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Valuation Issues Arising from the Current Economic Environment

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Summary: Although change has always been accepted in actuarial circles as a necessary requirement for progress within the profession, the development of issues arising from current financial trends has had a more profound impact in restructuring our professional life than in any similar period in memory.

MR. DAVID RICCI: I will list the top risks of 2003 and beyond, and I encourage you to think about prioritizing these. I'm sure there are several items that aren't on the list. As far as market risk is concerned when this list was put together, we felt that the stock market might go down to 7,500. We thought that our customers would pick the worst time to get out of the market or to lock in a large future cost for variable product guarantees. Particularly if it was something like a dollar for dollar, some kind of a ratchet or, for example, the ability to move from a high-equity account where you had a large role to a money market account.

Once you've created this GAAP, even without the dollar for dollar, you can move everything into a bond fund and lock in that difference. We were worried at that time, although not so much now, that interest rates would drop further, putting us into kind of a Japan scenario with earnings below minimum guarantees. I know some of us are very much concerned with that at the moment. We were also wondering if interest rates on the other end would rise enough to cause problems for companies with large existing portfolios. Any kind of an interest spike, of course,

will create wholesale movement outside of the large portfolios and into more flexible portfolios, creating the same kind of a problem that we saw to some degree in the 1980s.

I know there is concern among our companies, and probably to a large extent in the industry, about rating agencies and their perception of the health of the industry based upon risk-based capital (RBC) ratio, the ability of companies to raise capital, equity rates and that kind of thing. In other words, they're concerned that we would have a fairly significant year of default losses. Another market risk added to this list was the impact on pension plans of big equity market losses. Some people fear that there will be a problem with the PBGC being able to withstand financial impact on insurers.

Regarding the insurance risk, we felt that we'd have impact from asbestos, medical cost inflation and weather disasters on the casualty side, which is probably fairly economically related. Will we see that mortality improvement? In conjunction with falling interest rates, will this have a large impact on the guarantees that are provided on immediate annuities? There probably was an assumption made when these guarantees were originally produced about the difference between the so-called guaranteed rates and the current rates offered. That has shrunk over the last couple of years, so maybe you need to revisit the assumption and maybe the haircut isn't as large as you thought it was.

On the other side of the coin, if the mortality improvement stops, what does that do to turn business as a whole and reinsurance in particular? There are several minor risks that deal with new diseases and epidemics of old ones. Another risk is under-priced product, which we're sure will happen.

We listed four things as operational risks. The first one is corporate governance. A large degree of concern from state and federal regulatory officials is being sure that the CFOs, CEOs and other significant management partners are fully appreciative of the risk that they're managing and are measuring it correctly.

The second point under operational risks is corporate control, structure and effectiveness. People have to be coordinated. Without coordination during consolidation you get holes in operations that sometimes create big swings in income.

Sales practices are a third operational risk. There's probably an iceberg out there in terms of the variable-annuity guarantees and what was promised by the distribution back when they were sold. Most of those chickens haven't come home to roost yet, but they will.

And the last one listed is war, terrorism, etc.

What has been the major change in the environment? Capital markets have changed, assuming that they display the volatility that we never would have dreamed of, even in the mid-1990s. This has generated all kinds of capital market models that create a significant amount of stress on the amount of liability that we hold on products that depend upon their steady performance. There has been increased regulatory scrutiny on both the federal and the state level. And now, I think they're beginning to bicker with each other. They're getting at a point at which the Feds and the state are coming to a degree of control issues here. Part of this might be because banks are becoming more heavily involved in the insurance business and they're more or less subject to the office of the controller and, of course, the states are NAIC regulated.

We've had an assault on traditional methodologies we've used, since at least the early 1970s, in determining the financial health of an organization. There have been some incremental improvements in that period of time. But there has also been a very significant change that occurred recently, and a lot of it has to do globalization, the concept of fair value and embedded value and the implications that has upon predictable, trackable earnings and the overall foreign competition for market and labor resources.

I think this is good news for the actuarial profession. The critical need for actuarial expertise has never been greater. We have demographics concerning health care, pension systems and the labor force, which we have been aware of all along. Now it's time to really pay the piper on these things. It's going to require a great deal of expertise in these areas to be able to come up with reasonable, rational and predictable solutions.

