

RECORD, Volume 22, No. 1*

Marco Island Spring Meeting
May 29–31, 1996

Session 59PD

Investment-Indexed Annuities

Track: Product Development
Key words: Annuities, Investments, Product Development

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Summary: A group of panelists familiar and knowledgeable about investment-indexed annuities discusses the following topics:

- *Product design and pricing*
- *Market penetration*
- *Hedging and other investment strategies*
- *Valuation issues.*

Mr. Joseph H. Tan: Equity-indexed annuities or investment-indexed annuities have recently become a hot product. Those companies that have entered this market have experienced significant premium volumes. One simplistic way to understand an equity-indexed annuity is to think of it as a variable annuity whose investing is based on some kind of equity index, but with a minimum guaranteed return. On the other hand, we can also think of it simplistically as a fixed annuity whose excess interest credit is based on an equity index. But in real practice, it's much more complicated than that. We're lucky to have three experts in the field who will be able to share with us a number of issues involved in this product. These issues are related to areas of designing, developing, marketing, filing, valuing, reserving, administration, and investing of the product.

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†Mr. Streiff, not a member of the sponsoring organizations, is Co-President of NFC Consulting Group in Chicago, IL.

Our first and third speaker will also be speaking in the upcoming Product Development Section seminar in Chicago on June 17 and 18, called Equity-Indexed Annuities.

Our second speaker wrote a paper for *Product Development News*, in the January 1996 edition.

Our first speaker is Tom Streiff, CLU, certified financial planner (CFP), chartered financial consultant (ChFC), and CFS. Tom is the president of the NFC Consulting Group, an affiliate of Talbot Financial Corporation. Tom, a frequent speaker for the annuity industry, has designed annuity, pension and life products for insurance carriers, mutual fund companies, and financial institutions across the nation. He has provided continuing education seminars to thousands of financial service professionals and has been a featured speaker at the AICPA Conference in recent years.

Our second speaker is Tom Mitchell. Tom is the president of Aurora Consulting, Inc., in St. Louis, Missouri and specializes in individual life and annuities, especially variable products. He has worked with several clients on equity-indexed products. As I just mentioned, he had coauthored the paper printed in the *Product Development News*, and I was told that the paper is now an official study note for Course I-441U. He has also written articles on modeling stock market returns for variable annuities.

Our third speaker is Tim Pfeifer, consulting actuary and principal at Milliman & Robertson in Chicago. He specializes in life and annuity product development. He has also worked on trying to apply the equity-indexed idea to the life side. Tim has also written a paper on the subject, but he told me that he's still trying to figure out the best way to get it published. As a consultant myself, I think that means he is trying to figure out how to make the most consulting fees out of it.

Mr. Thomas F. Streiff: We do have an interesting topic, and I'm here to provide the marketing perspective. There is a great deal going on with equity-indexed annuities. As Joe just told you, this concept is not just confined to annuities. I think that it starts easily with annuities, but we're certainly going to see a substantial growth in life insurance products in this area as well. In fact it's already under way. I know some of you in the room are working on life insurance products that are equity indexed.

Let's talk about why. Why does the market exist for this product today? One reason is certainly because we're in a relatively low interest rate environment. I meet a lot of people who say to me, "Well, we're really not in a low interest rate environment when we look at it historically, that is, historically for the last 100 plus years." But I don't think that it makes sense to go back to that type of history to look at the economic environment in this country. I think it makes much more sense to look at post-gold-standard interest rates. Certainly for post-gold-standard interest rates, we are at the low. It's anybody's guess whether we're going up, down or sideways from here. But it's certainly true that the perception of most people is that we're at a relatively low point in interest rates. I don't count economists among most people because I count people who are right more often than economists are.

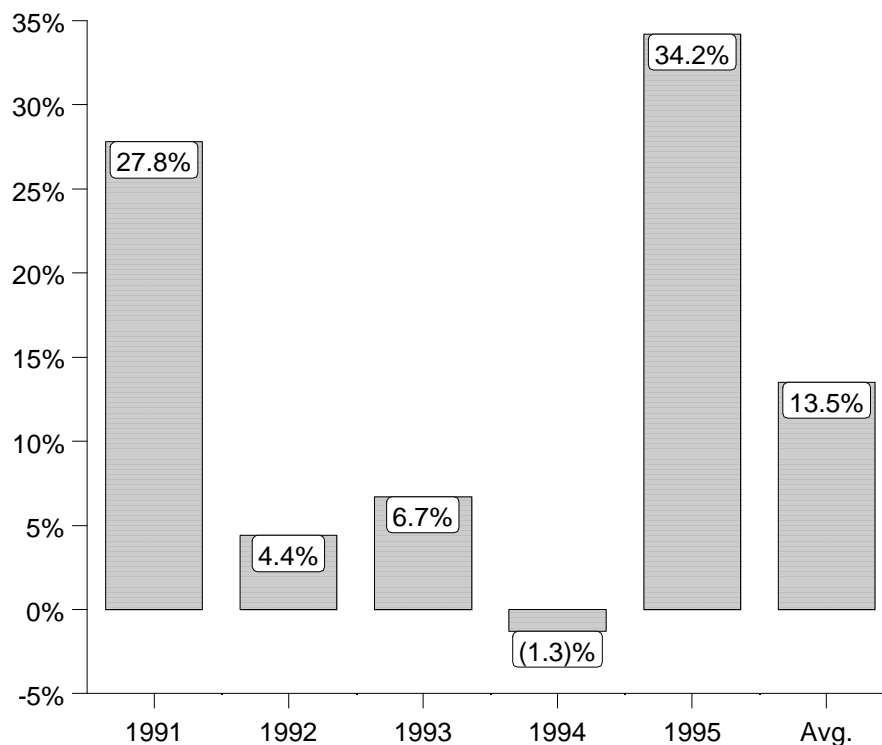
As Joe said, I do a great deal of speaking in front of agent groups and accountants. I survey those groups of people and ask how many think interest rates are going up from here, or how many think rates are going down? That's a pretty broad question. If they ask for a timeframe, I'll give them a timeframe. It's overwhelming that they think interest rates are going up from here.

If that's your perception, you're going to look for an investment that gives you a retirement planning tool that gives you some opportunity for inflation protection. Even if we don't have inflation, you still probably won't be hurt in something that gives you inflation protection. However, you do have to be careful because if you do go into the equity markets for inflation protection, and we get into a bear market that lasts a significant number of years, then you can be hurt.

