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Equity-Indexed Products: Now That You Have Them, What Are You Going To Do With Them?

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More and more companies are bringing new equity-indexed annuity and life products to the market. Sales of these equity-indexed products continue to prosper. With this surge in growth, many companies are facing the challenge of successfully managing these products to preserve their competitive advantage.

Mr. J. Lynn Peabody: Our first speaker will be Ann R. Bryant. Ann is the staff actuary at Lutheran Church Missouri Synod. She has been in that position just a few months. Prior to that, she was with Security Life Reinsurance where she was working in product management developing processes and practices relative to equity products. Before that, she was a pricing actuary with Aid Association of Lutherans (AAL) and was involved in the development of their equity-indexed annuity. Our second speaker is Jean Liebmann. Jean has been with SAFECO Life Insurance for about 15 years. She's currently the retirement services actuary, has recently served as the annuity actuary, and was involved with primary pricing of equity annuities. Now, on an ongoing basis, she is involved with the product management of the equity-indexed product that SAFECO has developed. That product has been one of the best selling products in the bank marketplace over the last couple of years.

This topic is something that has been on my mind ever since I started working with equity-indexed products. I always envisioned it as a cartoon of a big dog that has been chasing a truck. The truck has finally stopped and he's sitting there with the tire of a big 18-wheeler in his mouth. The caption of the cartoon says, "Well, now that you've got it, what are you going to do with it?." I think that's kind of apropos for these products. They came to the marketplace quickly, and they had some very good sales results. In 1997, over $3 billion of equity-indexed annuities (EIAs) were sold in what was only the second two-and-a-half full years of marketing the product. Much of the business is on the books, and I think a lot of people are starting to recognize that selling and developing is only the beginning of the process and, perhaps, the easiest part. Now they must live with them, and I think that's why the management of these products is going to be important over the next few years.

If you read articles periodically you know that equity-indexed products are in the limelight lately. I went back and pulled a few things out of my file. All these articles were published within the last three months or so: "Equity-Indexed Annuities Prove Controversial," "Pitfalls in Equity-Indexed Products," "A Safety Check for Equity-Indexed Products," "Deflation Would Mean Rethinking Equity-Indexed Design," "Agreement on Equity-Indexed Annuity Disclosure Is Going to Take Time," "Indexed Products Have a Ghost," "Equity-Indexed Products Raise Tax Issues." All of these articles indicate the nature of some of the things that are going on with these products. I'm not really sure that there's anything controversial about these products, but there certainly are a number of issues to deal with.

When you think of the product management of these products, who really cares about it? There are actually many people who do. They are not unlike other products, but I think they are a little bit different in one area. The pricing actuaries suddenly have to deal with option costs. It's not something they've had to build into their pricing, and certainly some of the new reserve guidelines are an issue that make them uncertain in terms of the pricing of products. You take one reserve approach and your return on equity is great. If you take another reserve approach, and your return on equity is practically nil, you really don't know yet which direction to go. Pricing actuaries definitely are concerned about these. Valuation actuaries are going to have to live with the process of cash-flow testing, and that in fact is going to be the ultimate reserve procedure.

Back in the early to mid 1980s, when universal life policies first came out, many of us who were involved with them said, "The pricing actuaries and the investment people are really going to have to talk more than they have before." They talked some, but not a tremendous amount. With equity-indexed products, however, it becomes even more imperative because you're dealing with something that is foreign to the actuary—the options costs and the handling of the hedging process. It's also foreign to some of the investment people. In addition, the interrelationship of the ongoing pricing and product management and the investment management is going to be more crucial than what it has been in the past.

Obviously, the illustration actuary is going to have to worry about what they are able to illustrate and how they're going to be able to justify that the illustrations meet the tests that are eventually set forth. The chief counsel is going to be somebody who's interested in these. I envision some of the lawyers that have been involved in class-action suits marking on their to-do list for 2008, "start filing suits on equity-indexed products." I've been involved in some of those things and I wouldn't be surprised if that is an area where we'll see some issues raised. I hope that what we're doing with illustrations will help protect the companies a little bit, but I think the chief counsel is one of the people who's very much concerned about what's going to be going on with these products along with many other people. Administration issues are going to be important for these products, and marketing, obviously, is important also.

That's true for just about any product, but I think there are certain specific things that are true here because these products are different. They're something that we haven't dealt with before. They're primarily different because they're a combination of a general account type of product and a separate account type of product. They deal with the big D, derivatives, and that's scary. Companies working with derivatives is a new thing. They hit the market very fast and very heavy. So all of those things coming together mean that we've got a batch of policies out there, and we have to find out how we're going to manage them down the line.

One of the things that goes into product management are: liability pricing on an ongoing basis. Whereas with annuities, you're looking at resetting interest rates on equity products, you're looking at resetting participation rates or spreads or caps or periods of the option coverage or whatever. There are many different things that are involved that need to be looked at on a regular basis as you're repricing and restructuring the liabilities on these products. Liability-portfolio valuations: you're going to have to pull these products into your entire liability portfolio. You're going to have to look at ways that changes in market values are going to be impacted from time to time by changes in option cost, by changes in forward interest rates, and by changes in volatility. It's new from that standpoint, and certainly from the standpoint of the investment portfolio. You're going to have to look at changes over time in all of the option costs in your portfolio, and the impact on the asset side of changes in volatility and yield curves and that sort of thing.

Reserve development: there was a very good workshop yesterday on reserving for equity-indexed products. We're not going to get into a lot of detail about that today, but it's one area where there were many questions. Session 71PD at this meeting is on equity-indexed regulatory issues, and that will deal with illustrations, hedge management, and those types of things. There are more sessions specifically related to equity-indexed products at this convention than any other specific area.

