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Guaranteed Separate Account Products—NAIC Reserving Proposals

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Summary: The National Association of Insurance Commissioners has been developing model regulations dealing with guaranteed investment contracts. Both model regulations contain requirements for statutory formula reserves.

Covered topics include:

- *Products subject to regulations*
- *Reserving methodologies described in the regulation*
- *Assumptions*
- *Required actuarial certifications*

Mr. Larry M. Gorski: We have two distinguished panelists who will be talking about the synthetic Guaranteed Investment Contract (GIC) Product Regulation and the Guaranteed Separate Account Product Regulation. There are two distinct regulations. I'd like to give everyone a feel for the markets affected by these two regulations. Let's first discuss synthetic GICs. I took all this information from the 1998 annual statement. There are a small handful of participants (14) in the synthetic GIC market. That information comes from an interrogatory to Exhibit 8 of the annual statement. That interrogatory asks the amount of dollars wrapped by such products ($29.3 billion) and reserves on such products ($56.5 million). If you compare the total reserves of $56.5 million and reserves held by the top five writers ($56.1 million), you'd see that it's a very small, concentrated market.

The information on the separate account liabilities associated with guarantees also comes from the annual statement. Obviously, there are many more players—208 based on the annual statement information. The total reserves on products with guarantees are $175 billion. There is some information that subdivides that amount into different categories. Reserves on GICs are $12.5 billion, and I think the regulation on guaranteed separate account products deals with that completely. The reserves on other contract deposit funds are $48.7 billion. Probably some of that is

covered by the regulation but not all of it. Finally, there are the total separate account reserves. That includes both products with guarantees and the more traditional variable products. There we have a total of $900.8 billion. It's pretty clear to see why regulators were concerned with the separate account products associated with guarantees.

As a little anecdote, for many years, regulators incorrectly felt that separate accounts were used solely for variable products, and we were not really aware of the extent to which guaranteed products were actually sold through the separate accounts during the late 1980s. When problems with the junk bond market began to surface, regulators in Illinois felt pretty comfortable that Illinois domiciled companies had limited exposure to junk bonds. Little did we know that one of our domestic companies had been and is still issuing GIC products through its separate account. There was a substantial junk bond exposure in the separate accounts that we were not aware of because of the lack of any real, meaningful disclosure of the separate account.

That brings me to my next point. Many regulators equate separate accounts with variable products. Up until the last three or four years, there was a general lack of understanding of the kinds of products that are sold through the separate accounts, and we're only now beginning to get a better understanding.

The other issue that will surface, primarily in the discussion on synthetic GICs, but also in the guaranteed separate accounts discussion, is that regulators have problems with variable contract language. For those people here who are not familiar with the concept, we're talking about products sold in a group market where the product filings made with regulators contain a provision for a variation in language from sale to sale. It allows for customization from situation to situation, but it makes life pretty difficult for regulators trying to understand exactly what they are approving. Because of that issue, when we were discussing the two model regulations, there was a lot of effort in trying to deal with that problem in a constructive way. We were looking for a way to make regulators comfortable but a way that did not do any damage to the company's ability to deliver products in these markets.

There has been very little reporting in statutory financial statements of products of this type. It is improving, from a regulatory perspective, but there probably will be more changes as we move along. I think New York took the lead in developing a regulatory framework for dealing with these kinds of products. California followed suit. Other states, Illinois included, began taking less formal actions, but nonetheless, were beginning to take some actions in this area.

The two model regulations that we'll be discussing today deal with more than just reserving issues. They deal with the contents and filing of a plan of operations, required contract provisions and reserves. One of the unique things about the two regulations is that they were actually done in tandem. There were two separate NAIC working groups working on their own with their own advisory groups, or interested persons as they are more officially called, but there was constant

interaction between the two working groups striving to keep the two models as similar and consistent as possible.

With all that being said, how are these regulations being used by regulators? Few states have adopted the regulations, but that should not be interpreted as meaning they're not being used. In fact, they're probably being used in several different ways, especially with respect to the guaranteed separate account products. As I said before, many regulators are under the mistaken belief that only variable products can be sold through a separate account. If you look at the statutes in most states, Illinois included, there is a provision that allows for the sale of guaranteed products through a separate account, but only with an additional level of approval. Not only does the separate account and the policy form have to be approved, but the commissioner also needs to make an individual determination that this particular company can sell this particular guaranteed product through a separate account. In the approval process, the commissioner or director can set conditions as to investments and other matters, including policy form provisions, investment guidelines, and reserving. So there is a substantial amount of discretion afforded to regulators in this aspect of the approval process. Because of that, the regulation on guaranteed separate account products probably gets much more use than would be apparent simply by looking at states that have adopted the regulation.

The status of these regulations under the codification of statutory accounting is a mixed bag. I don't think codification touches directly on the synthetic GIC model regulation, but there is Statements of Standard Accounting Practice (SSAP) No. 56, which deals with separate accounts. While it doesn't pick up every last word from the model regulation, it does pick up the general concepts. There is an attempt to at least be consistent with the work that was done and captured in the model regulation.

Our first speaker today is Bob Brown, assistant vice president and actuary at the CIGNA pension division. Bob is active in product development, investment strategies, and in working with regulators on regulatory issues. Bob has been instrumental in developing the synthetic GIC model regulation, the guaranteed separate account regulation, and he has been an active participant with the American Academy of Actuaries in their efforts in assisting regulators on the risk-based capital formula. Bob is an FSA and a member of the American Academy of Actuaries.

