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## Session 129PD Indexed Separate Accounts

Track: Investment

Moderator: VICTOR MODUGNO

Panelists: MARY IDA COMPTON<sup>†</sup>  
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Recorder: VICTOR MODUGNO

*Summary: Indexed guaranteed separate accounts are issued by a number of insurers, typically to defined-benefit pension plans. These accounts guarantee the total return (whether positive or negative) of an index such as the Standard & Poor's 500. Contract terms, risks, marketing, financial reporting, reserves, and investments strategies are discussed. Risk-based capital and the National Association of Insurance Commissioners Model Regulation for Separate Accounts with Guarantees are also discussed. A hypothetical indexed separate account is analyzed for return on capital and economic risk.*

Mr. Victor Modugno: I am a consulting actuary who specializes in indexed separate accounts. Prior to starting my own firm this year, I worked for Transamerica in institutional products for ten years, where I developed and implemented an indexed separate account product. Prior to Transamerica, I was at Executive Life, Pacific Mutual and Metropolitan, where I got my FSA. In addition to introducing the speakers, I will start off the session with an overview and history of indexed separate accounts and then go into the regulatory requirements.

Our next speaker is Mary Ida Compton, president of Investment Decision Analytics, a consulting firm specializing in providing investment advice to institutional investors. Prior to that, Mary Ida was a senior associate with Alan Biller Associates, where she provided pension plans with asset allocation and manager performance analysis. Prior to that she was an assistant vice president with the Common Fund, where she did asset allocation and domestic equity manager analysis. Mary Ida has an M.B.A. from Yale University, and an M.S. from the University of Pennsylvania. She will discuss investment strategies for indexed separate accounts.

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Our final speaker is Ronald S. Oldenkamp, president of Genesis Marketing Group. Ron has more than 27 years of experience marketing investment management services to pension, endowment, and foundation funds and developing investment products for the insurance industry. Ron is the number one marketer of indexed separate accounts. He has also introduced specialty money managers to a number of insurers to enhance asset performance. Prior to founding Genesis in 1993, Ron had more than 15 years experience working with major insurance companies, including Metropolitan Life. During his tenure at MetLife, he was sales leader for ten consecutive years. Ron will discuss the marketing of indexed separate accounts.

The popularity of indexing investments has grown in recent years. By indexing I mean that instead of actively managing stocks or bonds, you buy the securities in the index, such as the Standard & Poor's (S&P) 500, that you are using to benchmark performance. Today, 70–75% of pension plan assets are indexed. Plan sponsors measure equity performance against the S&P 500 Index—so investing in low-cost funds that replicate that index was natural. Some pension funds were so large that they felt they had no choice but to buy the market. The vast majority of investment managers underperformed the index, furthering this trend. This year the Vanguard Index 500 Fund passed Fidelity Magellan as the largest mutual fund, signifying the triumph of indexing in the retail market. There is more than \$1 trillion in funds indexed to the S&P 500.

Life insurers offered indexed separate accounts to pension clients back in the 1970s. However, this was without a guarantee of performance. In the separate accounts we are discussing today, the insurer guarantees performance of the fund relative to an index.

Today, there is a variety of stock and bond indexes in use covering broader and specialized segments of the market, such as the Russell 2000, the Wilshire 5000, and international stock indexes.

The first guaranteed index separate account was introduced in 1987. Under this account, the insurer guaranteed the performance of the Lehman Government/Corporate Index for funds on deposit for one year. The pension plan could withdraw funds from the separate account and receive the index performance on any contract anniversary with 30 day's notice. Any overperformance was to belong to the insurer, subject to a 3% maximum. Later there was an S&P 500 contract introduced with a small enhancement over the index and a potential participation. Both these early contracts used proprietary trading strategies. I'll try to give you a high-level view of them. Since they are proprietary, I can't tell you what they were. For the Lehman Index, they bought longer-duration, lower-quality bonds. In the S&P 500 Index contract there was some computer program that picked 200 of the 500 S&P stocks that would outperform the index. These strategies were back-tested with computers demonstrating that they would outperform in nine out of ten years, and in the year of underperformance it would not be that severe.