Hedge-management considerations: this is going to be an issue that's going to be important to regulators. In some cases, the actuary is going to be asked to certify that the hedges being put on the books are consistent with the liability requirements. Rating agencies are going to be looking at this. The biggest issue is going to be product management on an ongoing basis. We've gotten some guidance we could look to, for instance, in the banking industry. The banks are very good. They've been handling these kinds of hedges for a long time, and one of the things that they've done is develop very specific written procedures. Insurance companies have not generally taken those approaches, but I think it's something that might be important. The valuation actuaries are going to have to develop assumptions. They're going to have to figure out procedures for cash-flow testing of these products that are going to be different. How do you fold in the options? How do you fold in the change in the option cost over time? These are important issues.

In general, any product in an insurance company has product management considerations, they always have had, but I think there are some special things about the equity-indexed products that are going to make this more of a challenge to us than what we've seen since universal life policies came out.

Ms. Ann R. Bryant: I work at the Lutheran Church Missouri Synod, and I want to talk just a little bit about that because it's not your typical place of work for an actuary. I started there about five months ago. The Lutheran Church Missouri Synod is the nation's second largest Lutheran church body. It's called the Missouri Synod because it was founded in Missouri, but it's actually all over the nation. There are approximately 2.6 million members with 6,000 congregations, and the synod employs over 27,000 pastors, teachers, and lay workers. All of those people need pension and health plans, so I work on those plans at the synod.

Although I have been working on pension and health, I've been out of the loop of EIAs, so I did a lot of research.

I started my career at Association for Lutherans in Appleton, Wisconsin in the life area and then later moved to the annuity area. One of the main things that I worked on was designing the current EIAs products that AAL has. I worked on all the aspects including pricing and filing and investments and systems, and marketing. Probably the most interesting thing to me was doing research, going out and doing focus groups and talking to members and talking to agents and finding out what they really thought. I learned a lot from that whole process. Then I went to Security Life Reinsurance and ended up working on equity-indexed products again and that's how I met Lynn. That was more in the context of managing the ongoing products, managing in particular the investments and learning how a reinsurer can help with that. I'll talk more about reinsurance as a solution later on too.

Before I go on, how many of your companies offer EIAs? Quite a few. Most of you are familiar with EIAs. How many of you have actually bought one? Well, I'm not completely alone. OK, I bought one too, and I guess you could say I wasn't a typical consumer. After I moved to Denver, AAL introduced their product, and I wanted to be the first one to buy one, but I didn't quite make that. I called the agent and said, "I want to buy an equity-indexed annuity," and he said, "You want to buy what?" So I explained to him what it was, and he came over to my house and we talked about it so I know there's at least one agent out there who knows exactly what it is. He said he liked it, but what was he supposed to say? When I bought it, the S&P 500 was at about 850, and now it's at 1,100, and the participation rate was 75%. AAL's design is point-to-point.

To get an idea of what the typical consumer looks like, according to the NFC consulting survey, out of 31 companies surveyed, 20 responded and the average issue age is about 57 years old. On a traditional or declared rate annuity, the average issue age is almost 65. So average equity-indexed purchasers are a little bit younger. Percent male and female is almost equal, about 50% each, and the same with nonqualified and qualified. It's not much different. The average size has been just a little over $30,000.

The top five sellers of EIAs make up 70% of the sales, so just a few companies dominate the market. The top three are Keyport Life Insurance Co., Jackson National Life Insurance Company, and American Life and Casualty. Seventy-seven percent of sales are made by agents, 15% by financial institutions and 7% are broker dealer. Regarding consumer behavior, I've read some articles, and like Lynn said, I think the future will tell what consumers think of this product, whether they surrender in the middle of the term or whether they don't understand the product. It leads to market conduct issues. More on consumer expectation in a little bit. A buyer's guide has been developed and probably many of you are familiar with it. Most of the actuaries that I talked to either like the buyer's guide or at least don't hate it, so I think it's going over pretty well. It was prepared by the NAIC and the use is encouraged by the ACLI. It was adopted in March 1998.

I'll just give you a general outline of what it covers. It covers what an annuity is, and it differentiates EIAs from others, and goes into the features. It defines the terms involved like the participation rate and if there's a floor or a cap, the index averaging, and then it goes into common indexing methods and goes into the features and the trade-offs, but it really doesn't say that one design is better than the other. It just makes it clear to the consumer that if they get one thing, they may be trading it off for something else. At the end, it gives a list of questions that the consumer should ask before purchasing an equity-indexed annuity.

Most actuaries that I talked to said that their companies are using disclosure statements. They want consumers that are educated, and I think most people realize that this is a little bit different product, and it can be more confusing. The disclosure statement is one step that they can take to help educate the consumer. Most of the companies require the signature of the buyer before issuing the product, and the format of the disclosure statements really varies. The ones I saw vary from one-to-four pages in length. Some of them are just your basic form, and some are more of a marketing piece. They're colorful, and really are positioned a little bit differently.

In terms of marketing the participation rate, it showed you that it's not an apples-to-apples comparison. All the designs are so different that you really can't compare what the participation rate is. The performance of a product really depends on the market too. The bull market from 1991–97 would indicate that the point-to-point is best, but if there were a more volatile market, like that of 1960–66, the ratchet design would be best. You really have to put it into context and really think about what the consumers are looking for. Are they looking to avoid volatility or do they want to get the most growth they can?