Our second speaker is Mike Cioffi. Mike is currently a valuation actuary for the diversified financial products division of AEGON, USA. That division specializes in products sold in the institutional markets. Before the acquisition of Providian insurance operations by AEGON, Mike was the appointed actuary for the Providian Life & Health Insurance Company and a managing actuary in the risk management area of Providian Capital Management. The Guaranteed Separate Account Regulation and the Synthetic GIC Regulation deal with issues of risk management, especially in the material on the plan of operations, and Mike's background in that area is invaluable. Prior to joining Providian, Mike spent 10 years at Provident Mutual Insurance Company, with management responsibilities for the actuarial, accounting and administrative areas for the group pension department. Mike also is very active

with the Society of Actuaries, the Academy of Actuary groups, and the NAIC dealing with these issues. Mike's work has also involved working with the Actuarial Standards Board. Currently the life committee is redrafting a standard of practice, one dealing with cash-flow testing (*ASOP Number 7*) and another on asset adequacy analysis (*ASOP Number 14*).

I am the life actuary for the Illinois Insurance Department, and I've been active in several of the groups that Bob and Mike have also been active in. With that, I'll turn it over to Bob.

Mr. Robert A. Brown: This is intended to mostly focus on reserving for these products, but we thought that it would be useful to give a little bit of background in terms of why these products exist, and the kind of diversity that exists in the products. I hope this will assist in understanding the approach that we've taken to reserving and to the plan of operations in the model regulation. Much of what Mike talks about when he is specifically speaking to synthetic GICs and what I talk about regarding guaranteed separate accounts for group products is very similar. Mike is going to go into a lot of calculation issues for synthetic GIC reserves, but except for the book-value type of reserves on guaranteed separate accounts, the issues are the same. Many of the issues deal with the plan of operations and why things were written the way they were. As Larry said, these two regulations were developed together and some of those debates were going on simultaneously in both groups. In fact there were even some joint conference calls and meetings of the regulators and industry to deal with some of the issues.

Why were these separate account products created in the first place? Why did insurance companies want to use separate accounts for things other than just unit–valued, mutual fund-like variable products? One reason was that it was a convenient way to segment assets for experience rating. In fact, for a period of time, certain states like New York were not allowing New York writing companies to segment their general account for experience rating purposes, but they were allowing guaranteed products to be sold in separate accounts. So, one way to have an asset portfolio that met the needs of a particular product from the viewpoint of duration management or asset mix, was to use a separate account for that purpose. That's probably one of the initial reasons that this approach started.

Another important reason is the ability to customize either the portfolio mix or the way the assets are managed to meet the needs of a particular product that has particular durational needs or particular embedded options that somehow need to be dealt with in the underlying portfolio. Or it might be because a very large customer wants the insurance company to guarantee the liability, for example, to the already purchased annuities under their qualified pension plan. However, they also want to have some say in the underlying portfolio, in terms of the kind of investments that are in, or not in, or in terms of quality mix or certain industries. If it's big enough for the economics of running a whole separate portfolio to make sense, then that can be accommodated here with the insurance company making the guarantees, holding the reserves, but holding them against their unique portfolio. Sometimes it's a pooled account that is supporting guarantees on a number of products or a number of plans.

Sometimes it's an account that is specifically supporting the insurance company guarantees on just one policyholder to meet the unique needs of that one.

A third reason ties into the approach that is taken with the plan of operations and the regulatory review process on guaranteed separate accounts. This reason doesn't rely on a collection of strict rules for admitted and non-admitted assets and strict algebraic formulas for how a particular liability is to be reserved. The plan of operations requires the filing company to spell out the portfolio strategy and the way the reserves are going to be calculated and to provide support for that approach. Because of this, situations that don't fit the standard formulas, or assets that would not be allowed to support a guaranteed product in the standard formula, may be allowed here if the scheme makes sense and is specifically reviewed by the regulator. These tend to be very big accounts, so you're not talking about a very large number of instances. This does not, I think, work out to be an overwhelming burden for either the insurance company or the regulator. Because of this flexibility, a more customized approach is possible. There is greater flexibility both for the investment portfolio and for products that may be possible by using a guaranteed separate account for funding, rather than trying to do it in the general account.

A fourth point is that, in many instances, a separate account can be an insulated separate account. If the insurance company were to have financial problems, the assets in that separate account are insulated from other claims until the guarantees made in that underlying product are satisfied. Seed money is not insulated. Accumulated earnings, i.e., insurance company earnings, are not insulated, and if there's money left over after meeting the contractual guarantees, including whatever experience rating obligations there are, that's not insulated. The base assets supporting the reserve can be insulated from the general claims against the insurance company. Guaranteed separate accounts were being widely used both for supporting GICs and for supporting type A annuities before the question of insulation was really discussed much. It was only when some insurance companies started failing that people started actually paying attention to that feature and caring about that feature. It's not the original reason that guaranteed separate accounts were used. During the time that people were scared about insurance company solvency, it certainly became one of the reasons that people were interested in them and found it to be an attractive aspect.

The next point is a company-specific reason. It may be easier on products where close duration management, i.e. duration matching and convexity control are important. It may be easier to do a good job of that in a guaranteed separate account than in a general account if the general account assets are being assigned through segmentation, an investment year method and for other reasons. Sometimes it's a little hard for the portfolio manager to know exactly what the duration of his assets is today, and how that compares to the liability. It's kind of an indirect process. In a guaranteed separate account, there's the asset. Sometimes, this type of management is more direct and, therefore, can be done more nimbly and more precisely. I have no reason to think that's true for all insurance companies, but I have every reason to think it's true for mine. This was one of the

reasons that we continued to use a separate account structure exclusively to support our tightly immunized products like GICs.

Another reason is market-value accounting. I think this point may become more important as time goes along, particularly if anything like *FAS 133* starts creeping it's way into the statutory blank. Except for one specific subcategory of guaranteed separate accounts, all the rest are accounted, for statutory purposes, exclusively at market—market value of assets and market value of liabilities, with the liabilities valued at spot rates. We'll get into that more in depth a bit later. Because of this, you're seeing, on a real-time basis, the exact impact of the duration management and the exact impact of shifting interest rates. Mismatches are, at least once the interest rate shift occurs, not in any way concealed from the person running the portfolio, or from the regulator either. It's right there, because both sides are constantly being marked to market. Because of that, it doesn't really matter whether or not something qualifies for hedge accounting. Everything is marked to market. You don't need hedge accounting, particularly if derivatives are being used in the mix in some form to do the duration management; therefore, they're going to pass through at current value. There are no debates in terms of accounting rules or any of that. Using market-value accounting throughout is kind of painful in the sense that it tends to be more work than just setting something up at book value and pretty much leaving it alone. However, it also solves a lot of potentially complicating things in terms of structure, accounting, and so on. That can be a big advantage.