More recently London Interbank Offered Rate (LIBOR) strategies with a futures overlay have been used. In that strategy you might be buying debt securities or using another investment strategy that replicate LIBOR, and then buying futures contracts in order to get the performance of the S&P 500 Index.

I'm going to go through three definitions of an indexed separate account here. The NAIC risk-based capital (RBC) instructions say: "Indexed Separate Accounts are invested to mirror an established securities index that is the basis of the guarantee. Consequently, indexed separate accounts are relatively low risk; the risk-based capital factor is the same as class 1 bonds." In setting this RBC requirement, the NAIC recognized that the factors for the general account, where principal is guaranteed and assets held at book value, are not appropriate. In an S&P index contract, if the index returns a negative 30%, the policyholder gets his guaranteed value decreased by 30%, so holding stocks to back this guarantee should not require the 30% RBC factor for common stocks held in the general account.

The California Insurance Code definition goes back to 1994, when it was enacted to allow insurance companies to issue guaranteed separate accounts. Here you'll see the term "a publicly available interest rate series or an index of aggregate market value of a group of publicly traded financial instruments" in the definition.

Let's focus on the Model Regulation. There are some differences between the California Code and the Model Regulation. The Model Regulation was done a few years later, and it's based on the California code. The same group of people worked on both of these. Here you'll see some additional verbiage at the end about guarantees. That's to exclude protected equity accounts where the insurer is guaranteeing the principal plus some minimum rate of interest, as you'll see in some annuities. This is intended to exclude those accounts where there's some type of guarantee of principal.

The California code uses the term "method of operation," while the Model Regulation uses "plan of operation." A plan of operation must be filed showing how assets and liabilities will be valued and demonstrate that the investment strategy will support the index guaranteed. Under the Model Regulation the actuary determines an asset maintenance requirement that acts as a haircut on the market value of assets in determining the noninsulated deficiency reserves.

These are some strategies that could be used for LIBOR-type accounts by the type of risk the insurer has taken. The first risk is credit duration risk. These could be floating-rate corporate bonds or bank loans. In some cases there may be some convexity risk taken if you buy a fixed-rate bond and swap it into a floating bond. The second type of risk is basis and prepayment risks. These could be Adjustable Rate Mortgage Securities or Collateralized Mortgage Obligation floaters that are typical assets for taking this risk for additional yield.

The final risk is other risks, such as market or operating risks. These include market-neutral and combination strategies. These might be things such as market-neutral hedge funds, index arbitrage, or convertible bond arbitrage.

Futures are used in most of the current accounts to replicate the S&P Index. If you're using a futures strategy, you have roll risk because you have to keep buying the futures every 90 days. In a swap, you would fix the price up-front, but the swap is a lot more expensive. So, you're seeing futures strategies being used to replicate the S&P 500 Index.

Qualified pension plans are the principal market for the S&P 500 and most of the total return indexes. They're exempt from registration under Internal Revenue Code Section 3a(2) and typically have multiyear tenures, but they can be quite expensive to the insurers on a LIBOR basis. If you have a 25-basis-point enhancement over the index, which is common, it can be a high cost of funds.

Another market is short-term money market funds. Here you pay the LIBOR Index directly. It's a cheaper cost of funds, but here the maximum put that these funds can have is 12 months. You also have to use a private placement exemption. This involves a Private Placement Memorandum and qualified investors. You have to market through a broker dealer. You have to jump through a lot of hoops. And the best liability you can get is a 12-month put.

For insurers in this market, the indexed separate account is a very capital-efficient way to employ some of the investment strategies we are discussing.