The annual report has caused problems for most companies. None of the actuaries that I talked to said that they liked the annual statements that they send out. The companies that offer a point-to-point design can only put their surrender value or their guaranteed value on the statement. So consumers get it and they wonder why their value is less than what they put into it. Some of them do put their death benefit on it, but there's some caution in doing that. Then with the high-water design or the ratchet design, you can put more on it. You can put the guaranteed value and the account value, but then you have to explain about the vesting and the surrender charges. People have forgotten how all that works, so there are a lot of questions. One actuary that I talked to said that when they did research on their variable-annuity statement, they actually got negative feedback on their equity-indexed statement without even asking questions about it so people are not happy.

There are different types of products that are being offered. Out of 36 carriers offering EIAs, 37.5% are annual ratchet, 35% are point-to-point, 10% are high-point, 10% are yield spread (which is a constant spread taking off whatever the growth is in the S&P 500), and 7.5% are under the catch-all category, "other." I noticed that Lafayette Life Insurance Co. is offering a low-watermark design. I'm not sure exactly how that works, but I guess that would fit under "other." Some other common features are averaging at least for part of the period. Minimum guarantees have stayed pretty much at 90% of principal with 3% interest, although some designs offer a 100% guarantee, maybe because it's simpler. Most of the ratchet and high-water designs have surrender charges as well as vesting schedules.

Table 1 tries to equate the different participation rates for the different designs. In the middle you see the S&P 500 index, which, over the last 50 years, yielded 7.89%. If the participation rate was 100% for every design, the right-hand column shows the average return that would have come from having each of these designs and it looks at five-year periods within the last 50 years. So the annual reset with no cap would have been the best if all the participation rates are 100%, and the daily average would have been the worst. The thing that I found surprising was that the 14% cap makes such a huge difference. The annual reset with no cap was over 11% but then with the 14% cap, it wasn't even 8%, so you can see why those options would be cheaper.

TABLE 1
PARTICIPATION RATE: CREDITING METHODS

Crediting Method	Participation Rate	Average Return
Annual Reset No Cap	100%	11.33%
High Point Look Back	100	8.89
Point-to-Point (end pt)	100	8.25
S&P 500 Index	100	7.89
Annual Reset, 14% Cap	100	7.73
Point-to-Point (last 12 mos)	100	7.39
Average of Annual High Pt	100	6.04
Daily Average	100	5.76

Source: *Index Compendium*, January 1997

Table 2 reverses this and shows that in order to get an average return equal to the S&P 500, the participation rate would have to be on each of these different designs. It tells pretty much the same story, but like I said, it reverses it. So the annual reset would only to have a 69% participation rate to do as well as the daily average with 144% participation rate. This is why you can't compare participation rates unless the designs are equal. This type of information is a good consumer-education tool or agent-education tool in showing how different the designs are.

TABLE 2
PARTICIPATION RATE: CREDITING METHODS

Crediting Method	Participation Rate	Average Return
Annual Reset No Cap	69%	7.89%
High Point Look Back	86	7.89
Point-to-Point (end pt)	95	7.89
S&P 500 Index	100	7.89
Annual Reset, 14% Cap	107	7.89
Point-to-Point (last 12 mos)	108	7.89
Average of Annual High Pt	137	7.89
Daily Average	144	7.89

Source: *Index Compendium*, January 1997

Some of the issues around the participation rate have been the S&P 500 without dividends. There have been some articles explaining the impact of that. Historically, the dividends have accounted for 3–4% of the performance of the S&P 500, but more recently it has been more like 2%, and the thinking on that is that the prices of stocks had out-paced the dividend, and most of the articles that I read anticipate that continuing for a while. If the dividend rate would go up though, the cost for the options would go down and so participation rate should go up. Not including the dividends shouldn't affect the consumer as long as it's reflected in the participation rate, whatever the consumer is getting. There could, however, be misunderstanding if the consumer thinks that they are getting the dividends when really they're not.

Moving on to actual participation rate versus expected. I know when we designed the product at AAL, volatilities were not as high as they are now and interest rates were higher. Since those things have changed, meaning interest rates have gone down and volatilities have gone up quite a bit, participation rates are quite a bit lower than what they were before. I don't think that it makes EIAs unattractive though because they appeal to consumers who are conservative, and you think they would compete against traditional fixed annuities and CDs that are affected by declining interest rates, too. Another issue is the lag between setting a participation rate and accomplishing the hedge. Many companies have trouble with that if their volume is not very high. They can't buy options as quickly as they need to so they're on the red for that time period between issuing and being able to purchase the option. One way to overcome that is to reinsure. A reinsurer can pool several companies' businesses, and then can get a lot size that leads to a better constant and less of a time lag. Sometimes you can set up a deal with the trading agent too. If you have an exclusive deal with them, they might be willing to take a smaller purchase.

There are different types of hedging methods. Not all of these will probably meet the “hedged as required” criteria as explained in Guideline ZZZ, but I won't go into that. The first one is full hedging with call options. The majority of companies do this. Over 50% of the companies hedge the whole thing even though it might be a little more costly. An alternative is to give partial hedging with call option, which would anticipate some lapses and maybe some debt. Guideline ZZZ says that you cannot anticipate more than 3% decrement in any given year. Another alternative is to use various maturities so that when you anticipate lapses or debts, your options are coming due to reflect that. You could also reflect how many people you expect will renew for another term and buy longer dated options, potentially get a better price on them. The fourth one is replication. The basic idea is to use other things like short calls and puts and futures to replicate a longer option. This is explained in the AAA Practice Note, and it is now basically endorsed, so it can be used. Cost is potentially reduced from doing it. You can eliminate the packaging charge of the over-the-counter option, and aggregate your hedging activity to perhaps reduce the cost. Matching the "Greeks" is like the delta and the gamma and the rho. This is more of a macro hedging strategy so that instead of hedging each individual bucket, you look at all of your options and try to manage them in the most efficient way possible. There are some cost savings with this one, too, but it's fairly risky and it takes a significant amount of expertise to be able to do.