The whole issue about expense reduction and the economy as a scale is almost like burning a candle at both ends. We've seen a lot of consolidation and a lot of reduction in expenses, but at some point there's diminishing returns on that both in the unit cost area and also the ability to manage the business effectively.

And then there is the whole concept of re-engineering, and by that I mean redesigning the financial system so that it's responsive to the enterprise growth and risk management. It makes sense across organizational lines. It's a line of unit-specific strategic business. You can even have a system that is relevant and working for you, but it may not continue that way based upon the changes in the organization.

There are many recent issues for the valuation actuary. We'll be talking about several things, including RBC, capital market volatility and the whole question of stochastic versus deterministic. We will also discuss using stochastic types of evaluation in what used to be traditionally related because of the volatility of the risks involved.

We'll also discuss reinsurance issues, which certainly are not in a stable climate at this point in time. Another topic will be Guideline VVV, which has to do with variable-annuity guarantees, and we'll also talk about the variable guarantees themselves, the dollar for dollar impact and whatever the impact is on the modeling area. I also have a case study that I want to go over briefly, which has to do with my company concerning the variable-annuity guarantees.

Our variable-annuity guarantees were fully reinsured up until about the middle of 2000, in which the re-insurers very likely saw trouble ahead and most of them got out at that time; ours, for instance. They had a very difficult time in procuring reinsurance and thought about other hedging mechanisms, but didn't really get around to something definite until we had put on another few billion of annuity business in force. We have a very complicated product involving a ratchet, a high water mark, a 5 percent roll-up, and a dollar-for-dollar provision. That creates all kinds of complexities and gaming that can incur on both the distribution side and the policyholder side.

When we first looked at this seriously at the end of 2000, we were coming up with numbers we thought wouldn't occur at all just based upon Guideline 34 rules. It seemed strange that they would generate reserves that were so high. But all this became reinforced later on in 1981, and by the end of the year we realized that we had made a mistake in continuing with it, and finally discontinued operations on it. But by that time, we had sold a ton of that stuff. So we continually have been refining the estimate of what kind of risk we're trying to manage here. It has to do with kind of assumptions you employ and what is specifically related to Guideline 33 versus what is, say, a best estimate assumption that you might use on a GAAP basis.

It's quite different because Guideline 33 says you have a situation where the policyholder is going to max out at the worst possible time. We all know that that is not going to be the condition, but none of us has enough experience to understand exactly what will happen because most of this hasn't even come close to its election period. We started issuing this in 1998. The first step is going to become due in 2005, and that's fully reinsured.

But, we're hopeful that we'll be able to get some inclination, but it looks like, from our experience, that we are not seeing the kind of gaming that we thought might exist even in the pre-election period. We aren't seeing the kind of movement between funds, the stripping out of entire policies just to leave the net amount at risk, that kind of thing. At any rate, we're hopeful. The economy looks like it's in a better position now and we'll be able to stabilize, if nothing else.

MR. FRANCIS SABATINI: I'm going to talk a lot about what Dave just talked about, but from a slightly different perspective. I'm a little bit like a duck out of water, but I have some perspective on it and I have thought a little bit about it. I want to present some ideas, and give you something to think about. In thinking

about this, I just wondered what this means for us? How is it going to change what we do, the way we do it? Why are the jobs harder today than they were five years ago for those involved in the valuation market? There are several reasons, such as fewer resources, and more issues like those related to the proliferation of complicated products that require stochastic evaluation,

If you think your job is hard today, it's going to get harder in the future.

I think that the whole idea of valuation and financial management are going to be one and the same. That's sort of why I brought them together in the title. So what's the implication for the valuation actuary? Let's just talk about the environment that's driving the change. I remember when interest rates were 15 percent. Interest rates have been trending down since 1979. We've had 25 years of decline in interest rates, and it's bottomed up. Maybe this recent spike is the beginning of the reverse trend.