What investment can match the characteristics and the risk tolerance of what somebody's looking for? This is it. Let me take that somewhat further and talk about the markets. We have experienced the bull markets for maybe 16 years. It is unprecedented and, again, hard to tell how much longer it's going to last. If you're Jeff Vinnick, you're not expecting it to last too much longer and your job isn't lasting too much longer either. It's hard to call where we're going from here, just like it is with interest rates. However, where we've been is a good indication and that's what people used to call. The last thing is following fixed-annuity sales. Let's talk about interest rates first. Between the first of 1995 and the first of 1996, the ten-year Treasury rate, which is a good indicator rate, dropped by over 200 basis points. Now that gives you an indication of what is happening and where people are trying to get a feel for where interest rates are going. Let's couple that with the bull markets.

Chart 1 shows a five-year history of the Standard & Poor's (S&P) 500. I didn't even go back to the sustained bull market. During that time period, just in the last five years, the compound average was 13.5%. When I saw long-term or mid-term interest rates dropped 200 basis points down to 5.62% and the average return of the S&P 500, just in the last five years, at 13.5%, where do I want to be with my money? I don't have to tell you what people are doing. Look at what's happening in the mutual fund marketplace. The equity mutual funds are grabbing record numbers of dollars. Interestingly enough, so are money market mutual funds, and that's another indication that people are uncertain about a lot of things—uncertain of what the markets will do and uncertain of what to do, even if they know what the markets will do. So when we see significantly rising money market mutual funds, that's always a good indication that people are not sure what to do with their money.

CHART 1
BULLISH STOCK MARKET
S&P 500 INDEX



Let's look at fixed annuity sales. Let's say you're an insurance company, and you're wondering where am I now, and what do I do about where I am? We'll look at sales figures for the fourth quarter of 1994 versus the fourth quarter of 1995. Life Insurance Marketing and Research Association (LIMRA) has not published their first

quarter of 1996 results yet. If I look at just the last quarters for which I have reliable information, fixed annuity sales dropped 44%. Most of your companies have experienced that but some have not. I will say that those who haven't, have either entered new markets or have done different things.

I think it's fair to say that some of those who have rising shares of fixed annuity sales are doing things that some of the rest of you wouldn't feel comfortable doing. What I would say is that, for all of us, whether our fixed annuity sales are up, down, or sideways, we're looking for ways to expand the fixed annuity market. Well, we have low interest rates, a rising stock market, and falling fixed annuity sales. What do we do?

That leads us to the equity-indexed marketplace. Let's talk about its history. As best I can tell, the first equity-indexed product was introduced and issued by Fidelity Bankers. I don't have the exact year. It was around 1987. (I should not be off by more than a year.) The year 1987 was still a period of relatively high interest rates, although we did see some drop in 1987. Additionally, the stock market was obviously doing well, but it was not like it is today. Think about that for a second. Was that a good time to introduce an equity-indexed product? As it turned out, the answer was no, although some of us would have certainly answered yes at that time, as Fidelity Bankers did. It didn't do very well. Interest rates, I think, were just still, relatively speaking, too high. I don't think the education level of the buying community was anywhere near where it is today, that is, as it relates to the equity markets, so it didn't do all that well.

A few years later, Providian, then National Home, introduced what I think was the second equity-indexed product and they introduced it as a general account in a variable annuity. It was a product specifically designed to be marketed to specific markets, a variable annuity. It was designed for the socially responsible market. It's not a broad market product to begin with, and it has done just moderately well, but I will say that more than half of the money that has gone into that product has gone into equity-indexed annuities, in other words, the general account equity-indexed annuities. There were other general accounts in that product. You certainly can argue that the reason that product is drawing much of the assets is largely in the equity-indexed aspect of the product. So it has received some attention.

Many other products also came along. Next in line was Keyport, followed by Lincoln Benefit. To get an accurate number of the products that are on the market today, you really have to make phone calls every day because there are literally

numerous products being introduced every month. It's probably fair to say that two or three new products a week are being introduced right now.

Tim is going to talk more about some of the state filing issues. But if you go to a state that hasn't approved one yet (I think there are still four states on that list), and you ask them what their backlog of equity-indexed products is, not one of those states has a backlog of less than 30 products that are sitting there waiting for approval. That tells me that at least 30 products have been filed. According to my account about 30–40 different products have been filed that are equity-indexed products. Think back to the last time that you've seen a new marketplace that in one year went from 2 to more than 40 products. I'm not sure you can. I cannot think of a life insurance market where it grew that rapidly. There might have been one. It is an indication of how hot this concept is, and how quickly companies are trying to get into it.

We were talking at dinner about companies that we've talked to and somebody mentioned that many companies are doing this. Someone else had mentioned, they didn't know of a company that wasn't evaluating or getting ready to introduce an equity-indexed product. I sat back and thought about that for a while. I can honestly tell you that, of the companies that we work with, which is a fair size number, I can only think of one that isn't developing an equity-indexed product right now. That is, again, another indication of how closely this is being watched. I think the attendance at this session and also the attendance projection of the number of people that have already signed up for the Society's meeting in June is another indication. That's where we are and that's where we're going.

Now let's talk about who is the driving force. I've already talked about the carrier side of the driving force. What about the agent's side and the registered representative's side or the bank's side? Do these products make sense for all distribution? I don't think they do. Let me talk about that because I have more questions than I have answers to this.

In the last roughly two-and-a-half years, we've been conducting focus groups on equity-indexed annuities. It has been a wonderful learning experience. The focused groups weren't just with the ultimate buyers, the clients, and the customer. We conducted a number of focused groups with the sellers or potential sellers. We've had focus groups in which the agents have never sold one of these. I think the last focus group we did was a couple of months ago with agents. Most of the agents in that focus group had sold one through one of the companies we've already mentioned. That has changed quickly too. The learning experience with

this was just like the learning experiences with many products. The sellers want something different than what the buyers want. You really have to work hard as an insurance company to try to decide which one of those constituencies you want to please. I think the challenge becomes, of course, to please them both. That's a tall order with any product, I think it's an even taller order with this product, and I'll talk about why later.

You have a wide variety of knowledge and expertise out there. Here's the challenge—look at any of your distribution forces, if you have multiple distribution forces. I'll give you some examples. Let's say your company has some career agents. You also have some independent brokerage and you also dabble in banks or stockbrokers. The level of expertise among those distribution systems, on a concept like this, is that the disparity in the levels of expertise is huge. Interestingly enough, one conclusion that we've reached in doing all these focus groups is it seems like nobody really understands the stock market, even the registered reps, even the stockbrokers that you'd expect to understand. You come away shaking your head sometimes at some of the things they don't seem to understand.