And then there's reinsurance. Before I came here, I got a card in the mail from Cologne Life Reinsurance Company, which said, "come to our booth and find out about reinsuring your equity-indexed product." I was surprised it was from them because I didn't realize that they were in that business. I had heard about CIGNA, and Swiss Reinsurance American Corp and maybe Transamerica. I called the actuary at Cologne Life Reinsurance Co. and he said, "Yes, mention our name. We want to reinsure the equity piece. Just reinsure that part of it, because we don't need part of the fixed fees." They've seen quite a bit of activity, and they're looking for big or small clients of all funds. They use custom options, and they charge an option cost plus a risk charge, depending on the design, and then a persistency charge as well. As far as picking a method, the volume of the equity-indexed annuity business is a key thing for the reasons that I mentioned before. Other things to consider are what resources are available at the company in terms of expertise and systems. You should also be able to track the ongoing management of these products and the risk tolerance of your company.

There are some other bits and pieces of information that I have picked up along the way. I haven't mentioned equity-indexed life, even though this session is supposed to address both types of products. I received this equity-indexed life-product brochure concerning a future SOA seminar that is to be held. I called one of the presenters listed, Larry N. Stern at Tillinghast-Towers Perrin, and he said it was cancelled because there hadn't been very much activity in terms of equity-indexed life products so there's not much to report along those lines right now. Lots of manual systems are still in place for EIAs. There are too many questions still unanswered so they haven't developed or purchased a system. Some predictions prognosticate that a few companies will continue to dominate the market. EIAs will probably account for 10-15% of total annuity sales, and we will probably continue to see variation on these types of products.

Ms. Jean B. Liebmann: I had to laugh when Lynn told me the title of this session, Equity-Indexed Annuities, Now That You Have Them, What Are You Going To Do With Them?, because this is exactly how we felt at SAFECO when we started selling our annuities in 1997. Actually when Lynn called me about this session, I was hoping to be in the audience so I could hear how other people were handling this product.

Designing and pricing the product turned out to be the easy part of this. The real challenge occurred once the money started to roll in. There are many processes that are common to all deferred annuities, it was just a few unique ones that are taking up most of our time. Some of the challenges that we encountered weren't necessarily due to the product itself, but how the product fit with our existing processes and systems that are intrinsic to SAFECO. I'd like to address some of the items that we have found challenging and still find challenging with regard to indexed annuities. I'll be covering administration training, options and bonds reporting, and state requirements.

In administration training the agent issue is really a training issue. Our product is marketed through financial institutions and general brokerage agencies by way of a third-party marketer. We scheduled training sessions in-house for the wholesalers and created special training and marketing materials for the agents that covered the product and how the index worked, which happens to be the S&P 500 composite value index. We cover compliance issues such as disclosures and SEC concerns, and how we would support the product internally. At the training sessions, we had our lawyers discuss the compliance issues. Among other things, they presented a list of dos and don'ts for use in the sales process, and this list included the following: emphasize the insurance benefits of the product including the death benefit and the annuitization options; don't unduly focus on the indexed interest features; explain that the S&P 500 index does not contain dividends; and, don't use standard equity-market terminology. There was an entire page of them.

At the training sessions, we also had our investment folks present an explanation of options, and how we would be using options and bonds to support this product. We were quite surprised by the depth of the questions we received about our investment strategy from the agents. A lot of the agents appeared to be quite knowledgeable regarding options and the S&P 500, and they asked a lot of good questions and kept us on our toes. There was a down side to this though. Some of the advertisement material developed by the agents was a little too broad and sophisticated, and this caused us some concerns regarding SEC and prevention since a large part of determining if a product should be registered is how it is marketed. The product must be marketed as insurance and not as an investment. We do require that all sales material be approved by SAFECO prior to its use. We developed a two-page checklist for this product. Among the items we emphasized was the usual insurance elements of stability and security and not the prospect of growth. We avoided using terms such as *investment, participation in the S&P 500,* *stock market*, *Wall Street*, and to describe the S&P 500 as a factor used, in part, to determine excess interest.

We also struggled with examples. We had numerous requests to provide example calculations illustrating how our product would have performed since 1990 had it been around. This really bothered us because the 1990s have been a time of such phenomenal market performance, it just wouldn't look accurate. We didn't want people to think this is how it's always going to perform. So we settled on showing some generic examples that would better illustrate how the product would work, and then we also had examples that tried to pick an average, a best, and a worst market period. Training was also an issue with our customer service representatives. We have variable annuities at SAFECO, but the department that was going to be handling this product had previously only dealt with traditional deferred annuities and they had a big learning curve. We trained people on the product and on the in-house administration system, but I'm not sure that all of them were ready for the questions that we received from agents and customers. We received numerous requests from both agents and customers on how we would handle the product internally, and this required us to extend our training to the investment arena. We certainly did not make investment experts of our customer service representatives, but we did train them on the basics of options and bonds, and how we would use options and bonds to support this product. We definitely have spent much more time on internal training for this product than we have for any of our other products at SAFECO, including our variable annuities.