So, those are the reasons that it makes sense, sometimes, for some group products to be managed in a separate account. I should mention that what we're talking about applies to group products. Certain individual products that are guaranteed are also, and have always been, funded in separate accounts. Because the way that was working in various states wasn't always the same, there was some non-uniformity, and because there already was an applicable model regulation, this model regulation attempted to just work around that and carve that business out. If it looks like there's a missing piece here, that's right. There already was a model regulation for the other stuff, and we didn't want to overlap with it. So, that just plain got carved out in this regulation.

Some of the types of products that you see using separate accounts include our traditional nonparticipating GIC where there is a certain interest rate that will be paid over a period of time. It might or might not be benefit responsive. Interest might be paid out as it's earned or it might be accumulated and paid out at maturity. But it's a totally non-par deal. Here's the rate you're going to get, here's the period you're going to get, here's when you're going to get the principal back. That's one category. That category, as we'll see when we get to the reserve part, gets different statutory accounting and reserving treatment than everything else in this model regulation.

Second, are accumulation contracts of the GIC form, but that, in one way or another, participate in the underlying portfolio experience. Whether they're technically a par line or not, the policyholder is somehow or another getting the benefit in whole or in part based on how the underlying portfolio performs.

Third, are actual immediate annuities or mostly immediate annuities with some deferred annuities in some instances. There probably aren't a huge number of these contracts out there. The ones that are out there tend to be very big. They are pension plans. Perhaps they were already guaranteeing annuities as people retired, let's say, under an immediate participation guarantee (IPG) contract and had been doing that for years by issuing certificates. For one of the reasons I indicated earlier, they really would rather have that money invested in a portfolio that they can see and touch and have some impact on how it's invested, rather than invested in the general account. They have those guarantees out there. Those guarantees continue to have to be supported by an insurance company. One solution is to put those annuities in a guaranteed separate account. This was one of the major areas of focus when New York was doing their Regulation 128, which was one of the early regulatory efforts on guaranteed separate accounts. This kind of situation is what I call real annuities. It is the kind that pays so much a month to people. That kind of annuity in a separate account certainly can be accommodated under this model regulation.

The last one I thought of are products that are issued to a group buyer and guarantee that the insurer will pay the Standard and Poor's (S&P) 500, or the S&P 500 plus or minus 50 basis points. Alternatively, you will get a floor rate of return based on something related to an index and participate to some degree in the upside. What you don't know ahead of time is what the guarantee is going to be worth, but it's fully spelled out as to how it's going to work. How would you do that in the general account? How you would do it in the separate account is pretty straightforward.

Those were the kinds of products people were thinking about when the model regulation was being written, but the model regulation was also being written to allow the flexibility that if other designs came along there would be a structure for handling those other designs. The regulation was written so that it didn't have to be modified or that a new model regulation be written, or that new formulas be created or anything like that.

The regulation ends up with three basic pieces. The first is for pure, nonpar GICs, whether they're benefit responsive or not. Basically, it is one where the exact terms of the deal are spelled out ahead of time and underlying portfolio performance doesn't affect how much the group customers or plan participants end up getting if it's supporting a fully allocated plan like a 401(k). Those are accounted for exactly as though they were written in the general account. The filing requirements are different, but the accounting is exactly the same as though it were in the general account. They have to have an asset valuation reserve (AVR) set up under the same circumstances and in the same amount. They have to have an interest maintenance reserve (IMR) set up under the same circumstances and in the same amount. Assets are valued at book, unless they are written down, under exactly the same accounting rules as in the general account. The liability is valued with the same dynamic valuation rates, and so on. Everything is just as though it's a general account segment. It just so happens to be in a separate account. I already talked about why you would want to do that if the accounting stays the same. Risk-based

capital is exactly the same as if it were in the general account. For many purposes it's as though it were a general account segment, but it's not being allocated through the company's investment year or new money system. It may well be insulated. There are those differences, but from an accounting and reserving viewpoint, there is nothing new here.

Everything else, except the index type of contracts, are handled under the second section. The second section says mark everything to market and keep marking everything to market. The plan of operations has to spell out the details of what that means. Basically, on the liability side, you're discounting back projected cash flows at the expected forward rates that you're going to earn on the supporting assets, but you are capped at a discount rate, net of defaults, that cannot exceed 105% of the spot Treasury rate for that payment. Even if there's every reason to believe the portfolio will earn greater, 105% is the limit.

There's also a more severe limit for payments beyond year 30. You can read that in the regulation. Most contracts that are written under these rules don't really have a significant amount of payments that go beyond year 30 but it is certainly possible to have that situation. Assets are valued based on current spot rates, and the liabilities are valued based on current spot rates, so if they are well matched from a duration viewpoint, then you're fine. If they are not, then when interest rates move, you're going to see that mismatch between the two sides. There's no need for an IMR because there's no difference between realized and unrealized gains because it already was being carried at market before the asset was sold. There is a need for something that serves the same purpose as the AVR, but rather than doing that by contributing to the AVR, we followed the approach used in Regulation 128. The procedure is to first haircut, as they say, the assets by a percentage amount. The actual algorithm takes the raw assets valued at current market, subtracts a haircut, and compares what's left over to the value of the liability. If the haircut value of the asset exceeds the liability, you're done. If not, you have to put up a reserve for the difference. If it's an insulated separated account, that reserve cannot be insulated; therefore, it has to be identified separately either as a supplemental account, if you want to keep it in a separate account world or in the general account. That part is not money that was contributed by the customer. It's money that was contributed out of insurance company capital and presumably will come back some day. In the meantime, it should not be insulated.

