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Summary: Recent developments in the area of fair-value financial reporting for life insurers, especially the fair value of liabilities, are explored. A discussion of the Financial Accounting Standard Board project on derivatives and hedging is included. Practical examples of the application of fair-value reporting are presented.

Mr. J. Peter Duran: I'm an actuary and a partner with Ernst and Young in New York, and I'm one of the panelists as well as the moderator. I'd like to introduce our other panelist who is Wayne Upton. Wayne is a senior project manager with the FASB in Norwalk, and I think it's fair to say that Wayne is considered the FASB's expert on insurance related matters. For those of you who may have followed the development of *Financial Accounting Standard (FAS) 97*, Wayne was the project manager who is responsible for the development of *FAS 97*. He's also currently involved with the project on using cash-flow measurements in accounting and has been very involved with the most recent exposure draft on that topic. The comment deadline for that draft is coming up very soon.

Mr. Wayne S. Upton, Jr: I'll talk about two projects on the FASB's agenda that pertain to the fair value financial instruments. Peter will discuss some work that Ernst and Young is doing.

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I need to start out with a proforma disclaimer. Expressions that are used by members of the board and staff are encouraged. Official positions of the FASB are reached only after extensive deliberation and due process. So that means that if anything that I say is offensive to you, I mean it personally. For the board to insult you in its official capacity, it would have to issue an exposure draft and hold public hearings. Given our work pace, we'd probably forget in the interim what we were all mad at anyway.

The first thing I like to spend some time with you talking about is an exposure draft that we have out titled, *Using Cash-Flow Information*. It's really about present value. It's a topic that I feel a little bit uncomfortable talking to this group about. Present value is sort of the essence of your being, but that is not so for accountants. Many of the concepts that we're going to be developing in this concept statement are already being applied as we think about problems in fair valuing, such as financial assets and liabilities, which is, after all, the topic of discussion.

It's worthwhile first to just mention to you quickly what a concept statement is in the accounting technical literature. It's an odd sort of a duck. We don't have very many of them. This will be number seven if we complete it. They are meant to primarily guide the FASB. We are the principal customers of these documents and the idea is to lay down broad concepts that hopefully the board can adhere to going forward. The alternative is that we make everything up as we go along. We're accused of that already. It's nice to have a conceptual framework, so that we at least know when we're departing from the framework. The immediate implication for a company at the preparer level or for an auditor is zero. A concept statement for GAAP is, in fact, the lowest level of GAAP, and does not require that a company change its accounting. Its only authority is, for lack of a better term, moral authority or conceptual authority, and the recognition that this is how the FASB plans to think its way through problems.

What is the problem we're trying to address? I'll read a statement from one of the big six certified public accountant (CPA) firms. It made a response to an early draft of the document. It said, "The best estimates of cash flows, which takes into consideration uncertainty of amounts and timing and applying an appropriate risk-adjusted discount rate, with appropriate disclosure of risks and possible ranges, may give the user of financial statements better information." When you think about it, you might admit that part didn't sound bad. What's the problem? The problem, from an accounting standard-setting perspective, for the people like those at the FASB, is you have to take that statement apart and start to ask questions of it. The first question is, how do you know it's the best estimate? The CPA's statement said it was a best estimate that included uncertainty. Is that consistent with your notion of what you mean by best estimate? How much uncertainty is there? How did you

put it in there? Where do I find it? Did you, in fact, reflect uncertainty in the timing of the cash flows or just in the amounts? Finally, what was your objective? Why did you set out to do it in the first place?

We've never tried to address those questions in that way. What we found in the accounting standards is if you look back at the times accountants have thought about present value, sometimes with the assistance of actuaries, sometimes actually all by yourself, you'll come up with radically different answers from one situation to the next, sometimes simultaneously, which is a little bit embarrassing. What's more important is we have come up with answers that cannot be in any way reconciled with one another. So there's a need to do something.

The board reached a conclusion in this exposure draft that, to this group, ought to be just an absolute slam dunk. The virtue of present value is its ability to capture economic differences. However (and this is a big however and the first big idea in the document after that fundamental conclusion that present value is always more relevant), it is not an end in itself. I can take, as you well know, any series of cash flows and any series of interest rates and compute a number and pat myself on the back and say it's a present value. The question has to be, so what? What did you get? In this exposure draft, the board has identified two objectives for the use of present value in financial statements. One is a notion of fair value, which we're all familiar with. Its purpose is to measure a current transaction or what a current exchange transaction would be. It is measured using the market's expectations about cash flows, the market's perceptions of uncertainty and risk, and the market's risk premium. If we know all of those, we could use a risk-free discount rate.

The second objective, and one that's going to be especially important as we get into the comments that Peter is going to make, is an idea that we call entity-specific value. Some of the old timers that are my age or older will recognize a lot of what accountants call value in use. In value in use, we look at the entity's use or settlement of an asset or liability and the entity's estimate of the cash flows, and we apply to those things the market's perception of uncertainty and risk and the market's risk premium. So we're using the entity's cash flows, but we're still looking to the marketplace to value those cash flows.

Let me give you an example of what we're shooting at on the asset side of the balance sheet. Let's say that Peter owns a bowling alley in California. For one reason or another, he has an accounting requirement to remeasure that bowling alley using some new measurement. He goes to the marketplace and discovers that the market values that piece of real estate as a parking lot. The market values that piece of real estate at what it believes to be its highest and best use. Peter says, "That's fine, but I'm not going to run a parking lot, I want to run a bowling alley."

So if we're looking to the fair value, we're going to look to the cash flows that are pertinent to a parking lot. The entity-specific value is going to use Peter's cash flows from operating a bowling alley. It may produce a higher or a lower result, and it's not hierarchy driven. We're talking about two notions of value.

