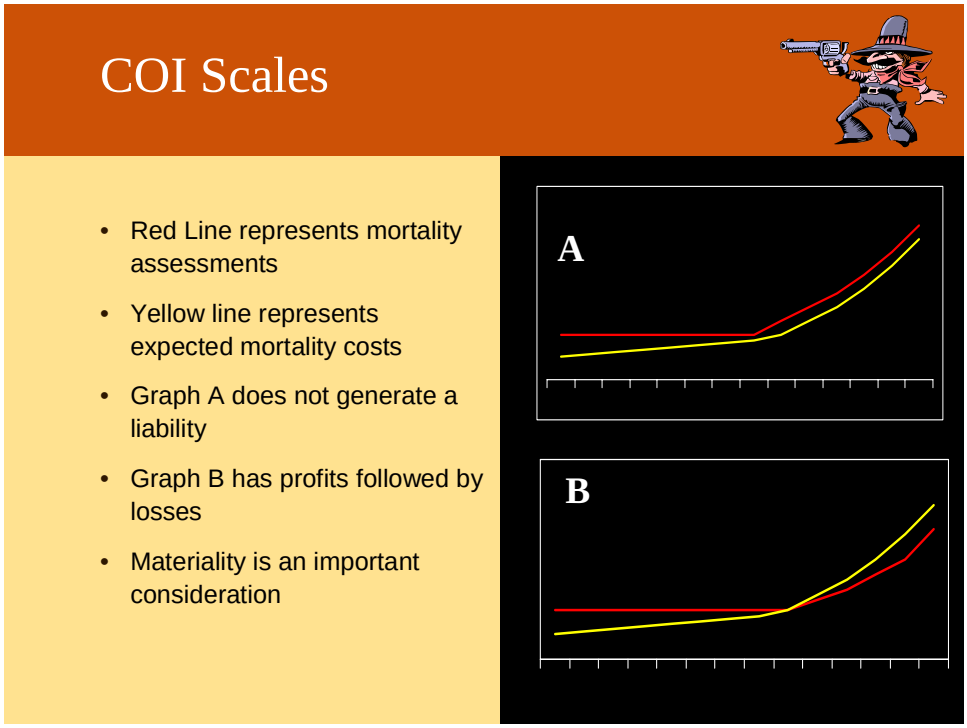

Chart 2

GMDB: Premium Roll-Up at 0%

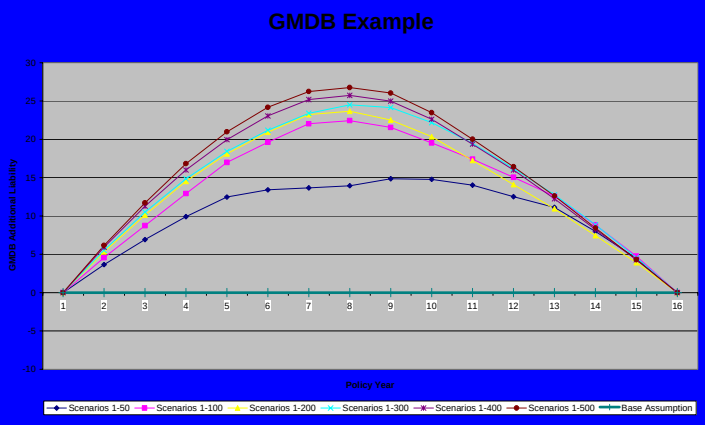

Chart 3

GMDB: Premium Roll-Up at 6%

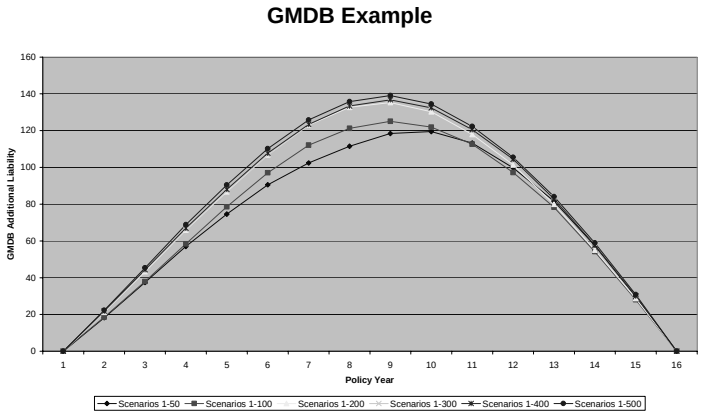

Chart 4

GMDB: Premium Roll-Up at 6%