I'll give you a couple of examples of that. Let's say you take this product to the sophisticated stock brokerage community (and you can define that anyway you want). Just take my word for it right now. We all agree on a definition that it's a sophisticated stock brokerage community and you take it there. Is it going to do well? Well, you have a product that guarantees you some level of participation in the rising stock market and takes away the risk of a falling stock market. Will that do well in a sophisticated stock brokerage community? My answer to that is, unless you present it just right, the answer is going to be no. The reason it's going to be no, as we found out, is that these folks look at you and say basically this: I'm very good at my job and I can assure my clients that their assets will go up. I don't need you to do that and I don't need to suffer a lower participation rate or suffer the lack of dividends in my returns in order for you to guarantee that their assets will rise over a period of years. I can make sure their assets rise over a period of years. I'm that good.

When you stop and think about that for a second, is that true? Well, no, it really isn't. Statistically, it's not even very close to being true. Just look at the results of money managers, certainly with a much better performance record than stock brokers. How many money managers beat the index? What percentage of the professional money managers beat the S&P 500 index in 1995? Anybody know? About 8% of professional money managers beat the S&P index in 1995. On average, historically less than 20% beat it. I'm afraid I can't buy the argument that

just because you are a sophisticated stockbroker that you can guarantee that your client's assets will go up. I don't care how many years you're talking about. After maybe 30, I might start to buy that argument, but I'm not buying it at all in 5 years.

We had in focus groups, a substantial number of these sophisticated stockbrokers telling us that over a period of five years, the S&P 500 has never gone down. That's patently wrong. That is so far wrong that you wonder what in the world they're reading. How are they being trained on this? The S&P 500, over five-year periods, has actually gone down almost a third of the time. So when you have that type of misinformation, you really have to stop and think about what your market is here.

Sometimes, when you have a product that seems like it has an obvious market, that obvious market turns out to be the worst of all possible markets because that obvious market of the sophisticated stockbrokers is trying to do my job. I do my job. If somebody else comes in and does my job, I'm unemployed. I don't like your product. It tends to lead toward my unemployment. If you read yesterday's *Wall Street Journal* on the services that are now being offered by Schwab, I can tell you there are a number of financial planners and stockbrokers and other investment professionals out there today who said, "We don't like that." That's Schwab trying to do our job for us. We get paid to do our job; we're very good at it. Obviously some of them are (I don't want to malign an entire industry here) very good at their job, but the ones that think they are and aren't, are the ones that, of course, make it horrible for the rest that actually are good at their job. You may now want to say, OK, maybe that's not the best market. There are companies out there that are trying to penetrate that market and actually one company is doing a decent job of penetrating that market. But I don't think it's the best market for this product.

Let's go to the other end of the spectrum. Let's go to the one who says, I'm concerned about the lack of expertise that may exist in a nonregistered rep traditional insurance agent. Do they have the expertise and knowledge necessary to sell this product? My answer is yes. Again, but I must give a major caveat that they have to have the right training. If they have the right training, they can possibly be your very best distribution source for this product, but they do have to have the right training. Now, how about everything in between? Well, in between, we have a lot of different things. We have independent financial planners. We have independent insurance agents who are registered reps. We have possibly your career agents who might be registered reps. Again, that does, I think, represent a good market for this product, if there is the right training and the right perspective. One of the hardest things is in understanding the training process and being able to tell the difference between products. It seemed pretty simple when this market started a number of

years ago. We said, well, it's some percentage of the S&P 500, what else do you need to know? Well, you need to know how you measure the S&P 500, and there are no two products alike out there today. There are big differences between products. In the entire universe of products, there are huge differences and no two are exactly alike. That's another part of the challenge when it comes to training.

I'll mention banks. I think banks do represent a good market for this product because of the risk tolerance of their clients. I haven't talked much about risk tolerance. I've talked more about education. Risk tolerance obviously plays a big role.

Who is the buyer for this product? Is it the mutual fund buyer looking for safety? Is it the traditional fixed annuity buyer looking for inflation protection? Is it the variable annuity buyer, who is not sure of what he is looking for? I don't have all the answers to that, but I can say this; it's some of all of the above. Again, based on our focus groups, we're finding niches in each of those markets that I just described, plus one more, and that's the traditional certificate of deposit (CD) buyer. The traditional CD buyer can also be lured to this product with the right type of training and education of both the buyer and the seller. So when you look at that from a risk tolerance perspective, you can start to say, hey, there's some real opportunities here. We must try to get our arms around it and identify how our product is going to fit in each of those market niches. That's a challenge.

Let's talk about the keys to success. There are a large number of them. I'm just going to hit the highlights. First of all, there is no question, even very early on in this marketplace, that the key aspect of this product is the participation rate. That's a sad statement. It is the interest rate on fixed annuities that is the key aspect, that is, if fixed annuities are sold on the basis of today's interest rate, or equity indexes are sold on the basis of today's participation rate. But I will say that if you're sitting there designing a product, trying to get a high participation rate, it's more marketable than a low participation rate. It's that simple. It doesn't matter what it's a percentage of, as much as it matters what the percentage is. That's a sad but true statement on the distribution of products.

The second key, which I think is the most important point, is simplicity. Of the products that are out there today that have a general introduction, in other words, they've been introduced to the field forces, I would characterize them as a kind of a phase one of products or a generation one of products. There is going to be a generation two of products that you're going to see very soon and some of you have already seen them. Some of you designed them, and they substantially eclipsed the

first generation in this area of simplicity. It doesn't have to be the number one performer, but I have to be able to understand it. It's true. I can't say that enough. Agent's don't sell what they don't understand, and clients don't buy what they don't understand. Now, it's only generally true. Unfortunately, there are many people buying and selling what they don't understand. But if you can have the product that people understand, you're going to be way ahead of the rest of the pack.

Historical performance means something. It's certainly not meaningless and it isn't as meaningful as simplicity. You do have to have a product that you can demonstrate has some decent performance when you look back over the years. You don't want to be the product that shows up on the bottom of the list in Jane Bryant's next column on performance. You definitely want to have a product that has some decent historical performance.

People want some instant gratification with these products. Again, they want to be able to look at how they did this year. That's why some of these products that just go point to point over long periods of years have a little more trouble explaining that. I'm not saying that they aren't going to do well; some of them will do very well and some of them already are. But it's an extra challenge when you don't have a way of giving the client and the agent some instant gratification.

The marketing materials definitely have to be very specifically designed to convey the message of what the product does; give it a fair representation. If you're comparing it to the stock market, or comparing it to other equity-indexed products, be sure you're giving it a fair representation. And they also have to educate.