How is that haircut determined? It's determined based on the AVR requirements. It uses the AVR objective factors, so that it's as parallel as possible in terms of the degree of margin. It is mostly a default margin, which is provided for in the general account, but it's now inside the separate account rather than up in the AVR reserve in the general account. For risk-based capital purposes, the amount is compared to the risk-based capital C-1- goal, and is used as credit against that goal on an account-by-account basis. The AVR is taken into account as a part of adjusted capital in doing the risk-based capital. It doesn't go through exactly the same path, and yet the bottom line is it comes out with essentially parallel results. That was certainly the intention. There's no reason that this type of product should get either more severe or more liberal handling than a similar type of guarantee funded in a

similar way in the general account. We were trying to keep that as parallel as possible. The big difference is that both sides of the balance sheet are marked to market, whereas in the general account, everything is usually carried at book value.

The third category is the one where the insurer is guaranteeing the customer that it will pay him or her the S&P 500 or some other index and it invests the money mostly, we would hope, in equities or equity equivalent derivatives. The factor for the AVR (if it were to look to the common stock factor that would be used for the general account or for one of these other separate accounts), would be 20%, which would be very, very high indeed, if I'm mirroring the S&P 500. Instead, the only AVR requirement is, I think, 50 basis points. It's a very low percentage because the assumption is that, in general, this type of guarantee is going to be well-matched. However, as you will see when we talk more about the plan of operations requirements, if that is not true, then that would have to be part of what would be picked up in the reserves in order to get it approved in the regulatory process. So, what's in there for the AVR requirement is very low. Risk-based capital also has a very low amount. But that doesn't mean that a very aggressive scheme will go undercapitalized because that would have to be spelled out in some detail in the plan of operations and have to survive regulatory scrutiny.

I'll continue talking a lot about the plan of operations and why it's really important here. This was an area that got a substantial amount of discussion and debate and scrutiny when it came down to writing a model regulation. In the old days of guaranteed separate accounts, one state had formal regulations about how to do this kind of stuff, and that was New York with its famous Regulation 128. If I were going to issue a guaranteed separate account in New York, I had to get a plan of operations approved. It had to spell out all the stuff in substantial detail. It had to pass regulatory muster and approval. After a while, other states started saying that they wanted to see this plan of operation for insurance companies doing this business in their states so they could determine that it makes sense to them. We don't have a formal regulation that says that, but we have the right to do that under the more general language that Larry discussed earlier. We expected a number of states to use the model, using that approach, even though you wouldn't find it anywhere in their formal regulations. There was a concern when California decided to write a statute on guaranteed separate accounts. They took much the same concept and much the same approach, but everything was a little different because they weren't going to just copy somebody else. They were going to start from scratch. In their view, Regulation 128 was much too complicated and needlessly so. It became increasingly clear that 20 years from now we might have 25 different variations on this theme and nobody liked that much. Codification, which was coming, was trying to get to a uniform method of accounting, and so we needed to have a model regulation that most states could work with, at least in terms of most of the filings. They might have different filing rules or something, but hopefully not different factors or overall requirements.

The industry need for flexibility in terms of portfolio structure or product design, and the need for closer regulatory review of the specifics of that particular deal, lead to the question of which state will do the reviewing? There was kind of a feeling that

maybe the state that my company is domiciled in and every state that I issue it in should all review it. Of course, that meant that if there was anything in that plan of operations that any of those states didn't like, then I would have to change that and hope that all of the other ones would accept the change. It sounded like, if you were lucky, you might be able to get something approved in about 18 months, but only after having lost a lot of hair along the way. That didn't seem right. It clearly needed such a review and clearly there was no way of knowing ahead of time that every state where the insurance company was issuing such a contract would put in this model regulation and do this review.

Let's say the state of domicile has adopted the model regulation and has issued an affirmative approval of the plan of operation. That means it really looked it over, agreed that the method of funding and reserving and all that stuff is sound and works and so on. Then the state where I'm actually issuing the contract doesn't have to do that. It still has to approve the policy form because that's affecting customers in their state. On the other hand, if the domiciliary state has not done that work, then the state of issue can ask for a copy of the plan of operations to review. It can always ask for it anyway, but the point is it shifts the burden more to them because that review has not been done by the domiciliary state. By writing the regulation in this way, we allowed, ahead of time, for the possible situation where such a review has not been done by the domiciliary state, without putting in rules that would always require it whether or not it has been done. This is how we tried to get away from the dual regulation concern.

This concern is very important because this regulation is moving forward. If you look at what has to be in the plan of operations, it's everything. It tells how the contract works, it discusses the provision of the contracts, it tells the investment strategy, it tells the reserving approach, it provides support for that approach mainly to facilitate further discussion on fine tuning the reserving methodology. Only when that's approved are you able to go forward with the contract. So the price you pay for flexibility is potentially more work, unless, it is very similar to something that already went through that process six months ago. That will probably simplify the discussion the next time because you've dealt with most of those issues already. That is the process; that is the purpose; that is the content. It requires prior approval of that plan of operation, and then an annual follow up as a part of the actuarial work to indicate current status.

Risk-based capital (RBC) for non-par GICs works exactly the same as if in the general account. For everything else, the same capital targets are used as there are for general account products with one exception that is made explicitly clear. If I have a lot of margin on customer A or separate account product A, but not enough to cover my risk-based capital requirements for B, then I cannot use that excess against B unless those extra margins are actually available to support B. In other words, since many of these deals are experience rated, if I had money left over, it isn't insurance company money, and it gets paid back in one way or another to the plan sponsor or the participants. So, I shouldn't be allowed to take credit for that as a buffer against the capital requirements on some other similar product because I can't use it for that. It's not the insurance company's to use, and therefore, it has to

be granular, unless you have a pooled product. In that case, that product is taken collectively. That's very explicit in the risk-based capital requirement.