Another complication was that applications and disclosures, although not new, were different from our existing products. A lot of agents were eager to sell the indexed annuity. This latest twist with the interest being low made indexed annuities easier to sell, especially for the nonregistered reps. The eagerness, however, translated into many incorrectly completed and incompletely filled-out applications and disclosures that raised other problems that we had to deal with. Simply receiving a premium sparked a new transaction because our starting index is based on the date the premium was received at our home office. “Received” means received by SAFECO Life, not necessarily the department handling the product. Our internal mail handling is usually pretty smooth but we have had a few surprises where another department will actually get the premium, and it might be another three to five days before the department handling this product actually sees it. Other complications arose with a system that was built in six months. We had no internal interfaces from the accounting area to the investment area, so we've had to implement new procedures and create a means of communication between the two areas.

Rollovers, transfers, and 1035s create complications with rate changes and continue to do so with margin changes. From a customer's perspective, when an application is completed, the S&P 500 may be at a relatively low point. We do not assign an effective date or a starting index value, however, until we have the money, and if by that time the S&P 500 has risen significantly, the customer may not be too happy. From SAFECO's perspective, if we had a margin hold, we may not be happy if the option prices start fluctuating significantly before we get the money. They're changing our new money rate on our traditional fixed-annuities as a streamlined, no-big-deal process. The same cannot be said about our margin. Certainly no one likes a rate decrease, or, for our product, the margin increase, but most agents take it in stride. The change in our margin is a slightly larger issue, though, because we guarantee it for six years. We have found that we need to be much more sensitive to the frequency and size changes in our margin, and also to the timing and the way we notify the agents regarding those changes.

As I said earlier, the use of our indexes and the S&P 500 has been pretty straightforward. There is a licensing fee that we need to calculate and pay to McGraw-Hill once a quarter. Probably the toughest part of the index is to know when to update our database with the day's value. It's a balancing act between having the most current and accurate information for customers, and having the correct closing value for the index. The market closes at 1 p.m. pacific time, but the index may not be finalized until about 3 or 4 p.m. We use on-line service to update our values. We updated our value at 4:30 p.m. one day only to find that in the next day's *The Wall Street Journal*, the value was different. Fortunately, we caught and corrected this before any false values were calculated or disclosed.

For SAFECO, buying options was a brave new world. Prior to this product, we did not buy derivatives. We bought bonds to support our cash-flow needs, but for this product, you have to buy options or else option-replicating instruments. The actuaries and investment folks had to do a great deal of self-study in a short time to get up to speed on options. We also had to educate senior management about options and explain why we were buying them. They did not quickly forget the experiences of Orange County or Barron's. One thing about all this, is that it has created better communication lines between the actuaries and the investment area. We spend much more time discussing options and reviewing spreadsheets with different option possibilities than we ever did with bonds. One reason for this is simply the complexity of options and the different possibilities. Do you use a notional hedge? Do you delta hedge or do you try to create a total dynamic hedge where you're matching all the Greeks including the gamma and the beta? Do you buy acrimony options out of the money or in the money? Do you buy a one-month, a six-month, a one-year or a full-term option? Do you buy listed or over-the-counter options? Do you buy all calls or do you buy some puts and futures? Do you reinsure or buy structured notes? There are many more decisions to be made than with bonds, and part of it is that it's all still new to us. I think most importantly, it is a new risk for us to manage.

It has been important for us to realize what risk we are taking based on how we decide to hedge this liability. It's also important to understand the hedging strategy once it has been chosen and to make sure it's executed properly. Duration and convexity matching with bonds may be just as complicated, but we're used to it and know how to manage it now. For our product design, the rate being earned on the fixed assets is more important than the cost of the options. Since this is the case, we've again spent much more time talking with the investment area about what kind of assets they are buying to support our underlying guarantee. One of the questions we ask is are they buying treasuries or corporates, mortgages, or mortgage-backed securities? What length of assets are they buying? What percentage of below-investment grade, if any, are they buying?

The interplay between the bond rate and the option cost is an important element to our margin, so this is something that had to go to the forefront of our discussions with senior management and the investment area. It's very easy to get focused solely on the option side and forget about the fixed assets. We monitor the relationship between the options, the fixed asset, and our margin on a weekly basis. We monitor not only what we have actually purchased, but also what we can theoretically buy in the marketplace. Another item that has been important to consider is how this product and its accompanying investments sit with all the other products at SAFECO. This is only one of many products that we sell at SAFECO.

In terms of reporting this product, we create the usual reports that we do for our traditional fixed annuities. We show production, we report lapses, and we look at the spreads we're already earning on our fixed assets. We also try to report how well we're doing by hedging our index risk. We do this not only to make sure we are on track with the execution of our strategy, but also because some reports might show that we are hedged notionally by deposits, but failed to report whether we have combined at-the-money, in-the-money, or out-of-the money options. Other reports might show that at some point in time we're hedged, but do not reflect how well we're hedged if the market were to move up or down *x* points. In this area delta hedging has also created a big challenge for us. We are still struggling to find a simple way to illustrate our hedge position to senior management so that we don't inadvertently misinform them. Part of the problem is simply the complexity of the many moving parts. Another part is the different levels of understanding by various people throughout the company. We realize that various levels of management need to understand what we are doing in terms of hedging our liability, but it simply isn't practical to make everybody an expert in the options.