With regard to education, I want to discuss your role in that process. I think possibly more than any other product that you offer, especially on the annuity side, the marketing departments of your companies and the other folks that help develop the product and bring the product to the field—including your internal, external wholesaler, your agent distribution force—must have a fairly good understanding of what that product is and what it does. That's not true of this product; it's so new and there are so many differences. And it does require some significant knowledge and understanding of how this works. So my point is, there has to be an awful lot of training that goes into this. As your company's actuary, whether you're the product development or investment actuary, you will have to play an important role in that. Because this isn't going to fall out of the sky. There's a lot of work that needs to be done to make this flow and to deliver the product to market. You can have the best product; you can have the best marketing materials, but if you don't have a very good training program to deliver the message, you're going to fail.

None of us wants that. It's very important to help to play a significant role in the training and in the materials, so that you're conveying the message, making a fair representation, and educating your buyers and yourselves.

Mr. G. Thomas Mitchell: I want to start with an attempt at a thorough and informal definition of what it is we're talking about. We're talking about insurance or annuity products that provide for participation in the stock market, with a downside guarantee. That participation is expressed in terms of an external index instead of, as with a variable annuity, against a specific pool of assets. One of the other things I'd like to talk about is an easier way to think about it. My easier way of thinking about it is to think about it as a very different and fancier way of computing excess interest on a fixed annuity. That's the viewpoint I'm going to take when we talk about investments. There are various other ways to think about the products; that's my perspective.

What's new in this for the insurance industry and this product line? I'd like to focus on three things. First, in a clearer and more visible way, it brings a derivative or an option directly to our customers. And that is very apparent when you get to training material and the educational aspect of this. I think in a way this is a very positive trend. The other positive trend is that these products are typically being priced and actually hedged or invested to actually cover the option risk that we've given to the customer. That's in contrast to some of the rather soft treatment that we've given, in the past, to variable annuity and variable life minimum death benefit, pricing and investments. I think this is a positive trend for the industry. Third, and most importantly, I think they do bring an added perceived value to the consumer. I want to go briefly through just economic theory on this.

Under the traditional capital asset pricing model, the traditional theory, one wants to measure the trade-off between risk and reward by computing the variance or standard deviation and comparing it with the return and seeing whether you like where it falls on the curve. Not too surprisingly, if you take a generic variable annuity with an S&P type index fund and a typical single-premium deferred annuity (SPDA), you find the high-reward/high-risk, low-reward/low-risk relationship. You can take a mixture of the two, which is a popular program for variable annuities. It obviously falls in between; and if you take a seven-year generic equity-indexed annuity, it's interesting that it falls on exactly the same point. This is somewhat encouraging because it says there's no free lunch or arbitrage on this.

One may ask, has anything been accomplished? Is this anything better than that type of investment? Ask consumers or even business people, what is the risk of

loss? In other words, we're not talking about the risk being the chance that I don't make a great deal of money. It's a chance of failing to get a return on principle or failing to get a modest rate of return. We look at it that way and measure risk going only that one way, which is the way real people, I think, look at it. We get a very different picture here. What's comforting is we have the same relationship with the conventional products. When you diversify, you get a product which is interesting, and it is one of the reasons that much of it has been sold. It's better than the fixed, has a better return, and less risk. The equity-indexed product is sticking way out here. It doesn't have the highest return, but the risk/reward relationship is extraordinary, and this, I think, is another way of approaching the attractiveness that Tom talked about.

We want to think about pricing, and I'm going to start off in a very simple fashion and work up on this. We're going to look at it from the viewpoint of a fixed annuity with an excess interest formula that's a little fancier than we're used to. Let's start with Pricing 101. Excess interest determines your indexing budget. There are three very simple steps. You start by finding out how much of your fixed-investment income is needed to support the guarantees in the product. Take the extra amount, invest it in options, and then give that option payoff back to the customer, which is in lieu of conventional excess interest that you'd credit on the annuity. Although this sounds rather simplistic, it actually works fairly well on a year-to-year, equity-indexed design. It doesn't work very well in terms of thinking about a multiyear design.

Now let's go to the next level which is Pricing 102. This is just a very simple technique to speed up some of the product development at an early stage. We would price to the end of the first indexing or window term—assuming everybody makes it through. It is very simple in terms of the mathematics. Figure out how much in fixed-dollar investments we need to fund the guaranteed value at the end. Then, for whatever the obligation is to index, we go out and get a price from an investment banker to find out how much that costs. The balance is left for expenses and profit. Take out the expenses, present value them over the term, and you have whatever you're going to make or maybe lose in the first term. There are two big advantages. Number one, you can do this quickly and iterate through all sorts of innovative designs in a hurry. The second advantage is that you don't inadvertently create a lapse-supported product this way.

We're not going to get a graduate degree in this, but we'll go on to the second year, Pricing 201, a game plan for comprehensive pricing. I suggest five stages in the pricing and product development area. First is to do some form of simplified

pricing so you can play around with it and get familiar with how much the options cost, what costs more, and what costs less in the benefit relationships there. Hopefully that will narrow your search down to either one or a small family of possible designs. That's going to determine what sort of software or software modifications you're going to have to assemble to do fuller pricing. The third step is to then explore. Play around, find out what the opportunities, the risks, the twists and turns are on the pricing. Having done that, it's best to know the lay of the land a little better. I would select and then use a set of scenarios for formal pricing of the product. Then a sort of final step would be to do comprehensive stochastic testing at the end. That has two benefits: (1) you may have missed something earlier, and (2) you get a fairly scientific present value or profitability measure for the product. If you do this first, you'll see the forest, but you'll be bumping into quite a few trees along the way.

I'm going to talk about what components one needs in software. Obviously most pricing systems out of the box are not going to handle this type of a product. First observation, we have every fixed-dollar product consideration that you have for regular SPDAs. To do comprehensive pricing, you need all the features that you have in fixed-dollar pricing; very little if anything goes away. Second, one has to obviously build in the indexing features.

There are two aspects on a policyholder side: there's simply modeling the policy terms, which you're proposing, and the second is the option markets aspect. Neither one of these, by themselves, absent trying to integrate it into software, is particularly hard. You have to integrate these together, but those are basically two fairly independent projects. The fun comes with the integration. On the options, it's not too hard to figure out what the price is going in and what's modeling the payoff at the end on an option. But one really needs to know what the market value is going to be in between. If there are a lot of surrenders in a scenario, what's the market value? What are the mechanics of selling off part of the hedge or adjusting it as one goes along?

Finally, the fun really begins with the interactions between the fixed-income marketplace, equity markets, and customer behavior. We have sort of a three-dimensional problem there. Those are the important things to think about. I don't have any particular solutions for you here, but those are the things to think about.