The other thing I mentioned is that because the equivalent of AVR is usually now inside the reserve instead of outside, that's reflected in the way RBC is structured. Other than that, the requirements and the goals are the same. If we move to this new dynamic C-3 testing that we were talking about at a workshop at this meeting, then the same concept would apply here. In this case, you must do scenario testing and put up additional capital if it comes out you're mismatched. However, if I have a product in which assets and liabilities are valued at market instead of book, then that stress testing is going to look different because I'm going to have to evaluate how both sides would behave at market, instead of how they would behave at book. There's no difference in the requirement to do the stress testing or in the scenarios to be tested, but how you would do it would differ. That concludes my comments. Mike is going to talk about synthetic GICs, and how that product works. He is also going to drill in, in more detail, on the specific issues that come up in trying to calculate the type of reserve that we were talking about here.

Mr. Michael A. Cioffi: Before I get into the synthetic GICs, I think it's worth reviewing one of Larry's first points. He mentioned that there were 14 insurance companies in this business, and I think when you scan through the statutory book, you'd see that a lot of these insurance companies are affiliated with one holding company. I know we have four of them. At this point, there are no more than 10. I have to do a presentation to a group, but there are only 10 companies and perhaps a couple of regulators and auditors that really would ever have to do this calculation. I see an auditor here and I don't see enough regulators. In general, what I tried to do with this presentation is focus more on how practical problems are solved. Clearly the standard valuation law was not designed to handle this kind of product. It also doesn't work real well with a lot of group annuity products. Much of what you do in valuing these things is interpreting the law. That's what you have to do even after this regulation is adopted.

First, I am going to describe the product. It will be brief because that could be a session in and of itself. However, I think one difference I want to draw in my description of the product is to describe it more like an immediate participation guarantee (IPG) pension plan than a separate account product. The history of these products shows that the catalyst for their creation was the demise of Executive Life. If it hadn't been for Executive Life, you probably wouldn't have synthetic GICs. Basically, what happened was that a fully guaranteed product was disentangled into parts. The first safety net to solve credit problems, from the customer perspective, was to diversify it, which means get it out of one insurance company into a number of insurance companies.

Second, I'll discuss is the reserve objectives, what we're trying to accomplish, and how we got there. I'm not going to go through a real calculation. After explaining how the reserves work, the first thing you're going to realize is that you're not going to want to do all that work. You're going to need to do some approximations, and

you're going to need to find a practical way to implement it. A good example of this is, as Bob alluded to earlier, you will need to discount each case at the asset spot rate. Each case has it's own yield curve. Do you really want to solve for that on every single case and use that rate to discount? There are some practical ideas in implementing this that we've done.

The last thing the regulation gets into is asset adequacy analysis. It's still subject to that, and in complying with that, you may not necessarily have to do cash-flow testing. The reserve approach itself may lend itself to doing a certain amount of your asset adequacy analysis work.

In looking at the products, again, the overall characteristic feature of a synthetic is that it's a product where the insurer doesn't own or have possession of the asset. The first thing the customer wants to do is keep you away from the money. Since they keep the money away from you, you don't insure the credit risk. You're starting to pull it apart. That's the most common characteristic of all synthetic GICs. The reason they are called synthetic GICs is because you try to synthesize a GIC without having the money.

There are two generic forms in the market place. One structure is called an evergreen structure. It's called evergreen because you develop a crediting rate formula that just keeps taking what you expect the yield to be on the asset and amortizing differences between the book value record you're maintaining for all the participants and the real value of those assets. You might have a plan that has $100 million and the market value of those assets is 1% less than that. You're going to amortize that 1% over time. The way you would do that, and every company has its own formula, is to take into account the difference between the market value, the book value, and the duration, which is the time that you have to amortize. The products get more complicated because some companies, if the difference widens, might build an acceleration mechanism for the amortization. The features start to get complicated. It's easier to use in cases where the plans are actively managed. You have real bond managers, not buy-and-hold insurance managers. They're trading bonds daily. They think they've found a credit play to add value so they're going to make changes. They're very actively managing the plan and the way to manage your product is to really know what your market value is, know what your book values are, know what the duration is, and keep converging these things over time. But there's no maturity. It just keeps going on and on. You're just providing a service. It doesn't look like much of a guarantee, and at this point you also don't see where the risks are.

The buy-and-hold structure is similar except it's a more passively managed plan. You know you're going to get, for example, a set of five securities that they just want. Instead of having to mark to market, just keep doing an internal rate of return each period on the assets and say, "We can credit 6.5% this period." You're going to converge that to the book value by the end of the day and, again, you're not underwriting the credit risk.

What are the risks of the products? As in most products, your risks materialize when money starts leaving the plan. How do you handle negative cash flow? Again, the features are complicated, but one way is the insurer can make loans to the plan as the benefits come due. Then, when you make loans, you have to set a rate on those loans. You can set a loan rate equal to the cost of your funds or the assets you would purchase. Whereas some plans like it when you will charge the loan at the average rate that they're crediting their participants, so their rates are not affected. I For example, if the plan is crediting 6.5%, and you're willing to loan them money at 6.5%. There's some two-sided risk in that case. Most cases have a net cash flow. They're highly structured plans that most likely won't need to use your synthetic contracts when benefits flow, and all the marked to market falls through in the market values of assets and liabilities. Another key thing is asset sales. If they do sell the assets, where do they come from and how are they affected?

All of these are characteristics of how the plans will work, but what will turn out to be the most important thing in these contracts are the termination provisions. If you keep moving forward and nobody ever terminates the contract, all you're doing is rolling rates over. In the case of the internal rate of return products, you never underwrite the credit risks. All you're doing is calculating the rate of return given the assets. As a matter of fact, we do all the administration on the buy-and-hold contracts ourselves. We know when all of the assets mature. We can look them up and do all the work. This is a very brief description, but ultimately I think what we're going to find out is that the termination provisions will be the key.