Ms. Mary Ida Compton: For me it all becomes real when you actually look at an example. I'm going to talk about a specific client that I work for. I've done a number of these cases, and they're all very similar in nature. This particular client was a retirement plan using domestic and international equity and fixed income, real estate, and a new asset class they called alternatives. That was the catchall for anything else.

It had both internal management and external management of their assets. It had an S&P futures account that it ran internally. It also did some active domestic equity. The objective with this particular project was to see if it could use portable alpha strategies (otherwise known as LIBOR strategies), or enhanced cash strategies, to beef up its return a little bit.

It wanted to use it in two places, which is the reason for the name portable alpha. It wanted to use it in its domestic equity allocation. It used S&P futures, giving it the equity exposure, and then added this alpha on top of it. It also wanted to use it in the alternatives area that had a benchmark of LIBOR. So, it's going to use it in two places. But, in the alternatives area it's not going to put the futures exposure on it.

In this alternatives area it has two strategies that it's using currently. It started off with just domestic intermediate bonds plus options. It was a way to make sure that it didn't have the adverse returns, but it still got some of the incremental returns by going a little further out in duration. It liked that strategy so much it decided to diversify into the global version of it.

When we started we realized it had a fairly political board that had to make a lot of these decisions. So, we got it into the domestic version. Then we moved it into the international version. Then it was going to see, since it were comfortable with this portable alpha idea that hadn't been used anywhere else yet, if we could stretch it a little more and get into some other areas.

The analysis that I'm going to walk you through today starts with using good data. It's the old garbage-in/garbage-out scenario. The tools that I'm going to use are both simulation models and optimization models.

From the Floor: Is this a guaranteed fund? Guaranteed S&P plus something?

Ms. Compton: This is not.

From the Floor: It's just trying to enhance its return?

Ms. Compton: Right, although there have been other cases where clients have taken this and guaranteed it through an insurance company.

This client wanted similar strategies in terms of the risk-return characteristics to their original strategies. We're going to look at one step at a time what happens when you add strategies and then what happens when you add multiple managers within those strategies.

It started first with domestic intermediate bonds and options. If the committee were to look at that strategy today—it had it in place for a number of years—this is what its expectations would be going forward into the future. The probability of excess returns would be 68%. That's good. The expected excess return would be 2.9%. And the volatility of that excess return would be 6.4%. It was happy with this.

That's where it began. Where it is right now, with an addition of global bonds and options is a probability of excess returns of 74.9%. That's better. The expected excess return is 2.5%, which is a little bit of a cut. The volatility of excess return is only 4%. So, 95% of the time it expects its returns to be between -5.3% and 10.7%. You can see what happens 90% of the time or 80% of the time. The idea is to give the client an understanding of what should be considered a surprise when it receives its investment performance report. It doesn't like surprises.

The data that I used for the analysis was representative data from investment strategies. Returns from the strategies that we chose should be uncorrelated to the capital markets as much as possible. The strategies should provide attractive risk-return characteristics and it should be available without the use of leverage, so that leaves out the large global macro hedge funds and several of the currency funds.

What I used in actually running the simulations was to select a representative manager for each strategy. When you combine these strategies and take an aggregate, you have a little smoothing going on. That's all well and good, but if you're not going to experience that smoothing, you shouldn't put it into the model. I felt it was a more conservative approach to use a particular manager to incorporate some sort of realistic volatility into the model. I looked at the correlations and preferred a manager with longer performance history to a manager with a shorter history.

These are the strategies that were ultimately selected. The client chose long/short equity, long/short currency, and convertible bond arbitrage. The whole process took place with discussions with the chief investment officer of this group in order to make sure we were communicating on the same wavelength. We found 11 long/short equity managers who seemed attractive, 8 long/short currency managers who seemed attractive, and 4 convertible bond arbitrage managers who seemed attractive, again, with long enough history to give us a sense of stability of process.