Now let's complicate it one notch further. This piece of real estate is located in California. In California, the property tax laws state that as long as the original owner holds a piece of property, there's a ceiling on the extent to which property tax increases can be imposed as a consequence of changes in value. So while the assessed valuation of Peter's property has grown significantly over the years, he's still paying \$50,000 a year in property taxes. The minute he sells that property, the lid is off and all of those changes cascade in. So a new owner could pay \$500,000 a year in property taxes. Again, if we're looking to fair value, fair value would have to contemplate \$500,000 a year in property taxes because that's what the market would have to get. If we're looking at the entity-specific value or the value in use, we're looking at \$50,000 a year in property taxes.

Now the board doesn't expect that those two values will be free choice alternatives. We expect, as we go ahead from standard to standard, to use both values. They do establish a framework that's going to be especially useful as we start to talk about insurance liability. Now the exposure draft talks about uncertainty in risk, and it uses those terms in a context that is much more related to Mr. Webster than to Mr. Black and Mr. Scholes. It's strictly a dictionary definition that uncertainty is that which cannot be known and that risk is a chance of injury, harm, loss. So the exposure draft on present value does not adopt a capital market's view of risk and uncertainty. It adopts an everyday man on the street view, and that has led to some criticism of the document from the academic community. But the objective, in looking at risk and uncertainty in any accounting measurement, whether it's a present value or another, is to build a cushion. It is not the concept that we were used to seeing in Statement 60 of a provision for adverse deviation; it is also not a concept like the one that used to exist in some of the actuarial literature, which was that good surprises are better than bad surprises. None of those applies. The objective and the board's view for incorporating risk and uncertainty into any measurement is to imitate the pricing system. So when I introduce risk and uncertainty into the measurement of Peter's bowling alley, it's not in an attempt to build a cushion to be safe or to be more confident. The reason I build risk and uncertainty explicitly into the measurement is because the marketplace charges for risk and uncertainty. There's no objective here to introduce a notion of artificial conservatism. Instead what the exposure draft is trying to do is to make people think more explicitly about risk and uncertainty.

Let me give you an example of a conversation I had on that topic, and then we'll move away from this exposure draft. I was at the American Institute of Certified Public Accountants' Accounting Standards Executive Committee. Someone there said, "I have a portfolio of mortgage instruments that I have to fair value, and I'd like to use the discount rate on junk bonds. I said, "Fine. Are the cash-flow characteristics of junk bonds the same as the cash-flow characteristics of your mortgage securities?" He said, "Well no, of course not." Then I asked, "Well then what leads you to believe that the discount rate, the adjustment for risk appropriate for junk bonds, is also appropriate for mortgage securities?" He said, "Well, when you ask it that way, nothing." That's what the exposure draft of this concept statement is trying to get us to think about. How do we think about risk and uncertainty? Rather than just going out and picking a discount rate off the shelf, we must think about how we think about risks and uncertainty in the cash flows. On the liability side of the balance sheet, the problem of measurement attributes or what the objective of the measurement is gets a little fuzzier, and we're going to see this crop up again in Peter's comments as well.

A liability usually has a number of different values. It has a fair value as an asset. When we talk about the fair value of an IBM bond, we're usually talking about what value someone assigns to it as an asset. What is someone willing to pay for an IBM bond as his asset? This would be the fair value of that liability as an asset. On the other hand, we can frequently look to the value of a liability in settlement with a third party and get a different answer. Reinsurance is in this area. Any settlement transaction has a nature of a fair value in settlement with a third party. We don't see them very often because it typically requires the other parties' approval, but frequently we try and get to it. It's not unheard of to have a financial instrument that has different values as an asset to one party or in settlement with another.

Finally, we have a notion we call value in settlement by the entity, which is that entity-specific value turned over on a liability; we do not look at a current transaction, but at the entity's behavior over the life of the cash flows. One of the common criticisms in this document is that perhaps the FASB is making all of this look more precise than it really is. After all, people say much of this is more an art than a science. We don't think so, at least we don't think we're making it look more precise than it really is. The objective of what I've been talking about is not to make things more precise, but to make their statement more precise and explicit. In doing so, first I hope to make it more understandable and second, to make the analysis more thoughtful. Like my colleague who had to stop and ask himself why he was using junk bond rates in his valuation of mortgage securities, our objective isn't so much to point to a specific answer as it is to point to a specific way of thinking through the problem. That's the idea in a concept statement. It's a much more nebulous sort of a creature, to that extent. My personal hope is that by

looking at the problem in this sort of a context, we can flush out bad assumptions and bad answers. In particular, we get the accounting profession to finally understand that it is possible for risk to drive the effective interest rate downward, when we're taking about the risk of uncertain cash outflow. That's a notion that's second nature to most actuaries. I can tell you that trying to explain that to accountants is frequently like talking to the wall.

Let me move over then to how we're going to take some of these concepts and attempt to apply them in practice. One of the conclusions I think that many have reached is that long term you cannot answer the problem of accounting for financial instruments and a historical cost for a mixed measurement framework. The problems that we're having in accounting for derivatives and accounting for hedging activity and certainly the problem that you're all familiar with coming out of *Statement 115*, is the piecemeal application of different accounting attributes: fair value to some, amortized cost to other, *Statement 60* to others, and *Statement 97* to some others. All of these accounting discontinuities create the framework that's impossible to deal with. It's not really a problem of going back to "historical costs." I don't think anybody who really appreciated what full historical cost meant, would advocate that solution. I think people who are involved in thinking of it from an accounting standards process have agreed. Most international standard setters, at least in the English-speaking world, have concluded that we need to move to fair value for all financial instruments, including the liabilities of insurance companies. We need to move toward a fair-value approach to financial instruments. As one of the people involved with that exercise, I can tell you that it is not a de minimus task. What I'd like to do in walking you through it is to talk about the problems that we know we need to address because we don't have any answers for most of these so far. The first question is, do we want to look at all financial instruments or are there nonfinancial items that we need to look at as well. Deferred acquisition cost (DAC) springs to mind. DAC isn't a financial instrument. Some might argue that in a fair value balance sheet for financial instruments, DAC ought to disappear, since it doesn't really meet the definition of an asset in that measurement framework. Well, maybe not. Perhaps it represents something else and perhaps it has to be part of the system.