Before we started doing any work on this regulation, we really needed to decide what we wanted to do with it. Regulators had some objectives, and the industry had objectives. The industry objective is always to minimize strain, minimize contract filing work, and essentially minimize everything. Regulators had a lot of maximizing. They want you to submit the whole plan of operations on every case you sell. If you sell three or so cases a week, you don't want to have to do this. There has to be a simpler way. On the reserve approach, there was one regulation out there when this work started. When approving the products in California, they came to the conclusion that, if you're charging the customer a certain amount of money, there's a reason why you're charging it. There must be some risk, so hold some of it back. You had a formula that said hold 30% of your risk margin. Nobody liked that in the industry because it's not actuarially based. It doesn't really reflect the risk that you're underwriting. For example, the lower your fees are, the lower your reserves would be. In trying to figure out a way to do reserves, you want to make sure that it's risk based. I think the industry is pretty good in saying, even among competitors, that if somebody does something reckless, you would want them to pay for that in reserves.

The second thing is that the standard valuation law doesn't really recognize group risk principles, as I like to call them. In a group situation, there's just the basic contract between the insurer and an intelligent or sophisticated trustee. However, there are participants or other individuals behind the scenes acting and moving monies or doing whatever that can affect your risk profile. Unlike an individual contract, you don't want to use a reserve method that goes into every individual

participant's behavior and says, ”What if everybody terminates and switches to the equity fund tomorrow? How would that impact the product?" That doesn't happen. Every employee at GM is not going to switch to equities in one day. In the group business, you have two layers of consideration.

The main layer is the contract holder. We wanted something that won't be outdated as soon as you're finished doing it. At the time we were doing this, nobody was wrapping equities, they were just basically using high-quality bonds. Nobody was using foreign investments. You don't want to develop something that missed considering those things. The next thing that concerned regulators is they wanted a certain degree of conservativeness in the reserves. They wouldn't accept a recommendation if it were just a pure market value with no margin for error or anything like that. The last objective, which I guess wasn't achieved, was that we wanted the regulation to be relatively simple to apply. Somebody had mentioned they would like that. In order to do the other things, I think you’d have a hard time making it simple to apply.

The reserve formula starts out simple. It's quite simply stated. It's the present value of the guaranteed contract liability, whatever that is, over the adjusted market value of assets. It's as simple as the excess, if any, of liabilities over the assets. To me, this is a good start. There are a couple of things that are a good start here. It says you're going to need a reserve if you have liabilities that you can't discharge with the market value of assets. I think you see the first difference between this and the standard valuation law. Finally, the other side of the balance sheet shows up in your formula reserve calculation. The market value of assets is important in assessing the ability of an insurer to make good on their liabilities. I think this is a good step in the right direction. Again, this is the same formula that is applied to the separate account. In order to know what this means, you need to go into each one a little more.

On the guaranteed contract liabilities, the first thing that we did was to look at all possible guaranteed benefits that are between the customer, the contract holder and the insurer. With every contract the first thing you have to do is say, what can the contract-holder exercise? Imagine you are the customer and say, "Give me the contract, let me read it and let me exercise all the available options to my best advantage." The second thing that is important is to do it on a contract-by-contract basis. That's important. Bob mentioned it earlier. In this business you either pay a claim or you don't. There are no negative reserves. Nobody is going to give you some of the plan assets because you had a margin in your crediting rate. The contract either has reserves or it doesn't. It either has a wide enough margin or there is a possibility for reserves; you can't net things out.

Another thing that I think is good about the regulation is that the valuation rate is based on the asset yields. So rather than one rate on Moody's Corporate Bond Index that's dated six months along a 12-month average, and six months in arrears, you've actually got a valuation rate that may be hard to get to, but at least it is conceptually correct. You're saying, well, what's the right discount rate to use on your guarantees? It's the thing driving your guarantees.

The next thing we considered was the limitation. I think we just took this pretty much from Regulation 128. New York and California differed on the cap. One had 104.5%, and the other one had 105%. The industry was very astute saying let's get the 105%, and make it one basis point different. At the end of the day, there is a cap to the rate that you can discount at. Ideally, the rate you're discounting at is the spot rate supportable by the assets themselves, only now it is capped.

For all of the participant level assumptions you need, just use experience. What are the adjustments applicable to the market value of assets? These apply to both the separate accounts and the synthetic GICs. I think they have different meanings for the two products. In the one case, you don't have the assets, and in the other case, you do. They are based on RBC factors, and again I think that's good in that they're automatically updated. There are many more people interested in RBC than synthetic GICs, and that is most likely better in the long term to keep a regulation or a reserve method up to date.

For fixed-income investments, there already were objective factors that were chosen. There were no RBC objective factors for other investments, so the maximums were used. If you have a $1 million liability determined by adding up all your participant records, and you have exactly $1 million of assets, you'll just adjust your $1 million assets downward for, in the case of separate accounts, some form of rough approximation of credit risk. For example, if you wanted to wrap a whole portfolio of common stock, you would have $1 million of liabilities, but you'd only be able to use $800,000 of your assets because you have a 20% haircut. There is something in place that either requires you to build enough margin and whatever else you're going to do, or you're going to start putting up a lot of reserves. There's not much in the equity side at this time because these are stable value funds. The objective of stable value funds isn't to start putting very unusual investments in there and even typically the bond managers themselves are really separated by those who have expertise in that area and those that have expertise in other areas.

The interesting thing is the duration adjustment. Consider the evergreen design. If your assets and liabilities aren't matched to within a half a year, you need to add penalties to these margins. There are the C-3 risk type adjustments. First, you don't have the assets. The second thing is, what's the duration of the evergreen contract? It may be easier to look at an IPG. You may have an IPG with a 10-year asset portfolio and every quarter you reset the liability rates. On the surface, you have a 10-year duration asset portfolio and a quarter of a year liability. The reason that you would have to interpret the regulation is you would like to say that the duration of the liability of the synthetic GIC, plus the duration of the option you have for resetting the rates is really equal, in the evergreen case, to the duration of the assets. You might have a five-year duration asset portfolio. You could say that's the same as my crediting rate formula having a five-year, fixed-rate yield exactly equal to my asset portfolio, plus an option that I have to reset that rate. At the end of the day, that option is worth money to you, and you're in a good situation.