You can see the average annual alpha for the manager and the group as a whole in brackets in Table 1: the range, the standard deviation, and the number of months of performance history. There was a case in the long/short currency manager group where we found somebody who was clearly an outlier, so we left that manager out and didn't include it in the selection. It was one of those too-good-to-be-true stories, and we were afraid that that would come to an end to put money with them. So, we left them out. They have since done OK, but it would have made everyone a little nervous.

TABLE 1  
MANAGER RETURNS USED TO REPRESENT STRATEGIES

Strategy	Manager [Number of Managers in Strategy]	Average Annual Alpha (%) [Strategy Range]	Standard Deviation of Alpha (%) [Strategy Range]	Number of Months [Strategy Range]
Long/Short Equity	L/S Mgr I [11]	7.3 [1.6-11.9]	4.1 [3.7-6.8]	137 [41-209]
Long/Short Currency	Curr Mgr F [8]	2.3 [0.1-4.3; outlier 27.4]	1.6 [0.4-7.6; outlier 23.8]	74 [14-74; outlier 101]
Convertible Bond Arbitrage	Bond Arb Mgr N [4]	4.3 [3.7-6.8]	1.8 [1.7-3.4]	96 [70-96]

So, that's the data. Here come the tools—simulation and optimization. The optimization is going to add to intuition. I usually call them error-maximizing models. If you use a mean variance optimization to select your allocation of asset classes, you're going to get 100% in the cowboy investment. So, that will be fleeting.

Also think about the statistical assumptions that are constraining. There may be some mean reversion, which is not taken into account in an optimization model. The returns may not be normally distributed, and with the simulation model I can dictate whatever kind of probability distribution I want, and it gives me better information in the end about the probability of expecting returns in a certain range. So, that was the method I used.

I'm going to run through three different options. Option 1 is just simply adding strategies, equally allocated, keeping the 2 strategies they have (domestic and global bonds options), adding the three in the table above, and coming up with 5 strategies, 20% in each. We'll see what happens. I'm going to use a representative manager from each of the new strategies and the existing manager as modeled looking forward for the existing two strategies. The results are that we're getting an even better probability of excess returns—83.1%. The expected excess return has gone up to 3.6%. The volatility of excess return is 3.8%. And 95% of the excess returns are going to be between -3.4% and 11.3%.

Let's go to Option 2. We are going to change the weighting. Long/short equity seems to give you a big kick. It has a lot of volatility. Let's see what happens if we really put more weight into that strategy, increasing it to 40%. The original two strategies are very conservative in terms of their ability to add alpha, so let's reduce their weighting to 10% each from 20% and then leave the other 2 at 20%. I call this one diversified strategies. Probability of excess return is 79.2%. It has gone down a little. The expected excess return is 4.8%, with a volatility of 5.8%. And 95% of the time you're running between -6% and 16.5%.

Let's see what happens with Option 3. We're going to use multiple managers in our new diversified strategies and see if we can select groupings of managers who have excess returns that have very low correlation or negative correlation and throw that into the mix, keeping the weightings the same as the diversified strategies used in Option 2. The probability of a positive alpha is up to 91.1%, and the expected excess is 5.8%, with a volatility of only 4.8%. So, 95% of the time the excess returns are between -2.4% and 16.2%. I'm going to summarize all those numbers so you can see what happened.

You can see the probability of excess returns is better with the evenly diversified strategies of Option 1 than it was when we overweighed long/short equity of Option 2. But when we use multiple managers in those strategies (for Option 3), it went up a lot higher than the 83.1%. The expected excess return is also the highest when you are able to diversify the managers within the strategies. And the volatility is moderate at 4.8%. They were most happy with the -2.4% because they were concerned about their downside risk, as everyone is. It's nice to expect an extra vacation day if you should actually achieve the 16.2%. If you can diversify not only the strategies but also the managers within the strategies, there is a benefit to be had by doing that. They loved it. They bought it. They went to a group of managers, and they all lived happily ever after.