Moving out of the insurance industry, look at something like mortgage servicing rights that are routinely bought and sold. They are not financial instruments to anybody's knowledge, but they are closely linked to a financial instrument. Perhaps looking at only financial instruments is inadequate. Certainly there's also the question of whether or not some financial instruments ought to be included. I know many of the Europeans would very much like to exclude all insurance companies from any application of these concepts or to at least exclude insurance liabilities. I think we have the experience in the U.S. of recognizing what happens when we

don't deal with both sides of the balance sheet. Certainly our intention is to continue to deal with everything as long as we can.

Which market price should be used? Bid, asked, or halfway in between? For traded securities, this is probably not a big issue. For private placements or junk-rated securities the spread between bid and asked can be quite significant. It may be only a mechanical problem, but it's one that we're going to have to address.

How do we approach estimating fair value when we don't have an observed market price? We're going to try to translate many of the lessons that we hoped to learn from the concept statement into the fair-value project. Do we measure liabilities and assets individually or in groups? It is not so much of a problem when we're looking at the value of a liability as an asset, but when we look at it in some other context, it starts to get important, and this is a very significant problem.

Let me start in the banking industry. I think that the fair value of Wayne Upton's checking account is about \$65.98 as an asset. Pay day is a couple of days off. As an asset, the fair value of that liability is the amount I could go to the window and write a check for. No question about that. Similarly, as an asset, the fair value of any insurance product is its cash surrender value. As my asset, the fair value of any insurance products I own is the value I can get today; stated differently, that is its lowest fair value. It might be higher, but it certainly isn't going to be less than that. But if I put all of those bank accounts together in a group, I can start to think of them differently. So if I put everybody in this hotel together in a portfolio of accounts, what can I do? I can look at it and say that the fair value of that portfolio is maybe 98 cents on the dollar. Similarly if I can apply the same portfolio analysis that you all are accustomed to doing everyday, I can say that the fair value of that portfolio of insurance contracts isn't the sum of their cash surrender values. It may be they have a value of something less than that. I can tell you that in my estimation, that's going to be the most difficult nut to crack because many accountants just cannot get their minds around the notion that the fair value of a bank account could be less than the value that somebody can come to the window and get. They translate that analysis to the insurance industry and say "I'm sorry, the fair value of insurance policies is cash surrender value; at least to the minimum." It's going to be a very difficult problem to get over.

Finally, on a lesser level, where do we put this stuff on the income statement? Do we continue to report traditional measures like interest income and expense on some sort of a historical cost notion or do we just say that the entire change in fair value goes to the income statement? Do we follow the approach that we have in the derivatives document of putting some things through earnings currently and some through this notion we have of comprehensive income? These are all

problems that we're going to have to address going forward, and they are problems that we certainly don't have any answers for now. The AAA and Ernst and Young have been very helpful to us in walking us through some of these problems in the context of insurance contracts. We had some casualty actuaries come in during October who were very helpful in getting us thinking through that side. We're going to have some life actuaries come in very soon to get us started thinking through this process.

As I said, this is all taking on a special urgency because the International Accounting Standards Committee (IASC) is developing what they call a core group of international accounting standards. It wants to get that core group of standards accepted so that multinational companies can register their securities in different jurisdictions without having to reconcile the local GAAP. Obviously they have to have financial instrument standards to have anything that will begin to be a core set. The IASC has started down the track of moving directly to full fair value of financial instruments, with no hedge accounting at all. It is moving toward what they consider to be the theoretical answer. They found that they couldn't sell that answer. It was hard to sell in the U.S. It proved to be impossible to sell in Europe, at least as an immediate step. So they are currently meeting in Paris to consider the proposal that the International Accounting Standard for Financial Instruments be U.S. GAAP as an interim step. Internationally they will sign on to the writ, verse, part, and participle of U.S. GAAP. At least this is the proposal that's been put to them by their staff. It's understanding is that the major accounting standards are set by the U.S., Great Britain, Canada, and Australia. The IASC will immediately begin work on an expedited basis of moving to standards for fair value of financial instruments. So this all takes on an increased degree of importance, given the international situation and the desire to move forward.

I do not know how this will interact with the international work on insurance accounting. The IASC has also set up a steering committee on insurance accounting. It has yet to hold its first meeting. That will be in December 1997. So I will tell you when I get back how that went. For now, at least in the financial instruments arena, there's an additional importance.

Mr. Duran: I think you'll see that many of the ideas that I'm going to talk about are really the same ideas, in a somewhat different guise, than what Wayne talked about. We, at Ernst & Young, were approached by the Life Office Management Association to do a research project on fair value financial reporting for life insurers. This is to be, as I say, a research project aimed at looking at different approaches to fair value and what the advantages and disadvantages of those approaches might be as compared to current statutory and GAAP reporting. We decided early on that our major criterion for judging usefulness, to the extent we could achieve it, was going

to be how useful the reported results would be for company management and investors. So that was our major criterion.