Another difficult area is trying to figure out exactly how to value some of the options. Do you always use market value, or are there times when you simply want to use intrinsic value? At SAFECO, we're finding it nearly impossible to easily illustrate the total hedging in the same picture with the one-page report. We produce reports to explain our investing, but we also have many face-to-face discussions with various levels of management to ensure that everyone understands our situation. Our GAAP financial statements have also been a challenge, and they are continuing to evolve. There's a new FASB regulation regarding the treatment of options, and I'm not going to try to describe it because I'm not that familiar with it other than to know that it does exist. I think it will be effective for year 2000 reporting. The little bit that I do know about it is that the options are marked-to-market and the option piece of the liability is apparently supposed to be marked-to-market, which also means that work will need to be done to split apart the liability. It also may mean that there are going to be greater fluctuations in the income statement because the asset-option value will probably not always equal the liability-option value. Simply creating a deferred acquisition cost (DAC) model has been challenging because our product design did not fit any of our existing designs. We started with a home-grown version based on our pricing model, and we are now trying to incorporate our indexed-annuity into the same model as our other deferred annuities. Creating the feature assumptions for the performance of the index and the cost of the options has also been interesting. We basically looked to our investment area and to our variable-annuity DAC model for guidance in this area.

Finally, let's discuss EIAs and state regulations. I think this has been a learning experience on both sides. Not surprisingly, some states that had previously approved our product are now asking for more information. They're not necessarily disapproving it; they are just getting a better understanding of what it is. We talked with the Massachusetts Department of Insurance a week or two ago. We heard that they have decided that all indexed annuities will be viewed as variable products. Indexed annuities that had been previously approved are now disapproved, but I can't really confirm this since ours was never approved. Apparently, there is to be a formal hearing on the issue in Massachusetts. Almost all states require a full description of the investment strategy, but some also want to be notified if the strategy changes. Some of the states are satisfied with a broad description such as buying co-options or similar instruments to support the index growth. Other states have wanted full details concerning not only what will be bought, but also how the transactions will transpire and which brokers or counter parties will be involved. The marketing materials also undergo state review with every change, and here there are also SEC concerns and regulations that need to be considered when creating the marketing material for selling the product. As I mentioned earlier, the product may not be marketed primarily as an investment if you want to keep it unregistered. One consequence of this is that fewer registered broker/dealers have been interested in selling the product than anticipated. They do not want to have to worry about what type of language they're using during the sales process and would simply prefer a registered product.

As always, the statutory and tax reserves are fascinating. When we developed our product and began selling it, Guideline ZZZ did not exist and our product did not fit cleanly with ZZZ. As a result, we have had to work with the states while redesigning our reserving model. As we observed first hand, some product designs make ZZZ challenging to implement and with some designs it is possible that the reserve may be greater than the annuity value. There was a workshop about the reserving for these indexed products, and somebody mentioned that ZZZ had been exposed for review to the NAIC. I'm not sure when they are actually going to make a decision on that, but certainly based on questions that we have received from various states regarding our reserves, it appears that many states are already relying on Guideline ZZZ as a standard.

Our year-end, cash-flow testing for our indexed annuity used a modified version of our traditional deferred-annuity model. We tested the usual parameters including lapses and mortality and interest rate changes. To this, we also added sensitivity testing for option cost and the index performance. Both the options and the liabilities needed to reflect changes in the performance of the index. Admittedly, our work was somewhat primitive since we didn't have one system that could incorporate both the assets and the liabilities for this product. What we ended up doing was using common economic scenarios but separate sources, and we created asset-cash flows and liability-cash flows and then put them into a spreadsheet and worked in a circular fashion going back and forth between the assets and liabilities trying to match them up. This was very tedious and cumbersome because there would be cases where we ran out of cash so now we have to go back and redo our assetcash flows so we can sell an asset. It was very time-consuming, so we are hoping that with some changes to our model and by working with vendor packages, our 1998 cash-flow testing will be much less cumbersome.

Probably the one item that has kept our management of this product going smoothly is good communication. The indexed annuity has a lot of moving parts and risks not found in traditional-fixed annuities. Even though we still have more to learn and finalize about this product like accounting for the options and reserving, good communication has helped ensure that everyone from our accounting area—the actuarial units, business units, controllers, legal, the management systems area—all understand how we are treating this product. We started this communication right from the start. Before we even had a product, we created a white paper for upper management to demonstrate what these products were and to provide general information about the different product designs.

Once we had a design, we had numerous face-to-face meetings with our accountants, our controller's area, the actuarial units, the business units, systems, legal, the investment area, just so that everybody was up to speed on what was going on. For me, this experience was totally unprecedented because, in the past, our product development has worked where we've had the actuaries meet with a few people from the business area and maybe meet with some people from systems and that was it. We never included accountants or anybody from the controller's area. Occasionally we'd call the investment people, but not to the extent that we have with this product. The improved communication continues today. We have almost daily conversations with our investment department regarding the various strategies and possibilities. We also keep them informed as we continue to develop our accounting methods. The business units also talk with the investment area to keep them apprised of the volume flowing in, and what's to be expected in the future. When I was working on this talk, I spoke with some of the other actuaries in our company, and one of them decided to estimate how much time we had actually spent talking about options with various people in the company over the last year-and-a-half. We're certain it's over 1,000 man hours, and we're pretty sure it's probably close to 2,000 man hours. So that's a lot of time spent on just one item.

As I said, pricing and designing the product is a part of managing an indexed annuity. It has a lot of moving parts that you need to keep in sync. You just need to stay on top of things as they come up.

Mr. Jerry F. Enoch: I'd be interested in knowing what anyone is doing with cash-flow testing on their EIAs.