Where the duration will come into play is in conjunction with your termination provisions. Let's say you have the fund running at a five-year average life and the customer can get out in two years at book. You then have a mismatch because your assets can behave like a five-year duration asset, but you only have two years to wind the thing down. Unless you do something else on your product, you'll have a duration mismatch. In this case, your penalties are 50% extra on the haircut. That's the difference in the synthetic GIC.

One thing to remember about synthetic GICs is you're not underwriting credit risk. If the securities go under, you're not making up the difference. This isn't monoline insurance. The haircut, to me, gives it a degree of conservativeness that handles the volatility, like in the common stock example. I think that's the purpose.

I have just a couple of other comments on the haircut. The basis was in New York Regulation 128, even though that was fairly old. Much of what is done in valuation is very old. The New York regulation contained certain things that just didn't make any sense. There were these "x" factors that attempted to describe a product characteristic in a finite number of classes, i.e., x1, x2, x3. The same is true of plan type A, B, and C. There are not three plan types in the group business. None of these things are really applicable, and they were basically all replaced with the insurance company being responsible for valuing all the paths that the contract holder can choose. This is a Commissioner's Annuity Reserve Valuation Method (CARVM) concept, even though CARVM is not directly applicable to group plans. Contrary to CARVM principles, if you purchase the liabilities of a terminal funding plan where someone can retire from age 55 to 65, in valuation, you don't have to find the exact date that every participant can go out and elect early retirement and make the annuities most valuable. Again, it's the group principle idea. In this case, it's solved by having the time track holder be the focal point. Apply the CARVM greatest present value at the contract holder level. I think the other thing that you can see is that there's a certain amount of the asset portfolio that's considered in the valuation process. That's a real big change that might be a step forward in a formula reserve type approach.

Here's the practical side. The formula application is pretty burdensome. You have a lot of controls on the investment policies of these plans. Even though you're not underwriting the credit risk, you still want to control the duration risk. You still want to control the volatility, to some extent. Each plan has it's own set of investment guidelines that you approve. These things are hard to get into a computer file, for example, because they go on for a couple of pages. You know what investments you can use and which ones you can't use. To some extent, you get a reprieve here. The products are so safe because the credit rates are guaranteed to be zero. If you have a AAA-rated bond portfolio that you're willing to say, "I think it will earn zero," you're not giving them much of a guarantee. You're giving them a lot of service, but you're not taking on a lot of risk and you have a big margin there for error. Every time they're marked to market, you keep spreading that over time and you'll come to know you're going to have a big margin. For example, if you have five years to get the money back, and the average fund is earning 6%, you may have a 30% margin. The underwriting margins will allow you to take some

shortcuts. One of the shortcuts I take is I'll use the most aggressive investment policy that we have for all the contracts that you have.

Not all contract holders pass the prior test. You can do the basic evergreen contract for any kind of duration. You're just demonstrating that this keeps rolling. You're never going to show any cause for a claim. What you're going to find is your termination provisions control. Whenever you have a convergence or a settlement date of some kind is the time when you're running into the potential for reserve. In the case of the internal rate of return product or the buy-and-hold product, you can really run into a positive reserve because the security will mature. In our case, we often have to reset the rate every day to make sure that we don't miss by a few dollars. They are coming in for the close and the risk could be having prepayments or something in the last month. You must be on top of them. It's really an intense administrative effort to do that. The secondary guarantees are usually immaterial.

There are a few more practical issues that I will comment on. I just mentioned that the most common issue that's going to surface on every buy-and-hold contract near maturity is solely due to the haircut. If you're going to get these numbers to exactly hit and you're required to take a deduction for the assets, the haircut's going to equal your reserve just because you're not able to use the full value of your assets to converge to the book value of your liability. As these contracts roll over and mature there's always going to be a steady state of a certain amount of these reserves that you're going to get just from that.

The best thing to do is use proxies to eliminate low-risk contracts. If your market value is already in excess of your book value, your job is basically to allocate their gains back to them. You're not even in the money. None of these contracts get reserved as long as the asset haircuts don't pull you down too far. Again, let's say the asset haircut is 50 basis points. You have a 50-basis-point margin that you have to make up in order for these contracts to converge. You can actually use the lowest rates that any contract can earn, and not even 105% of the Treasury spot rate. Just use the Treasury spot curve. That's easy to get. You can discount all your contracts, run them through and drop off 90% of contracts that are in the money and then focus on the group that's left.

The reserves and the need to reserve are dependent on the product design. If you find that you're getting reserves for reasons other than the discount rate or the haircut, it's an indication that you're taking on risk, and you have a potential for claim. That may be what you want to do, or it may be a notice that your contract may not be tight enough. If you're computing a greater value of your liabilities than the market value of your assets, which is the thing that's going to cover them, then are you sure you were expecting to pay that?

I ran a formula for a typical buy-and-hold two-year bond, and I just played with it to see when I would need reserves. At least one or two regulators asked me questions like "What does it take to get a reserve?" The answer is, "With a 0% guarantee, there's not much of a chance if your product is designed very well." However, as you move the rate up, for example, if you were trying to sell to a 403(b) client, you

might run into a nonforfeiture 3% floor. In that case, you might find some value in testing that. I made it look a little bit like a GIC. I took a GIC with a 75- basis-point margin and guaranteed the whole 6.75% bond against a 6% guarantee and with a 50-basis-point haircut. You just hit the area where you're starting to get reserves, and it was due to the spot-rate limitation. You couldn't discount at the earning rate. The cap comes into play on the assets and the haircuts come into play. They're the two things that will create strain in these products. Most plans will hit this discount rate limitation because if rates are 7%, you only have a 35-basis-point margin. If they're only earning 35 basis points over the Treasury rate, that's not really that great. Again, you can test that. What you have to do now is test for plans that don't have yields that look like they're even at Treasuries. You can use these practical considerations, like worst case scenarios, to run through your whole portfolio.