We focused not only on the theoretical issues that Wayne has talked about, but also very much on the practical side of things. I think we felt that it was going to only be through fairly extensive modeling of actual insurance products and actual assets that would allow us to really understand some of the implications of what might seem to make sense in theory. That has certainly been the case. We're not done with this effort yet. In fact, we've only looked at one product so far and we have a couple more on our list that we want to do. The basic approach was to think about things first from a theoretical perspective, and I think that then eliminates a number of possibilities that you might otherwise consider and that have been suggested from time to time in the literature. Start with a theoretical perspective, kind of focus on what seems to be sound from a theoretical point of view, and then model those approaches that seem to be sound. Then see how they actually work in practice. I'm going to present some limited results later on in this talk. That was our basic approach.

Wayne has mentioned a number of the theoretical issues that the FASB has dealt with. As we began this effort, we found (independently of anything that was going on at the FASB) that the issues we were looking at turned out to be very similar to the issues that Wayne discussed that are elaborated upon in the exposure draft on present value measurements of using cash-flow information and accounting measurements. We identified as a threshold issue the so-called *measurement objective*. I'm speaking here about fair value of liabilities, in particular, which has been our focus. I would say fair value of liabilities has been our focus in the context of the income statement and balance sheet effects that are produced when you also measure assets at fair value. But the most difficult theoretical issues seem to be on the liability side of the balance sheet. I'm sure most people will agree with that. That's not to say there aren't issues on the asset side, but we're particularly focused on the liability side.

In terms of the key theoretical issue, what I would call the threshold issue is the measurement objective. What are we trying to get out when we talk about the fair value of liability? What do we mean by that? The answer to that question is not: look at the fair value of the assets, do present value of distributable earnings, take a discount at a risk rate, and do some subtractions. That's what I would call a calculational technique for arriving at an answer. This question is not: what is the best calculational technique? Although that's a very, very important question. This question comes before that. What are we trying to measure? What are we trying to get at when we talk about fair value of liabilities?

Then there's a whole host of other issues that are related to fair value of liabilities or that had been asked in the context of fair value of liabilities. I'm going to talk about each of these as we go through this, but some of the questions that we've tried to address, are: Should there be a gain or loss at contract issue? What should be the basis of the experience assumptions we use to project the estimated cash flows? I guess it goes without saying what we're going to be doing here. A fundamental part of what we're going to be doing here is projecting cash flows on some sort of best-estimate basis. What should be the basis of assumptions for those cash flows? What's the discount rate that we should use? Should the actual assets that the insurer owns affect our answer? That's a very difficult and subtle question. I can give you an example, but I think it depends on the product that we're talking about and you can think of two extremes. On the one extreme you have a guaranteed investment contract (GIC) or an entirely nonparticipating contract with a single premium immediate annuity contract. Those cash flows are fixed and determinable. It really doesn't matter from the point of view of the company, from the company's obligation to the policyholder, whether the company happens to own commercial mortgages or Treasury securities or hog futures. They're still obligated to pay the same contractual cash flows. On the other hand, the other extreme would be a variable annuity where their defined mortality and expense charges and the policyholder values are the asset values adjusted for the charges which are contractually guaranteed. It would seem, in that case, that you better come up with an answer that has something to do with the assets that are held by the insurer. Traditional participating business would be sort of one step toward the center from variable annuities.

We have a whole range of possibilities in-between. Liability measurement post issue is also a very difficult issue. We asked two separate questions. One is, should there be a gain or loss at issue? What's the basis for measuring the obligations five or ten years down the road? Should company credit have anything to do with the fair-value liabilities? Wayne spoke a little bit about risk and uncertainty. Whether you're looking at it from the company's point of view or the market's point of view, all rational valuations of cash flows, whether they are assets or liabilities, in some way, take into account risk and uncertainty. I would maintain the concept of profit is not far divorced from the concepts of risk and uncertainty. If I am willing to assume a liability based on the best expectations of the cash flows and nothing more, why should I do that? What's in it for me? I'm going to price into the assumption of the liability uncertainty and the fact that I might do better or worse than best expectations.

As I say, the liability measurement objective is the quantity we're trying to measure and I'm not going to dwell too much on these because I think you do a real good job of talking about them conceptually. We did this independently, but I'm going

to use the FASB terms here. We identified three alternatives, and one is fair value as an asset (an example would be if you have public debt). Second, if the company issues public debt, it has a fair value as an asset. Third is a fair value in settlement by the entity. The fair value in settlement pertains to a market view of things.

I would maintain that most insurance liabilities have no fair values as assets. You could say the cash value is a fair value as an asset, but I don't think that's a unique answer as the fair value. Individual insurance contracts are not traded at the individual contract level. I don't know too much about this, but I believe there is somewhat of a secondary market in GIC contracts among pension plans. So I guess you could say that there is a market, but in general, it's very difficult to observe a fair value as an asset based on a market of any kind. So we could, for that financial instrument, use the fair value as an asset.

One of the characteristics of using the fair value as an asset, if you think about public debt, is that as the company's credit quality deteriorates, the value as an asset goes down. While that makes perfect sense from the asset point of view, I would maintain it doesn't make a lot of sense from the point of view of the liability. If you're measuring liabilities, you'll see, all other things being equal, that company's equity would increase as the credit quality of the company decreased because the liability values would go down. The counter to that, which I've heard expressed from time to time, is that the company's credit quality is deteriorating for a reason, and that reason is likely to be bad assets. So in any actual situation, it's not clear that the equity of the company would go down. In my opinion, that represents somewhat fuzzy thinking. We're trying to measure the fair value of liabilities and evaluate the worth of that measurement, independently of what else is going on in the company.

Fair value in settlement is the amount of cash the liability holder would need to pay an unrelated third party to assume the liability. If you're dealing with a block of insurance contracts, that boils down to the amount of assets the ceding company needs transferred to the assuming company. That will be an unrelated third party. That's a very appealing measurement objective for fair value of liabilities, but it does beg an important question which is: which unrelated third party? We don't have an active market here. We don't have a unique definition of what an unrelated third party is willing to accept to assume the liabilities.