Mr. Peabody: Anyone want to answer that? I think Jean gave a little bit of information about what she's doing. Certainly from my own experience, it has been very elementary in many cases—certainly for the newer companies that are issuing the business. There has been more information or more time spent just in gathering information than a great deal of analysis. I think something came up in the reserving workshop yesterday that is carried forth also on the equity-indexed products. In many cases, we are saying, "At this point, it's really not a material element in our reporting." So they're still using that as a shield to put their processes in place, but we'd be interested in hearing from anyone who has gotten into and been involved in cash-flow testing.

Mr. James S. Hawke: If I heard the description correctly, we did the same kind of testing for American Life. We did the seven scenarios assuming a level-market performance and some sensitivity tests on the market performance.

Ms. Donna Claire: I was tempted not to say anything, and just invite everybody to Session 71. We'll have the newest practice notes. If it's a small thing, you're probably OK. As it gets larger, there are more tests that are required. I headed the Academy group, and we discussed the New York 49, you do the seven and then you do seven for each of the little branches. By the end, we were saying if we were really into the market, you really are talking more in terms of the thousands of scenarios, which made a lot of people very depressed. If it's not a significant amount, what you're probably doing is fine, but this is something that can come back to bite you. As you probably know, Larry M. Gorski was one of the members of our Academy group so he understands the risks very well. You probably will get questions if you're writing in Illinois.

Mr. Peabody: One of the issues that Ann brought up dealt with annual reports to policyholders, and what type of information is being included. Jean, what kind of information are you including in your annual report? Are you aware of what information for policyholders is relative to their values?

Ms. Liebmann: I think we show the newly-entered value and the cash-surrender value, and of course, show deposits that have occurred during the year, and any withdrawals.

Mr. Peabody: How are some of the rest of you handling that? Are there any ideas that are unique or different from what was mentioned?

Mr. Neil J. Davidson: There is nothing new, except we are getting pressure from marketing to ignore the vesting schedule and to show what the ending-term value would be assuming 100% vesting. We've said no so far.

Mr. James R. Thompson: This is on another subject. One of the speakers mentioned something about a lag between the premium income coming in and getting the money invested in the options. The newsletter, *small talk*, has been trying to conduct a study. We've had several articles on what minimum-weekly-premium volume is needed to get effective coordination with your marketing department for a proper strategy. I was wondering if you could address that.

Ms. Bryant: I brought up that topic. I think I read that article in *small talk*. I think it said that on a weekly basis, you should have at least a couple million of premium income. I'm not sure exactly what to address about that, other than you want to make sure before you enter the market that you will be able to generate enough to support it. Also, *small talk* listed some other options for you. There was an article about reinsurance, and I mentioned how that can help if you don't think you'll be able to issue enough, or how you can make a deal with the broker in terms of buying the options. The article suggested some other strategies for different types of options that you can purchase.

Mr. Peabody: Jean, do you have any qualifications in terms of purchase amounts or anything like that?

Ms. Liebmann: That's sounds like what we experienced when we first started selling it. We were seeing about a million coming in a week. It was fine to go out and buy listed options at that low a dollar amount, but then it got to a point where you needed to do things in bulk to save some fees. If you can get between five and ten million a week, you can start buying as soon as the money comes flowing in, but if you're only getting a million a week, you have to wait and just bundle up a few weeks at a time.

Mr. Peabody: One of the issues that was featured in not only *small talk*, but also in other write-ups has related to our pricing and development of the products. We think about the present, and we don't think about what's going to be happening in the future when we have to buy additional options for the policies that are in force. How is that built in to the pricing and what kind of volume will be available at that time? What will be the cost of the options at the time that the new options need to be purchased? It all goes along with how important the option cost is to the validity of the product. Depending on the structure, it can be a very important aspect, especially in terms of equity-indexed life-insurance products. That has been one of the issues, among others, that has really been difficult for companies to deal with. The life insurance product, unless it's structured as a single premium product can be problematic for companies. Most companies don't have the volume coming in to create a large enough pool so that they can go out and be efficient in the option market. If you have annuity products and you can include your life premiums with annuity premiums, that would help. Option brokers have actually been fairly gentle with the insurance companies as they've been getting into this marketplace. I think they've been helping as much as they can to provide efficient option prices, but that can turn off in a minute and that's one of the risks that we face. It's certainly an issue.

Mr. Thomas D. Davenport: I have a general question. Could you briefly describe each of the types of indexed-annuities? I know you have a list of high-point, lift-back, point-to-point, and so forth. Could you expand on exactly what those types of products are?

Ms. Bryant: The point-to-point in its simplest form is when the policyholder buys the annuity, they lock in the value of the S&P 500 as of that date, and at the end of the term (say five or seven years or whatever), the value of the S&P 500 at that point represents the whole growth in their annuity value. So say my purchase started at 850 and at the end, maybe it will be 2,000. With a participation rate of 100%, you'd get all that growth in the S&P 500 or if it is 75%, then you'd get 75% of that growth, and that's with no averaging if it was just straight point-to-point. The ratchet design locks in growth, on a year-to-year basis. So if the term is seven years, each year the S&P 500 moves, you lock in all the upward movements. If the S&P 500 goes down, you get nothing for that year. But for all the upward movements, you get that again with the participation rate applying. Some products lock in the participation rate for the whole term, and others set it every year so they let it float. The high-point design looks at each anniversary during the term and takes the highest. So it's the beginning point versus the highest anniversary, and that represents the growth in the S&P 500 that the participation rate would apply to. That would be your value.