I'd like to share with you some of the learnings or observations I've made going through this in terms of profitability considerations. The first is that, obviously, funding for the index comes from fixed-investment income in excess of what's

needed to support the guarantees—the viewpoint I’m taking on this. So if we see interest rates fall from where they are now, the amount that one can spend on stock market options is going to go down, unless a line is going to get squeezed some. If interest rates would go up, there would be a bigger budget, versus a fixed target of generally a 3% underlying guarantee.

The second observation is that products that have a long indexing term and a surrender charge disappear at a window and then reappear. One has to think hard about possibilities of some high surrender rates at that window period. First we had all of the problems that you normally have with disappearance of surrender charges, particularly temporary ones. In addition, one would have to think about the condition of the stock market at that time, fixed-income conditions, and customer satisfaction or dissatisfaction due to their past performance. With the rate at which product development is going on, there may be some different product competition five years from now.

Third point, which is obvious after you think about it, is that equity market success, in the long term, affects the quantity of funds that you have under management. A simple example: if the stock market doubled, the assets that you have under management on one of these products will probably not quite double, but will go up substantially. As a result, we have some fixed, sunk acquisition costs at the beginning of the product. If we have more assets under management, we’re going to earn some sort of a spread or a profit in the renewal periods on it. And the return on equity and the profit measures become very spectacular if the stock market does well. The reverse of that is if the stock market does poorly, one has a very modest increase in the assets under management and has radically different returns on equity unless one makes some sort of an adjustment in the hedging program.

Finally, we have the fixed-dollar investment risks, and as I remarked before, most of those risks are very similar. You can have disintermediation for various causes. The normal SPDA, fixed-dollar investment risks are all present here, although there are some modifications. There are differences due to the cross effects between equity markets and fixed-income markets.

Table 1 is highly simplified. We’re going to look at a world in which there are four possibilities. Along the top, the equities are up. S&P is up or down and bond values are either up or down. Across the top row, we’re going to have happy customers because they have an indexed product; the stock market has gone up, and we’re going to give them quite a bit of money. If bonds are up also, then we have lots of market value of assets to back this, but basically nobody ought to

surrender it. If bonds have gone the other way and interest rates are up, the position of the company could be either favorable or unfavorable in market value versus surrender value. But once again, one would expect fairly low lapses if the equity indexing feature is actually coming into play for the customer. The position is different if equities are down. If bonds are also up, we would have customers who aren't going to get anything out of their indexing, or think they may not, but they don't have very many alternatives in terms of replacing it into a fixed product. In that case, because the indexing isn't working, my guess is that we'll have fairly medium-to-high lapses, and the company may or may not be protected against the surrenders without any additional adjustments in the hedging.

TABLE 1
EQUITY-INDEXED PRODUCTS
SURRENDER SITUATIONS

	Bonds Up Interest Down	Bonds Down Interest Up
Equities Up	Position: Strong Lapses: Very Low	Position: Fair to Weak Lapses: Low
Equities Down	Position: Good* Lapses: Medium to High	Position: Poor* Lapses: High

* Vulnerable to early drop in market.

The weak corner is if both marketplaces go down; the company doesn't have a good position in terms of market value versus surrender value because of the nonforfeiture law. The lapses can be expected to be high. There are ways to deal with this. Certainly a year-to-year design is a very helpful protection against that and things can be done in the investment market to protect oneself against this. This is not an insoluble problem, but it's a real problem to be solved after you put a primary hedge in place to cover the actual indexing obligations.

Now I want to talk about regulatory considerations. Regulatory considerations are in a very early stage. We're just sort of thinking about what kind of adjustments or how these things are worked into the regular patterns. There is the NAIC Index Model Regulation, but it really is designed for fixed-income indexed type crediting rates, things that are somewhat similar to a market-value-adjusted (MVA) situation. It has never been adopted in any state. There's very interesting reading in thinking about these products because it has some good stuff, but it's not applicable.

I'm going to talk about illustrations. We have a new illustration model regulation and remember that's for life insurance right now and not for annuities, but the

variable annuity sides of that are being worked on currently. So we can expect to have something in place. The illustrations for this, if they're done, have a curious amalgam of fixed and variable characteristics. The customer needs to understand this. They need to know what the minimum guaranteed values are. And that's exactly like a fixed-dollar guaranteed cash-value type projection, which comes out of one part of the illustration regulations. To understand how it might work in practice, one needs to have a projection on a current basis. And that becomes very much like a variable type projection situation, where there are two possibilities. One is the historical projections, which are certainly valid in this case. The other would be a prescribed smooth rate of growth. One difficulty with the smooth rate of growth, which is where we're seeing a lot of the variable illustration regulations go, is that it doesn't exercise all the features of the contract. In other words, if you choose, say, a 6% growth, that's either going to show indexing credits every period or every time, or not at all. It's not going to show what happens in real life as the market goes up and down. All the sales literature I've seen so far shows a generic well-chosen example that exercises the ups and downs in the market, and shows how the contract can work both ways.

Securities and Exchange Commission (SEC) classification basically follows the nonforfeiture law and follows the rules for market-value-adjusted annuities. If one has a floor that hits nonforfeiture law, then it doesn't need to be registered. If you don't have that, which for example some products could have, then it would have to be registered. But registered and nonregistered products are both possible. There's some interesting possibilities in the registered area, where very little has been done so far. There certainly are going to be some questions about the appropriateness of that dividing line. To my mind, the analogy with a market-value-adjusted annuity is a sound and appropriate one, but we will see how that turns out.

Time doesn't permit a detailed discussion of the nonforfeiture law. The basics are of course that with an SPDA, one has to give back 90% of the premiums accumulated at 3%. That's the underlying minimum under most of the products which we have seen to date. Where some of the inventiveness has come in, is where people have a product that runs over a five- to seven-year term. What do you give to the customer in the interim, based on intermediate stock market results, and there has been quite a bit of inventiveness in that area out of necessity.

Let's move on to reserving. I think of reserving in three layers. First, one has the minimum guaranteed values and obviously under the Commissioners Annuity Reserve Valuation Method (CARVM), one has to do a conventional reserving for the minimum guaranteed values.

A second layer is on products that are based on a high point in the market. If a high point has already been reached, obviously that could create an assurance that there's some additional value that's going to be credited at the end of the term. So that has to be taken under account under CARVM.

What gets interesting is when one gets to the third part, which is, what does one have to hold for the fact that you provided this option to the customer. We don't know how much it's going to pay off. In my mind, the most straightforward one is simply hold the hedging assets at market and then try to value the liabilities at market, just as an additional option. Also try to use statutory principles. There certainly are some complexities with that. There are problems with all the other methods, which I'm not going to spend much time on here. Amortization has some possible problems. The index model doesn't lead anywhere. Obviously, cash-flow testing is going to be an important element of this. One theory is to hold nothing and do it all in cash-flow testing.