So that led to the question, which unrelated third party are we talking about? There are at least four possibilities that come to mind and there are probably several others. One would be some sort of average third party look at what industry level assumptions are, and, if you can do this, what is the average price for reinsurance assumed? Another would be the most efficient third party. In other words, let's say,

we're selling a block of annuity business and in order to come up with the assumptions, we assume that the unrelated third party on the other side is the most efficient party we can find. That would be the company with the lowest expense ratios, the best investment managers, the smartest crediting strategy, and the most efficient manager of the liabilities. I think that has some obvious problems, so how are you going to define that. You can think of other approaches to defining your third party as well. These don't give the same answer, so that is a problem with this approach.

The value and settlement by the entity is the entity-specific value that Wayne talked about. That is the value to the current holder of the liability, which you could also express as the insurers' indifference level to transfer and cash in order to relieve itself of the liability.

As I said before, the fair value in settlement has very severe practical implementation problems in terms of defining who that unrelated third party might be. The objective there would be to establish an underlying standard based on the market rather than management plans. You could debate this forever, but it seems to us that in order to have something that was useful to investors and management on balance, we'd be better off measuring actual experience against what management believes the experience of the business will be. You're always going to have differences between actual and assumed, but rather than look to an external market and circumstances that may not be directly relevant to the company that is currently holding the liabilities, we concluded that it would be more appropriate to measure against management's best estimates of the cash flows rather than an external market. So we have focused on value and settlement by the entity for those reasons.

Having said that, I'm going to produce some numerical results and they don't necessarily depend on the conceptual framework of using value in settlement by the entity. I think the numerical results have applicability in either measurement objective. Some of the implications that seem to flow from the concept of value and settlement by the entity would be, if you have a single premium product, the value of the liability at issue ought to be equal to the premium because that reflects the entity's view of cash flows; it is what the entity can sell the product for—it is the entity-specific price of the liability. That's what it is by definition. This concept here differs a little bit from what is in the current exposure draft that the FASB has put out in that the premium that the company is able to charge reflects the company's view of risk and uncertainty. It doesn't reflect the market's view of risk and uncertainty, and that's the difference between this definition and the definition in the exposure draft.

When you have products with nonguaranteed elements, the liability cash flows may or may not depend on the assets that the insurer holds. As I said before, if you're looking at a variable annuity, the liability cash flows will depend on the assets held. We have some examples of deferred annuities coming up. If you're looking at a deferred annuity, whether the cash flows depend on the assets that the insurer holds depends very much on what the crediting strategy is for the deferred annuity. Some companies have a portfolio approach to crediting interest on deferred annuities, in which case the actual assets held by the insurer clearly have a lot to do with the cash flows that can be expected under the block of business. Other companies have a market-based approach. I'm not sure there's a company out there that has a market-based approach to crediting interest in all interest rate scenarios. So I think you'll find in deferred annuities the actual assets held will, in fact, have an influence on the liability value, but only because they have something to do with the liability cash flows that can be expected. It is not because we need to match assets and liabilities or anything like that. Similarly, the company's evaluation of risk, uncertainty, and required profit would enter into the calculations as well.

I'd like to discuss calculational approaches. I don't mean to give short shrift to this subject because this is a huge subject. A paper "Two Paradigms for the Market Value of Liabilities" was published in the October 1997 (Volume 1, No. 4) issue of the *North American Actuarial Journal* by Bob Reitano. Bob spends a great deal of time talking about the two different families of approaches that can be used to try to get at market value or fair value of liabilities. The one would start with a block of business and the allocated assets. The allocated assets would be the statutory reserves and the required statutory liabilities and the required surplus. Then you'd do a present value of future distributable earnings as though you were valuing the block of business; the distributable earnings being the statutory profits adjusted for changes in target surplus. Discount that at a risk rate, so you have the present value distributable earnings; subtract that number from the fair value of the assets that back the liabilities and you come up indirectly with the fair value of the liability. So it's a solved-for number. The other calculational approach is to calculate the fair value of the liabilities directly as the present value (using a discount rate or rates that we can talk about later) of the liabilities' cash flows.

There are pros and cons to both approaches and I would highly recommend Reitano's paper as a place to read about them in much greater detail than I'm about to go into. The advantage of the indirect approach is that it's consistent with the way a lot of companies price their business, and it's consistent in form with the way actual reinsurance sales of blocks of business are done in the marketplace. That indirect approach, the calculation of present value distributable earnings, ought to strike a note of familiarity. I think that's its great advantage.

I would put this next one as both an advantage and disadvantage. The indirect approach reflects what I call the statutory realities. We live in a world that is regulated by state insurance departments, and they require a certain amount of assets to back the liabilities and there's a cost to allocating those assets to the liabilities. So it has that advantage. On the other hand, one could also say that's a disadvantage because it doesn't reflect the underlying economics of the cash flows themselves. I'm not sure whether these two views can be reconciled or not. Another disadvantage, in our opinion, is that this approach leads to an answer that depends on the actual assets that the insurer holds. Let's say we have liabilities on a statutory basis of 100 and a target surplus of 5, so we're looking for assets with a book value of 105. If we allocate assets that have high coupon rates as the 105 in book value of assets or assets with low coupon rates to back the 105, (all of which we may have in the portfolio because we've acquired the assets at different times), we're going to get a different answer. There are some offsets in terms of the present values, but you get a different answer. That seems, to me anyway, to be a disadvantage and it's quite cumbersome.

The pro of the direct approach is that results depend only on the liability cash flows, which seems desirable. However, the liability cash flows may depend on the assets that you hold, depending on what kind of liability you have. It ought to be easier to calculate than the indirect approach, although that's not necessarily the case. If you are looking at averaging results over say 1,000 scenarios, in theory you can do the same thing on the indirect approach. But the vanilla application of the direct approach is easier than the vanilla application of the indirect approach. The drawback is that it doesn't tie well with current pricing methodologies.