Mr. Peabody: Within each of those different designs, specific changes can be made. On the point-to-point, you can have a design where you provide a certain cap, or a capped amount not to exceed a certain amount over the period; 100% up to a certain amount, 50% above that amount. A typical straight point-to-point is called the European option. If you have an Asian option, it means you take some period of time before the point of payment and you average that. It might be a six-month average or a year average, which can happen whether it's a five-year term, a seven-year term, or a one-year term. There are many different variations of those primary types of designs, and it's one of the things that made these products so interesting when they first came out. Every one came out with something that was a little different from a marketing standpoint so that every product seemed to have something to talk about. That made the marketing of these very interesting.

Mr. Thomas M. Grondin: I just wanted to bring up a point. I don't know if it was mentioned earlier when you were talking about the delay when money is received and you don't have enough amassed to purchase options. You could actually purchase futures with the money, and then, if the markets go up, then you're covered. If the markets go down, you just end up buying options at a lower strike. You don't need much volume at all to buy futures. They're really cheap and you can park the money in bonds in the interim.

Mr. Peabody: Good point. That also becomes an issue in products. For instance, what might be marketed in the 403(b) area where you have a fairly consistent stream of premiums coming in but not large volumes necessarily. There are flexible premium products out there that are servicing that market, and that's a good point in terms of one strategy for handling those types of payments. Anything else?

Ms. Charlene Marie Barnes: I want to make another comment on that. Where you have exposure to an equity-indexed product that you've sold, you are essentially short for the S&P, and you can purchase futures to offset that. For a short-term strategy, that's OK, but it's not something that I can enthusiastically recommend for a smaller company that's dealing with smaller amounts of premium coming in. It's something you have to monitor very closely. The problem is, if the S&P goes down, your liability doesn't decrease at all, but the value of your future certainly decreased a lot. So it is a way to do it, and it's called delta hedging. It's hedging the exposure with actual cash instruments that are available in much smaller portions, but there's definite down-side potential with these two and that's something you really need to monitor closely. It's not something that's a weekend project; it's something you have to be very serious about.

Mr. Peabody: Charlene's comments made me think about another thing that's important as these products evolve. There is some strong expertise that's developing in the actuarial and investment area relative to these products. There are people who have been with investment banks who are now moving to industry organizations. There are people within industry organizations who are specializing in the investment area, and I think that we're going to grow a pretty good batch of experts who have some excellent information to draw from. That's kind of nice in an area where I think, to be honest, none of us really knew much about when the products came out. I'm glad to see the expertise that's evolving and the willingness of people to share that as it evolves.

Mr. Richard H. Gudeman: We currently sell a fixed annuity and an equity-indexed annuity. We will be selling a variable annuity shortly. Should we really remain with an equity-indexed annuity if we have both a variable and a fixed annuity?

Mr. Peabody: Are you thinking of that from a marketing standpoint or a product-management standpoint? I have some thoughts. Any other thoughts on that?

Ms. Bryant: I would say no. That's my opinion, but I think it depends on what the market will do. It's hard to say. If the market has a major correction, then the equity-indexed annuity looks good but the way things are now, I think the variable will dominate.

Ms. Liebmann: I have an opposing view. I would say, yes, I don't think there is anything wrong with having all three products because you're looking at different audiences for each of them. A more sophisticated and risk-tolerant investor is going to go for the variable annuity. Someone who is more conservative, may feel that he has been hearing all this about the market and knows he needs to get into it but isn't ready to put his principal at risk." They might be more comfortable with the indexed annuity. You're going to have the very conservative people who don't want to have anything to do with the market and they're still going to want to stay with the fixed annuity. So I think there's a place for all three.

Mr. Peabody: I could take the consultant's approach and say it could be either one, but I won't. I agree with Jean. I think there's a definite market for equity-indexed products. I think there's a market segment of people who are generally conservative and want to protect their principal. At the same time, they would like to share a little bit in the opportunity for equity gain—people who are in the older market who have been investing in CDs. Every year, or every five years they're used to rolling over a CD, and they're there because of the comfort and the guarantee associated with that. However, they see their rates coming down. I think that's a good market for an equity-indexed product, and it's also a good market for a variable product. The equity product allows them to be a little bit more risk averse but it depends. They are very expensive products to maintain. There are many issues to deal with. I think the volume of sales needs to justify any product whose market you're in, but I think there's room for all three personally.

Mr. Daniel L. Shinnick: I think one of the issues is what does your distribution do? If you have a distribution system that can sell registered products, it's going to be very difficult to convince them to learn the equity-indexed product, and to learn about the complexity of the product when they feel they can sell the variable annuity. I think that's going to be a major challenge if that's your only distribution system. If you have a distribution system that doesn't sell variable products, then it's a different issue.

Mr. Peabody: Good point. Any other thoughts on that issue?

Mr. Grondin: Just to clarify my point earlier with these futures. It wouldn't work well if you do have something that has a short-term guarantee like a ratchet approach year-to-year because you only have a year to make up your exposure. If you had to wait two weeks before you could put your money in the options to acquire the critical mass, then that wouldn't work. For a point-to-point, however, with, say, a five-year interval, if the market dropped 10% in one week and you took a hit on the futures, then the fact that you bought your options at the lower strike price would allow you to gain that back over the five-year period. You can be relatively certain of that.

I also have another point. Someone mentioned that you don't know the cost of your options when you're pricing the product because you have to go buy the option afterward when you sell the product. I'm not an expert on this, but when you get the price, if you have a good relationship with the broker/dealer and if you can get the option price ahead of time, you can back into a participation rate that would make it work out. That's the part you would sell that day and the participation rate can vary weekly when you're selling.