But what if it stays where it is and what does that mean for us? We've had a horrible three-year bear market. The fact that it's followed by a sustained bull market has a lot of implications. There are hanging demographics. There's a group of people, I'm part of that group, that are getting older that have a big impact on our business and the way you may do your job in the future. Improving longevity, I'm voting for that as it relates to me personally. We've learned a lot from whole recent credit cycle. It's almost like we forgot what's happened.

So what sort of similar responses are there from a valuation perspective for the environment? You have all these letters and numbers. That means you have to have a very high I.Q. to distinguish between AG-34 and AG-39, AG-41 and AG-BBB, C-3 phase two and C-3 phase three. How many people know what FAS 133 B-36 is? I highly recommend for each one of you to go find out.

FAS 133 B-36 says that if you have a modified coinsurance (MODCO) of funds withheld reinsurance treaty, you now are the owner of an embedded derivative and you need to value it. It could be a credit derivative. It could be a fixed-to-float swap. It could be a fix-to-fix swap. Do the research. I think you have to evaluate it by the end of this year. There's a lot of stuff going on, and none of it is formula reserves.

Remember the good old days when you could just take out the calculator do the math and come out with the reserve? There was no such thing as the right or the wrong; it's just the result. What's the worst that could happen? Making an error on the calculation is the worst that can happen. And not only that, but everybody is looking over your shoulder. Regulators, rating agencies and analysts are looking over your shoulder. What about financial statement transparency? Not only do they want to see your financial results, but they also want to understand your financial results. These are people who don't spend a lot of time understanding your business, but they want to understand your financial results.

So what are the implications? It may not happen as quickly as I'm going to suggest it's going to happen. In the future there will be no more formulas. It's a dynamic valuation environment and the number is whatever the number is. It's what you come up with. That means there's greater reliance on actuarial judgment. You're going to need more resources with different skill sets, with an increased need for financial modeling sophistication and a greater need for computing.

Using banks of computers for distributive processes to do some of the financial evaluation is becoming more and more common. If you're not doing it, you should be. You're going to be asking to become well-versed on subjects that weren't on the exams when you took them. You might have to ask some actuarial students to teach you some of this new stuff. You're going to have to do stochastic scenarios. That means you probably are going to know something about stochastic scenarios generally.

There is greater discipline around valuation of the financial reporting process. This is the Sarbanes-Oxley stuff, but it's very real. You're going to need to highly document in defined valuation processes. Documentation, disclosure and education are all going to be important things. So if you didn't think of yourself as an educator, you're going to have to start thinking that way.

The key point is once you've done the reserve calculation, how do you test it? Your number is what it is as a result, and it's defined by methodology. How am I going to calculate this reserve? Sometimes it's pretty straightforward. In the FAS 133 calculation, if you know how to value a derivative, this looks a lot like a derivative. You value it, and then, all of a sudden, it gets complicated by things like a lack of lapses and mortality input options. So, all of a sudden, your judgment is entering into it and whether or not to include or exclude something in the calculation becomes a matter of methodology. How you construct your models impacts the result that you produce. In a variable annuity business I can take a block of business and build 10 different models and do a FAS 133 calculation on, let's say, some of the embedded derivatives and produce 10 totally different numbers. It becomes incumbent upon the actuary to really stop and think about how to construct a model because different model structures are going to produce different results. The same thing is true with the assumptions.

It's about finding a balance, the level of sophistication around methodology, the level of model complexity, the appropriateness of the assumptions and getting the balance in terms of the accounting symmetry.

Let's talk about sophistication. There are more issues. By their nature, stochastic processes are inherently sophisticated. How do you interpret values in terms of sophistication? It can either lead to more or less sophistication. From a methodology point of view, when I was taught how to value a derivative, they said you value the cash flows. Someone else might explain how to do FAS 133 and

equity-indexed annuity by saying, "No, you evaluate, you just project out to the next valuation and the reset base and discount that, and that's how you value derivatives."