Let's turn to the future. First of all, I think there are three observations here. First, we've seen a number of products where this is an option within the policy as opposed to being a stand-alone policy. Combine various indexing features inside a variable annuity, combined with an MVA. And I think we'll see more and more of this as a choice, rather than as a stand alone. Second, we're going to see people trying to do something other than the S&P 500. I think that's going to be a little bit slow going for a number of technical reasons.

Finally, I agree with Tom that we're going to see a great deal of product line extension. We're seeing flexible premium annuities. We may see immediate annuities. We'll see a single-premium whole life, certainly universal life (UL) and perhaps, even traditional whole life will be renovated by this a little bit.

Mr. Timothy C. Pfeifer: My topics are two very diverse topics—hedging and investment strategies. We're also going to talk a little bit about policy filing, and state filing status. Clearly, both are key aspects of any product design effort with respect to equity-indexed contracts. What we're going to do, especially in the area of hedging and investment strategies, is provide a broad overview of where companies are right now in terms of their asset management on these products. Time does not really permit us to go into a great deal of detail, but I hope we can give you at least a broad idea of what companies have been doing. The focus again is going to be on equity-indexed annuities. Some of you may have thought that given the title of the session, we were going to talk about interest-indexed products as well. I'll

make a few comments about that, because there are contracts out there that are linked to Treasuries, but the focus will definitely be on equity-indexed contracts.

Let's recap what we're talking about, in terms of the liability structure. We're talking about contracts whose rate of return is linked to some sort of external equity index, usually the S&P 500 without dividends. The key point is that these are without dividends. The decision to go with the S&P 500 is one that is largely driven by the availability of suitable hedging instruments that can be purchased. Many of the other potential indices that might be used simply don't have the liquid market, and don't have the customer awareness of what they are and how they work. The S&P 500, as Tom mentioned, is likely to remain the index of choice for some time. Companies are considering even foreign indices like the Financial Times Stock Exchange (FT-SE) and the Nikkei, and we may see those down the road, but I think we're still a ways off from that.

The designs of many of the contracts are different. In fact, we've worked on probably 12 or 15 of these and no 2 are the same. Every company wants to put a bit of a different spin on their own design. Many of these involve averaging the S&P returns. The high-water approach that Tom mentioned looks at the highest point that the S&Ps ever achieved. Some products compound the returns, and others take arithmetic averages. Your asset strategy has to be consistent with whatever definition you're using.

Another issue is whether or not your return definition looks at one year of S&P performance or more than one year of S&P performance, and clearly that will drive the type of option that you're going to purchase. These contracts, in order to stay as individual annuities and nonregistered individual annuities, need to provide some guaranteed minimum return. That necessitates, in addition to an option of some type, that there will be a fixed-income piece that would support the fixed guarantee on the contract. Finally, these contracts do generally renew at the end of a specified term. The manner in which they renew and the point at which they renew also help to drive the choice of your asset strategy.

I've listed here three diverse alternatives, and these are very simplistic, for a company looking to sell an equity-indexed annuity. I'll tell how they might think about handling the asset side of the equation. Alternative one is to simply buy the index, either explicitly or through a mutual fund type structure. That has generally not been a strategy that has been pursued. It has been dismissed actually by most companies as being inefficient. Certainly the capital requirements for taking such a strategy are fairly onerous. You also face the issue of a lack of downside protection. If the market plummets, you don't have the protection if you simply purchase the

index. The other issue here is the fact that given the wide diversity of definitions of the index return, it's difficult to exactly duplicate what your exact return definition is if you simply bought the index. As we've said before, each one is slightly different.

Let's go to the other extreme and that is, let's not hedge it at all. The problems with that are fairly obvious. However, if we look a little deeper, there are a couple of interesting points. If you look historically at the performance of the S&P over, say, six- or seven-year moving windows of time, you will find that there are six- or seven-year segments of time during which the equity-indexed annuity would yield a return that is fairly comparable to what you would get under a fixed annuity. That might tempt somebody to say, "Well, if that's the case, let's just continue along with our standard investment strategy." Fortunately or unfortunately, there are years like 1995, when the S&P jumps 30%. And as a customer you certainly want to be around for those years and share fully in them. But from an investment perspective, you also want to have the appropriate hedges in place when you hit those years, so hopefully that, in and of itself, will dissuade people from looking at the no-hedging approach. This is somewhat of a middle ground that some companies are looking at. They can partially hedge or buy hedges not for the complete anticipated value, but to buy a hedge that would only cover part of the risk. They would take their chances on the other part, hence lowering option costs if they think that the market is pricing those too expensively.

We're going to spend most of our time on alternative three, which is to buy call options on the index and purchase some type of fixed-income security for the guaranteed liabilities. The call option, of course, gives the holder of the call the right to buy the index, or the stock if it's a stock call option, at a stated price down the road. Using a call-option strategy to back equity-indexed annuities is probably something that could not have been done ten years ago. And part of the reason that this product has achieved the notoriety that it has of late, is the fact that we do have a thriving option market that is liquid and active and gives companies the ability to invest in options that can help back these products.

The amount of the call option that one would purchase would hopefully be suitable to reflect the amount of premium and the amount of exposure that they have in these contracts. The options that are purchased are usually out of the money call options, although not always, with a strike price that's based upon the specific guarantees and the participation percentages and with the same term that the contract specifies. They're very closely linked to the definition of the liability.

Regarding the fixed-income securities for the guaranteed risk, many people initially said, well, we should buy some zero-coupon bonds, and match that with the call

options. In practice, however, most companies have not ended up using a zero-coupon bond strategy for a couple of reasons. One is that there seems to be a lack of high yielding corporate zeros. In order to fund these, one can strip out the coupons on regular corporate bonds.

Second, and more importantly, is that coupons end up being valuable in terms of providing the company with some cash to meet the liquidity needs for these contracts prior to the end of the term for deaths and surrenders that may take place.

But a key component of how successful these products can be in terms of a high participation rate is predicated upon the level of interest rates in the marketplace, since that drives the cost of the fixed-income pieces on these contracts. The problem with alternative three would be, in many cases, the call options that have to be purchased have to be customized calls to match the definition of the liability. This is generally but not always true. There can be strategies that make sense where one purchases exchange-traded options, and you can accomplish the same thing from that perspective.

Liquidity concerns are a true concern. The S&P 500, as I said earlier, is such a commonly used index, because of the liquidity that seems to exist in the market. Certainly cost is an issue. If you're buying customized call options, in many cases, you're not quite sure whether or not the costs you're getting from the street have exorbitant profit built into them. You have to, I think, get a feel for yourself what the theoretically appropriate price is for any given call.