Both of these are families of calculational approaches. There's not one specific way to do it within either family. We're not convinced yet that this is the best way to go about it, but for purposes of illustration, I'm going to show some results on the direct approach using the following kinds of techniques. We projected interest rates consistent with the current implied forward rates. We use the best estimates of liability cash flows. In keeping with the theory that, for a single premium product, the liability value at issue ought to be equal to the premium, we solved for a spread over or under Treasury spot rates to equate the present value of premiums and liability cash outflows. That is the reflection of risk. That is how risk and uncertainty in profit are reflected in this method.

Wayne said something that was very interesting earlier. He said that the risk and uncertainty is a necessary component of the conceptual framework because we need to be consistent with the way actual pricing of assets and liabilities is done. The best evidence in this framework of a price is the actual price that we obtain. So we're being consistent. Our spread over or under the Treasury's was a reflection of

the desire to be consistent with the pricing. It's a reflection of the desire to be consistent with the entity-specific assumptions. I guess the bottom line is, regardless of what the entity says or what all of its various assumptions are, and those should be on a best-estimate basis, the premium is the observable phenomenon that we can look to as what has led to an actual market transaction, and that should be the key component of the basis for determining any entity-specific approach.

The last specification on which we could also spend a lot of time is keeping that spread constant over time, which gets into the issue of liability measurement post issue. We may change the pricing of our products post issue, but does that mean we should change this liability spread over or under Treasury's as time goes on. We've kept it constant in the examples I will describe.

The first example we've done is a vanilla single premium deferred annuity (SPDA) (Chart 1). We're going to try to do an equity-indexed annuity (EIA), and hopefully a term insurance product and a participating whole life product. I'm going to show some results for the SPDA situation. The baseline assumptions are that there is one year's issue of \$100 million of business, surrender charges of 7%, 6%, 5%, 4%, 4%, 4%, and 0%; at least for the time being your crediting strategy is a portfolio approach based on a 150 basis point deduction off the portfolio earned rate. We modeled assets of 3-year, 5-year and 7-year bonds with a 50-basis point spread over Treasury's, and then we calculated a liability valuation spread, and it turned out to be -10.2 basis points, which was interesting. We're using a discount rate here that is less than Treasuries, which is also interesting in light of one the comments that Wayne made. Wayne said that risk and uncertainty, when you measure liabilities, drive the valuation rates downward, not upward. We're used to thinking about adding spread, but when you measure liabilities, you deduct spread.

We do not see an unexpected pattern in the statutory results. Many would contend that it doesn't make a great deal of sense. The GAAP results seem to be a little smoother (Chart 2). The statutory and GAAP results have a lot to do with wear off of surrender charges. We've calculated statutory reserves using the Commissioners Annuity Reserve Valuation Method (CARVM), not cash surrender value. We did an explicit CARVM calculation. The fair-value results are smoother still (Chart 3). The interest rate environment is consistent with the forwards rate in the treasury curve at the beginning of the projection. Interest rates go up during this period, but that environment is more or less level. We haven't changed the basic underlying assumption that's consistent with the time zero assumption. We did some returns on equity (ROE) as well (Chart 4). The GAAP and the statutory returns on equity were fairly skewed. The fair-value return on equity under these assumptions was quite level.

We did an alternate crediting strategy as well, which was the market-based approach, where we basically credited interest rates on external interest rates, a spread off of external interest rates. As you might suspect, in the case of the baseline scenario, where rates are more or less level, the two approaches give about the same answer. Where they're going to be different is where interest rates start to move.

So we did some of those scenarios in which interest rates pop 3% in year 3 (Chart 5-7). These concepts are very familiar to us from cash-flow testing, but now we're trying to put this into an accounting framework. The portfolio rate is going to lag the new money rate for seven years, and there will be interest-sensitive surrender activity. We have an interest-sensitive surrender function in there, which is driven by the difference between the market rate and the credited rate adjusted for the surrender charges. It is a fairly standard type of interest-sensitive lapse assumption. We know, based on our experience with cash-flow testing and based on common sense, that the portfolio crediting strategy is going to be more profitable than a follow-the-market strategy, unless those additional interest-sensitive lapses that are generated by the portfolio strategy lose us enough future profits to compensate.

Since we did these scenarios in duration 3, where the surrender charge is still 5%, we generate very few interest-sensitive lapses. So what happens on a statutory basis? The one curve is the portfolio crediting strategy which is a lot like the situation where we had level interest rates. The curve remains somewhat level and then begins to increase at year four and the increase levels at year seven. If you sort of work your way through statutory accounting, you find out why it does this and it all makes sense. Even though interest rates changed at the end of year three, nothing really happens at the end of year three. The negative blips happen in years four, five and six when we're earning a much reduced spread. We see a sharp decrease between years three and four and then continual increases from years five to eight. After year eight, there is a leveling out close to the baseline.

The same type of thing happens with GAAP results. The reason we get a big negative blip on GAAP is because of the DAC unlocking. We have actually unlocked the DAC and reprojected the gross profits. So if you do that, you see a big blip downward in the GAAP results. On the fair-value basis, the entire blip in year three and the pattern of the curve is similar to the baseline except for the blip. It shows that the portfolio crediting strategy is a lot better than the follow-the-market crediting strategy, which we kind of knew intuitively. This is a lose situation no matter what you do. There's a blip downward, no matter what you do, but the blip is nowhere near as bad in the portfolio strategy as it is in the follow-the-market strategy.