The way I think about derivatives is it's got to turn into cash. So if the guy doesn't lapse, there's no cash. There's nothing to value. With a different deal you can get different answers. But, at the same time, that different view leads you to a much different level of sophistication and methodology. And not only that, it leads you to the wrong result in terms of accounting symmetry, in terms of the price behavior of the liability you just valued and the price behavior of the assets that you used in your hedging. So there are risks of over-interpretation. There are risks to simplification. A big risk to oversimplifying any methodology is if somebody actually shows up to do a peer review, a financial exam or another circumstance and then challenge what you've done. So now, all of a sudden, we're both in the world where you look at it. You open up the cookbook and you look at the cookbook and they tell you how to calculate the reserve and you produce a reserve to one. We really need to think about how to approach it, and you need to find that balance.

For SOP 03-01 and the valuation and establishment of guaranteed minimum death benefit (GMDB) reserves, if you do a seriatim valuation, you get a much higher number if you use a single-cell model. Which is the right one? I don't know, but it goes to methodology. And, for example, think about cash flow testing. You sort of build your models and run them and do stochastics in the cash flow testing context, and maybe you're not happy with the results. You're ending up with a lot of scenarios where the reserves might not appear adequate. But if your company takes an approach that says, we'll never be mismatched more than a quarter of the year, you have to maintain that paradigm in your modeling. To get a better, more meaningful answer, you have to extend the level of sophistication in your model.

Hence my point about your jobs becoming more difficult. Right now it's only around small pieces of the liabilities on the balance sheet, but what if it gets bigger and bigger? If we keep selling all the products with all the exotic guarantees, you might as well FAS 133 the entire balance sheet and be done with it.

I'll now talk a little bit about model complexity. It's really a question of structuring your model so it captures the risk dynamics that you're trying to value.

They're modeling variable annuities. And I've heard some ask how you group half the classes. I think the bigger issue is how do you band different guarantees alongside the fact that they're different levels of money in the guarantees? You take one policy that's 10 percent in the money and another one that's 10 percent out of the money and you combine them and you get a policy that's half the money.

If the market gets down 10 percent, that combined policy is down 10 percent. But if you model them separately, one would be at the money and the other would be

20 percent in the money, which is going to get you a bigger reserve. So building that model becomes important. If I look across my entire variable annuity (VA) in force and there's 70 percent equity and 30 percent everything else, should I just model them as if they're 70/30? How are you going to get a different result if you sort of distinguish the fact that there are people that are probably 90/10, 50/50 and 20/80 the other way?

I sort of made a point already about the C-3 phase two. Can you imagine doing a capital calculation and not re-balancing your duration of the assets and the liabilities along the path? You're going to end up holding more capital. So having that greater sophistication could ultimately for this single premium deferred annuity (SPDA) business and some of the other interests of business lead to holding lower reserves below capital because you've introduced more sophistication into the valuation process. For that matter, just think about having a hedge strategy on any product line. You could leave it out. It makes it a lot easier. It's really hard to bring it in, but if you bring it in, you end up with low capital and low reserves.

The same thing is true with assumptions. It's really hard to set a lot of the assumptions.

If you're in the process of performing your valuation, whether it be FAS 133 or AG-39, you have to make a decision, and then you have to defend your position. You may have to do it without a lot of experience, and making no assumption is, I guess, the same as making an assumption. There is a balance problem. Do I educate management or not? If I educate them, then I'm going to give them ammunition to come in and debate the assumptions. If I don't educate them, am I living up to my professional responsibility to help them understand where the number came from?

And for those of you who are involved in deferred annuity cost (DAC), if interest rates stay down, you're going to be looking at a DAC unlocking. It really becomes problematic because your lives are going to become more and more involved in the appropriateness and the assumptions, being able to defend them against the constituency, defend them with management, and having management understand what's going on. I think the world is changing and we see that on DAC. We see some of that on FAS 133 issues, with a lot of interpretation issues, and it sort of gets to the whole symmetry issue.

For example, I have a GMWB and I'm going to do a FAS 133 calculation. I also have a hedge program. The natural inclination for most organizations that are looking at this or actually implementing hedge programs is to use short-dated, actively traded liquid instruments; typically futures and options. So that's fine and you have an asset on the balance sheet. When you value this and you end up with this 30-year liability, and somebody says, "Well, but you have to use current market volatility in valuing the derivative," every time the volatility assumption changes, your liability is bouncing around.