I would add another concern, I guess, and that is how much hedge should you buy. In certain environments, the hedges are fairly expensive. You buy a hedge assuming that you're going to have 100% of the people around seven years down the road, when you actually expect to have some lapses and surrenders in the interim; you can overpay for the cost of hedging that risk.

Let's discuss some other issues. I've presented the call option as a type of the standard way to deal with this, but nothing is all that simple. For a variety of reasons, such as the cost of the hedge, whether it's appropriate to purchase a given call option or not, risk management and accounting companies have considered alternatives to simply buying call options. One is the use of structured notes, which would be a package that includes a call option and a zero-coupon bond, which has the advantage of providing generally for Scheduled D-type treatment.

In other cases, companies have purchased put options as they hedge against the hedge, in case the market tends to drop early on, which can be a very nasty scenario in terms of the financial status of these products. So companies will buy put options which gives the holder the right to sell the security at a given price, in order to balance off the risks of a down market. In addition, in a similar way, companies will purchase interest rate caps, in the event that interest rates go up and the market tanks at the same time. A combination of put options and interest rate caps can be used to further hedge that risk. Of course, purchasing any of these further hedges is expensive or can be expensive and will serve to reduce the participation rate that you might normally have.

Another approach that has been done is the use of swaps where companies will structure a situation where they're paying out a fixed rate to a counterparty and receiving a variable rate back that's linked to the S&P 500 performance. This approach has been used by companies that are concerned about state restrictions on call options.

I think we're going to see many new creations as a result of this product, provided that the product continues to flourish. I can recall a Society meeting several years ago where with the general comment was that eventually we'll get to the point where product design will drive the types of assets that we have, and I think this may be an example of that.

A few more comments on the profile of the call options. The purchases that are made are typically, but not always, customized calls that mirror the liabilities. Of course, the more complex your definition, the more complex the call, the more likely the call option will be more costly. Companies have done a number of other things beyond going to the over-the-counter market to buy these customized calls. There are situations, where particularly if the company has some real expertise on the asset side, they may internally decide to manage the risk by buying exchange-traded call options and put the manpower behind actively managing that on a day-to-day basis. So far, from our perspective, it has been more common for companies to buy the call options from over-the-counter dealers.

In terms of buying the call options, another issue that companies have dealt with is to anticipate that they are going to have deaths and surrenders and will have to lower the cost of the hedging. Let's purchase a call option that assumes a declining notional value over time, so there's an assumption that we won't have 100% of the people around six or seven years down the road.

In other cases, companies have consciously purchased call options that have terms that don't exactly match the term of the index definition. For example, they'll buy 25% in one-year options and 30% in four-year options and the remainder in seven-year options for a seven-year design, as a means again to provide for liquidity in the interim years.

The over-the-counter dealers have become a big part of this picture, and they are increasingly active in providing the hedges for these products. The cost of the hedge to you will depend considerably on the nature of your design, but it wouldn't be outrageous to say that the cost of the hedge could easily be from 10% to 30% of your initial premium, depending upon your definition. You'll find, oftentimes, that the quotes that you get from these over-the-counter dealers will vary widely. There are those who, I think, are getting their feet wet, and there are those who are very technically adept at what they're doing, so you'll find a very wide range when they quote. The over-the-counter dealers ideally would like to see blocks of notional value of at least \$5 million. However, at this stage of the market, they're very flexible in terms of smaller amounts that they're willing to take on, because I think they want to be accommodating to the marketplace. If you're willing to commit to that amount over a period of time, I think many of the over-the-counter dealers will have no problem with that. Ideally from your perspective, when you get up to say around \$15 million blocks of notional value, the pricing tends to get quite a bit better on the call options.

There is also, as I mentioned, the possibility for you to purchase the call options from options exchanges as well. For the most part, people think of the options exchanges as providing much shorter-term options, and that's generally true, although the options exchanges will also sell some longer-term instruments such as leaps. The liquidity on the options exchanges should be considerable, and you should have very little counterparty risk.

The other issue that is positive from the perspective of purchasing exchange-traded options is that you can invest in smaller amounts. Some companies have decided to buy some options from the options exchanges in small amounts to provide for liquidity in the intervening years.

The counterparty risk that a company faces when they deal with the dealers is a real risk. It makes sense for an insurer hopefully (as they do in all of their risk management policies) to spread the risk out among a number of different dealers. Most of them are very strong and very stable, but I think it's still prudent to spread a company's risk. The call options, I think, are a foreign area to many insurance compa-

nies, not only its senior management, but also the investment side. The price of the call options depends a great deal on the volatility in the equity market, as well as interest rates in the market. As you get into the area of call options, you'll find a whole new lingo in many cases including terms like Asians, Europeans, cliquets, annual discreet look backs, and concepts like deltas, and gammas. If you don't know the lingo, you can find yourself easily mystified.

We have seen some companies that have brought in dedicated employees as opposed to consultants. These are people who will be dedicated to managing the investment side of these products. They're coming in with the sole function to ride herd over the options markets and to really look at how those relate to their products. We're seeing a staffing up occurring in some situations.

Who are these intermediaries, these over-the-counter dealers? I've listed a few of them here. Union Bank of Switzerland (UBS) has been extremely active in this marketplace. Merrill Lynch, J.P. Morgan, Goldman Sachs, and NatWest have been quite active. What they do when they get your premium dollars is turn around and manage their own risks, oftentimes by buying their own options or puts or calls on the exchanges and managing that with their pool of very sizeable hedge positions in other areas. There are also organizations or intermediaries who will help you design and manage an exchange-traded strategy. BEA Associates, which is a union of Credit Swiss (they are not a dealer in the sense that they'll provide you with over-the-counter options), will work with you in designing an exchange-traded strategy. This has become important in some situations where it appears as if states have taken positions of not allowing over-the-counter options as legitimate assets. Texas, for example, is one of those.

Let me quickly just talk about some of the accounting issues. If you came here expecting to hear a firm answer on how to account for these, you're not going to get it, because I'm not sure there's a firm answer to this. Everybody that we have seen seems to be doing things a little bit differently. I think it's important, if you're considering an equity-indexed contract, whether it be annuity life or whatever, to attempt to get your internal and external accounting folks involved very early on in the process, and talk through the issues. Make sure everyone is comfortable that your accounting makes sense. Most of these contracts so far, in fact nearly all of them, have been general account products. I think down the road we will see some separate account products, especially given some of New York's positions on options. Assuming that we have a legitimate hedge in place, I think the key issue is that your accounting show great consistency between your assets and your liabilities. If the company goes out and they buy the wrong hedge or they don't buy a

hedge at all, your accounting system should expose that as being a troublesome situation. We've seen some companies hoping to simply value reserves using a CARVM approach on the minimum guarantee and then just add the market value of the options on both sides. I think that sort of presumes that you purchased the right hedge, and if you haven't, your accounting system may not expose that.