In conclusion, the portfolio crediting strategy is clearly better. The result is driven by lack of interest-sensitive lapses, and the fair-value statement seems to show it more clearly. We also did a pop in year eight (Chart 8), after the surrender charges have worn off. We actually came up with the same result, although in the portfolio crediting strategy, there's no surrender charge protection here. So we still have a lose/lose situation, but the two alternatives are not as different from each other in this situation as they were in the first.

I don't think I'll go through the assets-are-sold scenario. But the basic idea is that when you sell assets because of the interest maintenance reserve (IMR), the statutory numbers don't change too much. We reinvest the assets in exactly the same assets that we sold. We could vary that assumption, but for this purpose, we're assuming we reinvest in the same assets we sold. Statutory numbers don't really change much because of the IMR. The GAAP numbers do have a blip because you recognized realized capital gains and losses without an IMR. As you would expect, the fair-value numbers show absolutely no difference between the two scenarios. The numbers are the same to within rounding.

We also did five years' worth of new business (Chart 9), I'm not going to spend much time on. We did the return on equity on five years' worth of new business and looked at the effects of different crediting strategies on five years' worth of new business. We also threw in interest-sensitive sales (Charts 10–12). What happens when interest rates go up and you have a portfolio crediting strategy? When we're looking at an in-force block of business, we're looking at what kind of pressure is created on the block of business to move. When you're looking at sales and you have a portfolio crediting strategy, interest rates that have popped 3%, and that have unchanged crediting rate will not sell anywhere near as much business because you will not be competitive. This assumes that there was no new business beginning in year three. I'm not sure whether it's three or four but, in any event, we assume that under the portfolio crediting strategy, we have no new business. We can't sell any business under this uncompetitive approach. We still see that's considerably better if you look at statutory results. We still see that the portfolio crediting strategy, even with interest-sensitive sales, is better than the follow-the-market strategy under these assumptions. You see that in statutory, and you see that because we're looking at a projection of statutory results. In the actual reporting of statutory results, at the end of year three, you don't see that at all.

GAAP could say the same thing and fair value is interesting. In year three under fair value, we're not looking at any new business; we're just kind of reporting results as they occur. The no-interest-sensitive-sales situation is kind of in the middle. We also looked at a pop-down and a pop-down is favorable as we know (Charts 13–15). It's more favorable under the follow-the-market strategy, than under the portfolio

strategy. So here are a couple of the lessons learned so far. The fair-value systems fully reflect the future effects of experience changes in today's reported results, but only with respect to business that is in force today. We're not projecting the effects—in the actual fair-value reporting, we're not anticipating future sales. The fair-value results can be very volatile due to changes in the economic environment. They can also be very volatile due to changes in the best estimates of our experience, but they're not volatile due to asset sales, if we assume the assets are reinvested. The proceeds are reinvested in the assets that we've sold.

Mr. Daniel Edward Winslow: Earlier you stated, "As company credit deteriorates, the fair value as an asset will go down." There's just one point that I think the FASB needs to keep in mind. It is that an insurance company that owes long-term debt to a creditor is different than an insurance company that has an obligation to policyholders because insurance companies are not really allowed to go bankrupt and stiff the policyholders. There are the state insurance department regulations, the guaranty associations, the risk-based capital, and the action level and stuff. From the policyholders' perspective, the value of their policies are not nearly as sensitive to the current financials of an insurance company as would occur in a long-term debt holder. There is a difference there.

Mr. Upton, Jr.: I'd acknowledge that point, although I think experience painfully reveals that even policyholders suffer credit losses. The policyholders of First Executive would probably suggest they suffered something, but your point is well taken that the credit risk is not the same as the company's public debt.

Mr. Winslow: It is a different function.

Mr. Upton, Jr.: The problem is that you do get, as Peter mentioned, a counterintuitive result or at least one that immediately appears to be counterintuitive. In a declining credit environment the company appears to be recording gains as a consequence of its declining credit. I've heard that described two ways. Peter said its assets are also declining. The other way is that those are real gains as the shareholders steal from the creditor by allowing the company to deteriorate. It is a counterintuitive result.

Mr. Winslow: I don't think equity would go up for insurance companies because, as long as you have positive equity, you cannot stiff the policyholders. The only way it can have an effect is when equity is not allowed to drop below zero. That's the one point where you start stiffing the policyholders. This is a different function.

Mr. Upton, Jr.: Yes.

From the Floor: Peter, in your projection, when you had liability outflows greater than asset cash flows coming in, how did you meet those cash flows? If you had to sell assets, should that be reflected in the market value of the assets or the fair value of the assets?

Mr. Duran: I'm not sure I fully understand your question, but I can answer the first part. The answer to the first part is we borrowed. When we had negative cash flows, I'll say we borrowed. We actually invested in negative assets. It has the same financial effect, but we invested mechanically in negative assets.

From the Floor: I'll explain the second question. You mentioned that the fair value of the liabilities will depend on the assets in conjunction with crediting strategy and so forth. If you have a company that has 100% SPDAs, for example, and they sell assets to meet that cash-flow deficiency, should the fair value of the assets depend on the cash-flow characteristics of the liability?

Mr. Duran: If I understand your question, I would tend to say no. We might talk about an entity-specific value for assets, and I think the FASB exposure draft would take that within its framework, but the fair value of the assets, when you have assets with a readily determinable market value, are what they are. So I would say the answer to that question is no.

From the Floor: Maybe I'm barking up the bad tree here, but if an insurance company is not capable of holding that asset, do they need to recognize the need to sell that asset when calculating their benefit?

Mr. Duran: I think if the markets are efficient, that's built into the current price of the asset. I don't believe that will change. If I hold an asset today at its fair value, and I decide I'm going to sell it two years from now, and I assume I'm doing that in an interest rate environment that's consistent with the current interest rate environment, I believe you will get the same answer. If you use the implied forwards to project what the interest rates will be out there, you get the same answer.