There is more volatility in your income statement because you could have your hedge book move in one direction and your liability move in the other direction. That is worse than what you might see in a FAS 115 context where the assets are up and down and nothing happens to the liabilities. You can have them go in opposite directions. Are you hedging your economic risks? Sure you are if you designed the hedge program right. The hedge program doesn't care about the value of volatility in the marketplace. It cares about whether you're going to have money at the point in time when you pay the claim.

Here you're faced with a dilemma. Do we hedge the accounting volatility? All of a sudden, the price of the guarantee goes up and it creates all this turmoil for the valuation actuary and for management. It's really problematic because the more dynamic the valuation framework becomes, the more you're going to have to fight to understand the relative movements in the balance sheet and how close it is to the income statement. So now, methodology, model construct and things like assumptions could be creating income statement volatility, and you'll argue that you need to do more in the way of simulation.

The presumption here is that you need some more dynamic valuation framework. You're going to have to do more stochastic processing. And stochastic processing means running a lot of scenarios, which means more run time, which means you need to think about sleeker models that validate. And what I mean by that is finding a way to build models in which you're sort of compressing plan types, compressing cells, but still being able to validate the model. They can be done, but it's harder to do.

And the regulatory gods could all come out and say everybody should use the same sort of interest rate generated and it should be dramatized this way. Would that solve your problem?

If they gave us the generator and parametrized it for us, it would make our lives easier. It's almost like formula reserves. And to some extent, that has happened in Canada.

But, on the other hand, what if they don't? What if you have greater latitude? That means you need to spend time thinking about what type of generator you should use. How should it be parametrized? How do I know I have a good scenario set? What if I change the parameters? How is that going to change the reserve? So, that's going to get a lot harder and it's going to require improved model building skills and more robust platforms.

There are going to have to be more capital markets conversing. We're going to have to really understand credit risk and how to value credit exposure, scenario generated and programming skills. Communication skills will also be needed in the future.

You're going to have to decide on the methodology unless they tell you exactly what approach you should use. You're going to have to set the assumptions. You're going to have to design and build a model. You're going to have to interpret the accounting and regulatory guidance and you're going to have to interpret the results. All of that is with your judgment.

It's even worse in Europe. For example a company that owned a U.S. operation and was looking at GMDBs on the insurance company's balance sheet had very little guidance. This company wanted to know what to put on the balance sheet. Is AG-34 an appropriate measure of a reserve that we should put on our balance sheet? What's the value? It's almost like our regulatory framework has forced us into that sort of thought process. But in the end, it's increased the accountability and professional responsibility, which isn't bad. Respect levels depend on how we perform in that role, I guess. There's correlation there between how much respect we get in terms of how we perform and respond. That is going to be a tough balance.

We're also going to need better analysis skills and techniques because what we do is going to be different. We have these complex models and all this stochastic stuff flying all over the place and then someone will want you to check it. Not only that, but imagine the conversation we're going to have when the yield curve shifts inverted, spreads, widens out, the portfolio manager changes the investment strategy, you have a whole different dynamic in terms of policyholder lapse, you have more deaths than expected, and your management comes to you and says, "Why do we have this big increase in the reserve during the period?" You are going to have to explain to him or her why it changed.

That's almost as bad as doing an EV reconciliation. Try and take a FAS 130C calculation or your cash flow testing and reconcile it from one tier to the next. It's not an easy exercise. But the minute they start putting it on the balance sheet and it changes in the wrong direction, somebody is going to want to understand why. So we're going to have to figure out how to do that.

You're going to have to understand what you're doing for methodology. You're going to have to convert the black box into understandable terms. You're going to have to communicate the implications, and what it means to take a different methodology or a different set of assumptions. You're going to have to explain how much that can impact the reserve. And you're going to have to make it real. So it's not enough to have a conceptual discussion. You're going to have to say, "Well, when we calculate using this approach, it produces 100. And when we use approach B, it produces 120, and here's why."

If you think management doesn't understand, what about the auditors?

You do your calculation on a certain date, it takes you time to put your financial statements together and then you go public with the results. But you know what? The market could be up 20 percent, interest rates could be down half a percent and volatility could have doubled by the time you did the calculation and you produced the results.