One of the things mentioned in the regulation is that there is a requirement to perform an asset adequacy analysis. I don't know if these two regulations started this or not, but you can see that there are a lot of things that you need to know about the product in order to do the reserves. Given that these are larger companies, it's very unlikely that the appointed actuary of the company happens to know how all these contracts are performing. It is probably a job that is best done by somebody in the business area who is designated by the appointed actuary and who knows what's going on.

This is especially true if you want to start using approximations. You really do need to know what you are underwriting. You need to be in the loop as to what type of investments you're going to permit or not permit. It can be done by a qualified actuary who is designated by the appointed actuary. You're on your own from there. There are no specific rules of what you should do, but in applying asset adequacy analysis, the first thing you'll notice is that you can do cash-flow testing. You can bring in every investment, and you can call every bond manager and have them send you a file or you can do something else.

According to the Standards of Practice, there are a number of other things you can do. You're basically demonstrating asset adequacy analysis. The first thing you'll see is this reserve approach is taking you somewhere toward the market value world. You're getting close. You look at the formula, and you're already factoring in the market value of assets. You already know that the only thing that is a risk to you is higher interest rates. As long as the fundamental mathematics of bond pricing still says that bond prices go down when rates go up, an increase in interest rates is your only risk. Again, if rates go the other way, you're not going to get any extra money. So, the last thing you would ever do is average the results of the seven scenarios and say, I got this negative $6 trillion number because I'm crediting zero for 14 years and the assets are always doing better. So you absolutely have to adjust asset adequacy analysis to fit the situation.

The first adjustment is, you only really have to look at the rates going up. If you look at the reserve formula, you can actually do a couple of quick demonstrations. The first would be you could do this 300-basis-point pop-up with every contract.

You could say, "I know the duration. If rates go up 300 basis points, I'm going to lose so much in the asset value" and then do this calculation again and see if you're still covered. Or if you're not, how much would you have to add? There are things like that, that you can do. You could also base your whole analysis on the investment guidelines and limitations.

I guess the last thing you have to keep in mind is that a lot of these are actively traded funds. They may be turning over fast. In March, you'll be doing an analysis on a portfolio that doesn't even exist. So that's really the key to that section.

In summary, I would say that generally I feel that this is a pretty decent regulation. I think it's an improvement from formula reserves. Reserves are required when there is a potential for claims. Formula reserves reflect, in part, the asset condition. There is a degree of conservativeness. They are based on the degree of risk that you're underwriting, and that's a good situation. However, you need to find practical shortcuts to execute it because of the nature of the product. The last point that Larry mentioned is, once something like this is developed, a state can adopt it or not adopt it. However, when you file a product, the first thing is that regulators will write back to you asking, "Can you show me that you're within the guidelines, or within the interpretation of the model regulation?" The regulators really don't need statutory authority to ask you to demonstrate how you're going to run your product. I can confirm that from experience.

Mr. Felix Schirripa: You could write quite a bit of the synthetic product and come up with zero as a reserve. I am thinking about General American and the liquidity testing that didn't happen there. It seems to me that the risk with these products is catastrophic in nature, and I don't see that somehow being addressed here.

Mr. Cioffi: I would say where you pick this up is in adequacy analysis where, for example, you would show that you can get reserves in a typical product where you would do a 300-basis-point pop-up. You're in what I call the meltdown area. At that point, assume that because rates went up 300 basis points, you're going to start crediting 0%. You start damaging the fund, and for risk control reasons, you want to do a meltdown test, so half the participants leave. You should test that and see how you would look under that circumstance. However, it is very different than General American because you're not taking liquidity risk. You don't have the money. You may be on the hook for making up a shortfall on a book-value to market-value record. You can and should calculate that.

Mr. Schirripa: Let me ask the question another way. Is it possible for you to end up with lower reserves here than if you would write a conventional GIC product? The GIC product, I guess, bundles this wrapper and the assets together and that produces some sort of reserve. Is it possible when you look at the assets that are held outside the company, plus what you're holding in reserve, to end up with less than what you would get under today's valuation laws?

Mr. Cioffi: The answer is yes, but I don't know if that's really applicable. Under this reserve formula, the market value of the assets is the driver of your ability to make

the payments or not. It is also the case that the GIC is guaranteeing rates like 6%, 7%, and 8% instead of zero, and that makes a big difference. The difference is guaranteeing zero versus guaranteeing 6%. If you can put this method against a standard GIC, it will almost always be much, much more expensive than the Standard Valuation Law, because those haircuts will come into play. On the other hand, you can get lucky on the Standard Valuation Law with the lag in the rates going down.

Mr. Gorski: I have a follow-up question to that and I think it may even bring a few of those issues together. With a synthetic GIC, ideally the insurer is not taking the credit risk associated with the assets, while on a standard GIC you are. I know you commented several times on that fact. You also commented on the regulator's review of investment guidelines when filing these products. Has there been any questioning by regulators of the insurer's monitoring compliance with the investment guidelines after an initial filing and issuance of a contract?

Mr. Brown: It's part of the plan of operations that some people have asked. The questions are usually related to what if they're not publicly traded? The answer is, that's the question we have to ask before we'd accept it. How are you going to price securities that aren't publicly traded? In that case we would be looking very much to be sure that we could verify the prices. If they say I'm using a pricing service, we'd want to see if we could go on the Bloomberg terminal and independently verify all their market values. I think that's how you handle that. From there on in there is a lot of monitoring, and again, these are very well-developed investment firms, investment banking firms, and top level managers in the industry. They have systems in place to value things and you audit their systems.