Mr. Upton, Jr.: It sounds like what you're talking about is almost a duration mismatch. One of the real risks that I've been concerned about and one of the things that comes from using assets to measure liabilities is that you miss duration mismatches. So I think that's the strength of the approach that Peter is taking. If you have the mismatch, the rate that the market gives you for the assets, and the rate that you derive from the liability should flush that out and reveal it to you.

Mr. James F. Riesktyl: I think I go back to your first comment which was what are you really trying to measure? I'm not sure you answered the question. I am not a big lover of fair-value accounting, as you're well aware, only because fair-value accounting sounds like a highly desirable goal that is going nowhere. Why do I say that? Do we measure fair value at noon, at one o'clock on Monday, today when the market is down 130 points, or tomorrow? What does the whole concept mean? So when we get all done with this process, I think you've got to go back to what are we really trying to measure? What are we trying to accomplish? Is our goal to have today's financial statement showing huge change because the market changed or interest rates changed? Or is that goal to somehow smooth this out? If we assume that it's the former, so what? Tomorrow it's going to be something else and an hour later it's going to be something else. So I think the real fundamental questions are, what's really our objective and are we enhancing anyone's intelligence by providing such a structure? Did they lose something? Maybe they lost something based on false expectations, but they probably received a lot more. They didn't lose anything on their guaranteed basis, so again it comes back to what are you trying to measure. I want to not move away from what are we really trying to accomplish.

Also I would ask the question, have you done the same thing with a cash value before? Does it make any difference? I suspect it may not make much, but it all depends on how you define things. I hope you wouldn't get so mired in the typical SPDA and lose sight of what we really are trying to accomplish. Does fair-value accounting really do something for us?

Mr. Upton, Jr: I'm glad that your company is consistent. I haven't heard anybody from your organization ever support fair value, so I'm glad there's a consistent philosophy throughout. It makes it easier to deal with. Actually that goes to one of the reasons why I think fair value is more relevant—there is this notion of a consistent and transparent presentation. The alternative is our mixed attribute model that we have today, in which some things are current, and some aren't. Even in a historical cost model, you're at fair value for the stuff that you liquidate, unless you adopt some super smoothing sort of an approach. So the first thing I think you accomplish with fair value is a degree of transparency that's absent in other approaches. The other thing that I think you accomplish is an ability to address the interactions between assets and liabilities in ways that historical or realization-based principals don't approach.

The alternative is to continue with a black box approach, which says, "We are all accountants and actuaries—trust us." That, as an investor, seems to be inappropriate. I ought to be able to explain clearly. Isn't fair value terribly sensitive to the current state of the marketplace? Yes, it sure is, but the current state of the

marketplace is an economic reality that is communicable. My expectations about my ability to smooth the marketplace are a black box. So it does seem to me to be a superior answer to any of the alternatives that I've seen in practice. Does it do everything? No? Is it a snapshot at a particular date? Yes. It seems to me a more relevant snapshot than historical cost, but it is a snapshot.

I'm not sure whether your question is really about what you're trying to measure or what you're trying to communicate. What you're trying to communicate is the information that you believe is most relevant for decision making. What you're trying to measure is fair value, which conceptually is the price at which assets and liabilities clear in the marketplace.

Mr. Duran: Regarding your current statutory accounting, your balance sheet just took a huge whack today, and it may recover tomorrow. If you have significant common stock investments under the current framework, we have a mixed bag under the current framework and an inconsistent approach.

From the Floor: Unlike my friend from Northwestern Mutual, I believe that fair-value accounting is both desirable and, for insurance companies, inevitable. I think that's a widely held perspective, at least for many of us. But if you accept that premise that we will have something involving fair-value accounting, then what is a reasonable period of time? That is surely not as short as six months, but it might be one year, three years, five years, or something of the sort. Then we would presumably have financial reporting for insurance companies, and probably other financial institutions, that is both internally consistent and essentially all using a form of current value accounting. My question is primarily for Wayne, but Peter may well have some comments too. How concerned are you that the rest of the world is still on historical cost and there will be organizations that are mixed organizations that have both financial reporting instruments and financial activities and industrial activities. General Electric (GE) would be a good example of such a company that now has statements that are no longer entirely consistent. How concerned are you and the rule makers about that environment?

Mr. Upton, Jr: Conceptually, I am very concerned, but not enough to want to go to marking GE's plants to market tomorrow. Our emphasis right now is on financial assets and liabilities, and it will continue to be. For a company like GE or General Motors or somebody like that, that creates a discontinuity. In the case of General Motors, it has always been a mystery to me whether it's a financing company that manufactures cars or vice versa. But that notwithstanding, you're absolutely right. You've identified a real discontinuity in a mixed financial/nonfinancial company. The one for which it is most pronounced is the company that isn't mixed and is a pure manufacturer. So its only financial instrument that is relevant is its long-term

debt. In that circumstance, you do get a discontinuity that is disturbing and is a problem.

Mr. John Sanges: In your presentation, you have a direct approach and an indirect approach for calculating the fair value. I want to know whether the board has any preference as to which approach a company would like to take. If it compares, would just a block business appraisal approach be more preferable?

Mr. Upton, Jr: Right now we're not prepared to say which approaches we prefer because we do not have the concepts laid down yet. The direct approach is more consistent with the way accountants think about the problem, but the actuarial appraisal approach is consistent with practice. Right now, we're not ready to come down on one side or another.

Mr. Duran: If you're a company that has just purchased a block of business, the premium you have paid at the time you did that purchase is related to the assets that were given to you by the ceding company. That is, in effect, the premium at the point of reissue of the block of business. I think you get to the same place if you use an actuarial valuation that's consistent with the determination of the assets that are transferred.