In terms of valuation of the assets, we've seen really three main approaches to that. One is to value the options at market, and in some cases, determining what the market is, is simple; in other cases, it's not so simple. Some companies value the option at amortized cost. Others take into account the "in the moneyness," so to speak, the receivable that the option can pay off down the road and present value that back to incorporate it into the value of the asset. If you are doing that, then it's incumbent on you to do the same thing on the liability side, and treat them very consistently. The whole area of both statutory and GAAP accounting, on both assets and liabilities for these products, is really still emerging. There have been previous GAAP pronouncements relative to accounting for options and I think that in some cases those are helpful; in some cases they are not. I think we'll see an acceleration of the focus on this with these products.

Let's discuss the issue of risk-based capital (RBC). As I understand it, the RBC requirements for derivatives, being a key part of this, are still under discussion and hopefully will have some sort of definitive conclusion. But if anyone knows anything else, let me know. I was under the impression that there hasn't been a resolution on the derivatives treatment for RBC. Companies are holding RBC in the pricing of these products which would fall somewhere between fixed and variable. As an example, if they're valuing variable at 1% of reserves and fixed at 6%, these contracts are usually being priced at 4.0–4.5% of reserves as some sort of RBC level.

Just a few concluding observations. Many companies have some philosophical issues with derivatives, and that's not a minor point as you consider these contracts. Senior management of many organizations I think has still an inherently bad feeling about the word *derivatives*. We've talked to more than one client who had a marketing interest in these products, but just felt that, culturally, they could not get it by their senior management. It's not a minor issue. As we heard from the level of the prices for the call options, if a company generated a great deal of volume in these products, it could easily be the case that derivatives could become a very sizeable part of the asset base. There are maybe some alternatives to deal with that, including some reinsurance alternatives that are popping up with reinsurers who are

willing to take the derivatives off your books and to pool assets from a number of other companies and do that for you, so there may be some alternatives there.

In terms of regulatory matters, certainly from the accounting side, we are in need of much better guidance than we have right now and as is often the case in our industry, the product design tends to precede the regulation. It happened with UL and we're there again with these products.

Let me make a few comments regarding state filings. In general, the state filings process for these contracts to date has been relatively positive. The tough states are still tough. The easy states are still easy, with one or two exceptions. The companies that have filed in a large number of states have generally had pretty good success. However, I think some of that is due to the states not being that familiar with the way these products work. We have a compliance individual in our office who surveyed the 50 states to just gauge where they were on these products and whether they have any particular problems with them. Probably 30% of the states came back and said, "What are these?" We said, "You've approved a number of these."

It turns out that I think there will be some states that, now that they understand how these work, will slow down their approvals. I would cite two in particular, North Dakota and Vermont, which have approved contracts, but are now much tougher in terms of their approval. In fact, North Dakota has taken the position that they're not approving them until the regulators circle the wagons and figure out what they're going to do with these.

Washington remains a very tough state, principally because of their adherence to the prospective test in the nonforfeiture law. Arizona has not approved anything, viewing these contracts as variable annuities. We've recently gotten a letter from them saying that they are now beginning to review these as fixed annuities. Hopefully that means that the log jam in Arizona will break. But Arizona is an example of a state that has generally been fairly easy to get approvals in, but for this product it has been tough. New York as yet has not approved any, but they're developing their position on these contracts. And I'm unaware of anyone approved in New Jersey, although there may be a few.

Generally, regarding the future of these contracts, I am cautiously optimistic. I think we have a couple of big mine fields that could potentially hit us. One is the accounting treatment, which I think is very much up for grabs. If we get some definitive rulings that are unfavorable, it could really hurt these products.

The second is the regulatory angle, especially from the SEC side. Much of that, I think, is going to be driven by the behavior of our industry. If we start to market these products as investment plays and not as long-term retirement vehicles, then we could find ourselves in a position where the SEC is grabbing more and more of these as securities. If all of that comes out favorably, however, I think that there is going to be a natural expansion of these products. I would agree with Tom's comment earlier, that there's truly a feeding frenzy going out there relative to these products. It reminded me of the UL days, when, in the early 1980s, the companies felt that if we didn't have a UL, we were going to be left in the dust.

As these products expand to the life side, I can easily see them becoming the next replacement vehicle for fixed UL, especially if rates stay low, this is a natural vehicle to go in. Many of those contracts that were issued in the mid-1980s are coming out of surrender charges right about now and what better thing to do than to roll somebody over to an equity-indexed annuity. Much the same could happen on annuities too.

From the Floor: Tom, how do you feel the market is going to react to the government announcing the sale of the inflation-linked government securities?

Mr. Streiff: Having read yesterday's *Wall Street Journal* article, I still think it's way too early for us to say what's going to happen with the inflation-adjusted Treasury securities. They still have not pegged exactly how they're going to work and they still haven't pegged the maturities, although they've said they're going to be between ten and thirty years. So there's too much that's unknown, but I would say that I definitely have a concern on a potential for some part of the fixed-annuity marketplace being replaced by those variable rate Treasuries. The bottom line is, the real disadvantage to the Treasuries today is market risk. And it's unclear how much, or if all of the market risk will be removed from inflation-adjusted Treasuries, but it is clear that some of it will be removed. If some of it's removed, those Treasuries look attractive—more attractive relative to fixed annuities than they do today.

Mr. David K. Sandberg: On the risk/return chart, I'm assuming that was done from a company profile, as opposed to policyholder profile.

Mr. Mitchell: No, that's that policyholder viewpoint.

Mr. Sandberg: The next question from there is that, from a company's perspective, as I'm hearing the amount of hedges in here, the obvious hedges are the call

options. But I'm curious as to how many of the products that you have been dealing with are also going the next step in hedging, the put option and doing the interest rate caps? It seems that one of the more likely scenarios to play out over the next couple of years is one where interest rates do go up sharply for a period of time and that drives the stock market down. If you're in the first couple of years, I think you have a high amount of risk. But I'm curious as to how many companies are actually trying to ride that risk. Are they funding it out of the participation rates and using it as commissions, or are they just accepting the risk?

Mr. Mitchell: I have experience with people who have taken the risk seriously and taken it into account basically as a customization of the call option. I mean there's a put imbedded in the call. It is a serious risk. With respect to the fixed-income side, it's part of a more global problem for the company. It becomes part of an overall strategy for dealing with fixed-income interest rate risk.