Can you imagine announcing your quarterly results and somebody saying, "Well, but interest rates are higher today. What does that mean to your balance sheet?" So it's going to mean more frequent and faster reporting. So you're going to want to get from the end of the quarter to announcing your results quicker than you already are. And you'll probably cease to give earnings guidance.

I can't leave without talking about the whole governance thing. The methodology may be the way you want it and uses the right assumptions, but the model is actually producing the results. As the valuation actuary, you may have people almost doing modeling for you. How do you know the results are right? What are you going to do? You're going to have to develop processes and approaches that allow you to be confident that the machine and the programs are computing the right results.

I think there will be a greater risk of errors in reported results. Now that you're using actuarial models, you have to worry about assumption selection, communicating those assumptions, making sure that the assumptions you set actually make their way into the models, creating a proper control environment and then documentation. It's all the stuff that Sarbanes-Oxley is really talking about.

I've just recently been exposed to more that I would call substantial computation errors in my association with an accounting firm in the last year or two than I have in the prior 10. I sort of think that it's just coming out of the fact that you may be understaffed. We're dealing with a variety of different systems, whether it's for data or for calculating reserves, and there's more and more pressure and more and more chance that something can go wrong.

FROM THE FLOOR: I think maybe the errors were there all along and we just never looked for them.

MR. SABATINI: I don't know. I think that's a good point. I would argue that if there's an error somewhere, unless it's systematic so that it doesn't show up in trend or something like that, I would think that eventually it would show. You know, in theory, you have auditors who should be able to do recounts such. But just think about what it means for an auditor. If the entire insurance company balance sheet is on some sort of stochastic calculation, imagine an auditor trying to figure out whether that number is right. They actually do that with the Wall Street banks and the way they value derivatives. So I'm sure they'll extend that. That's an excellent point. I'm not sure.

There's a whole idea of consistency, and the day will come when there's a total company FAS 133-type valuation. If you have two products and you perform the calculation on both of them together, you're going to get a different number than each one separately. It's probably lower than the sum of the two. But in order to do that, you're probably going to have to have consistent approaches to the calculations and a consistent set of scenarios, even if you're doing risk-neutral work. You'll want to make sure that you're consistent on volatility assumptions, the way you may parametrize models and things of that sort. So there are some opportunities here to actually end up with a low reserve if you can find a way to combine it. I haven't seen anything in the guidance that says you can't do that.

I'm now going to talk about cash flow testing in a current environment, and there are two points of view. One is we have a pretty interesting environment. I hear people talking about it more. We've had the perfect storm. Well, that's great, but let's take the futuristic view and think about cash flow testing. What if cash flow testing was the basis for your reserves? What if they said no more formula reserves, use the actual? You would have to set reserves by doing a cash-flow testing type of an analysis.

I think that that's where we're headed. That's certainly where Canada is. From what I can tell, our regulators keep looking over the border. That doesn't mean the Canadian regulators are right, it just means that they did it before the United States. So we have an interesting environment: a steep curve, low interest rates, credit spreads that have been moving around, minimum guarantees in place, spread compression, asset prepayments and labor effects of the bear market.

So what does that mean for low interest rates? Actually, it's been pretty good. We've had the run-up in interest rates. I see a lot of people worrying about the spread compression, but I haven't seen a lot of companies in the dialogue of what happens if this really persists. What does this mean for our organization? And your cash flow testing is really going to show you, particularly if you're big in the annuity business or you have some universal life (UL) products with some fairly high guarantees. If we stay where we are, I think there's a real problem.

The time to buy fire insurance isn't when the house is burning down. You could probably get it, but you'd have to probably pay more than the house is worth. Hedging out low interest rates today is a very expensive matter. Not only that, but the hedging out for run-up in interest rates is a pretty expensive proposition, too. The environment has to change within organizations so that when it's relatively inexpensive to buy the insurance, that's when you should buy it. I can tell you as somebody who has been active in the consulting business for a few years, I always go around trying to tell people, "Now is the time to buy to hedge out your high interest rate exposure. Interest rates aren't going up."

Another point is that we need to get a little more rigorous in the way we approach our cash-flow testing, you know, the seven scenarios, and maybe the regulators

will push us further along. We also need to think about assumptions, reinvestment and disinvestment.

For those of you that are in the annuity business, I think interest rates will need to go up much further in a fairly short period of time so that the rates that you would offer on a new guarantee structure become really attractive. We could have some interesting situations, particularly if the existing asset portfolios are mismatched. But then again, from a valuation point of view, you might need to start giving careful thought to how to set all these assumptions or build these models.

We've gotten to the point that cash flow testing is a compliance exercise. I have to build the models. I have to run them. I have to look at the results. I have to write a report. I have to submit it to the insurance department. That's what I call the load and run compliance. I think it's going to become a thing of the past. It certainly will be to the extent that more and more of our reserves will be based on cash-flow testing results. AG-39 was probably the preamble of that.

MR. RICCI: Wouldn't you agree that AG-39 was basically the watershed?

MR. SABATINI: Yeah, I think so.

MR. RICCI: At that point, for AG-34 and AG-33, you might be able to come up with a construct that everybody had agreed was the reserve.

MR. SABATINI: When did you get the AG-39, I think it's a completely different ball game.

I think there's judgment around the assumptions. I think there's judgment around building the models. And that puts you in a position of more modeling sophistication. Cash flow testing should be a subset of what you're doing around risk management.

So in summary, we're headed for some pretty substantial change. It's either evolution or revolution or the other or both.

FROM THE FLOOR: I think the issue, just to add a little something about the whole modeling error, may be the whole process of designing the model is going to be a much more complicated affair than it used to be, particularly with the kind of products we're dealing with. If you take a look at the seriatim approach and you take a look at the various model constructs of one kind or another, you'll see a tremendous difference and variation with exactly the same assumptions. So the way that those models are aggregated really is going to have a substantial bearing on the kind of reserve you come up with.

FROM THE FLOOR: Maybe part of the confusion comes from your assumption that our goal is to find the "right answer" and, secondly, that the right answer is some kind of an expected value. I would question both of those premises.

First of all, if you studied the history of statutory evaluation. The actuary's goal was to find the right answer, but that wasn't the primary goal. The primary goal was to keep the company solvent. If you look at what the reserves were, they weren't the right answer, but they were good enough to keep the company solvent. They were either way too high in most cases, or maybe a little bit low. After the 1930s, the reserves were actually too low because interest rates went down and the flu epidemic popped up. It can happen any time. Your goal is not to get the right answer. Your goal is to keep the company going, from the statutory point of view. That actually helps me get through statutory evaluation with a clear conscience.

Part of the problem is getting management to agree what that primary goal should be. In other words, do we want to keep the company solvent or not? Let's not argue about assumptions. Our goal is to keep the company solvent. In GAAP your goal is to state your income accurately, and there's a lot of disagreement on how to do that when you have options on your books. That's what's causing a lot of the trouble. Otherwise, it's really not all that difficult to state income accurately if you're honest about it.

We know how to model, but the question is what are we trying to model? A lot of what you said has to do with picking the correct model and making sure that you got the right answer from that model, but I'm trying to get to something higher than that.

MR. SABATINI: How would the environment and the valuation actuary have to function? Keeping the company solvent could mean that I just ask them to put up more capital than they actually have. So there has to be a balance there. When you go to a dynamic environment, the question of what's the right answer, even if you're coming at it from a solvency point of view, becomes a question that you have to answer.

FROM THE FLOOR: I have a two-part question. One, are there any special considerations for a small company and, two, will Ernst & Young continue to audit small companies in the future based on all this stuff?

MR. SABATINI: Well, let me answer the second question first. I have no idea. But it's actually an interesting question. I don't see why not. As for special considerations, maybe I should ask you what you meant by that, but I think you're going to be held to the same standard. I think it might even be harder for a small company than for a larger company. It may be more difficult for a larger company on the resource side, in terms of acquiring enough people with the right skills and in terms of the balance sheet having the depth that another company might have.

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MR. RICCI: It's a slow learning curve and maybe they waited too long, but I think, in large part, companies are realizing the importance of the discipline. The problem is we have to be more complex and more simplified at the same time. We have to work complex analytical things, but we're going to have to communicate in a measure that can be explained to regulators as well as management.