Mr. Ronald S. Oldenkamp: A couple of quick questions before I get started. How many of you work for a company or a carrier that has a group pensions department and offers group annuity contracts? Within that group how many are involved in the pricing of products? I'm going to focus today on investment management, product design, and some of the marketing considerations because these separate account products are more attuned to the defined-benefit (DB) plans than the defined-contribution (DC) plans.

We hope to give you some good ideas as to how you might be able to better implement these strategies. The investment management side is an extremely important part of the equation because if you are a pricing actuary, it's always nice to have a little more margin to work with to make your products more competitive. So, we put together a wish list. Our wish list is based on our experiences working with insurance carriers that makes it a little more palatable to use external managers. That's more of a cutting-edge idea—using outside money managers for the larger carriers.

So, the goal is to have something that provides consistency of excess performance and has some of the good risk controls, hedging techniques, or strategies; of course, going along with that is low volatility. If you have those three combinations, you have a better chance of being more aggressive in pricing and providing a more competitive product.

We have three possibilities that we want to touch upon briefly that we have found to be very successful. They are index arbitrage, convertible arbitrage, and a dividend capture strategy. Actually, dividend capture doesn't really fall into a separate account product, but I like the strategy a lot for property & casualty companies. It provides a lot of bottom-line return for the company.

The issue of portable alpha was brought up. This is a very powerful tool that is used by insurance companies and some of the more sophisticated pension funds out there. We showed 90-day LIBOR as a typical benchmark that's used because you can swap this as a portable alpha. You can overlay a futures contract to it. So, if you just raise this bar a little bit up, you'll get a sense of the type of excess performance that can be achieved in arbitrage-type strategies. These very significant returns provide you with a lot of flexibility in the pricing of your products.

We have found that using these strategies can be beneficial in an existing portfolio. You get diversification of risk, which was quite well-demonstrated before, and dampening of portfolio volatility. It can provide you with a little bit of a competitive edge on your existing lineup of products or enable you to offer some new products more efficiently in the marketplace.

Once you have a good strategy in mind, the next big challenge is coming up with a product design that's easy to understand by the end user. My point of reference is the institutional buyers—the large pension funds, endowments, and foundations. These people have a great desire to have their lives simplified. If you are able to put together a product that is easy to buy, you have yourself a winner.

Some of the ingredients that you need for a successful product offering include good credit quality and a brand name. Enhanced indexed products or indexed-plus products can be of particular interest and attractive to a plan sponsor if they're designed properly. One of the nuances of the product is being able to articulate a clear investment management policy.

Fiduciaries today are concerned about how you're managing your money. They want comfort to know that you're able to make a profit and be successful. And, of course, the ability to provide good risk management capabilities is where you come in. You want to make sure you're matching up your assets and liabilities. And, finally, you have to have targeted marketing. As we'll discuss in just a few minutes, this is very different from the DC markets where it's more of a transaction sale. There's a little more effort that has to go into this sale.

Another thing that you think about today is what I call market challenges. Because of the failures of some high-profile insurance companies, there's still a bad taste in the mouths of plan sponsors about insurance companies in general. On top of that, the consulting community who typically controls the selection of money managers does not have a good understanding of insurance companies or their products.

Part of that reason is that there's an information overload that I'm sure we're all experiencing today. They don't have the time or expertise to really look at insurance companies and their products and understand them. So, they tend to shy away from them. Having marketed these products for ten years, I find the problem still persists probably because of the high turnover of consultants that we experience in the marketplace.

I'm sure you're aware that there's certainly a shrinking demand for traditional products in the DC markets. So, it seems as if it's a good idea to look at other types of products out there that have good growth potential. Vic mentioned that there are about \$1 trillion in S&P 500 Index assets. That's a big number. You don't need much of a market share to have a successful product offering. New products can be complicated. Try as we will to develop a good product that is easy to understand from our perspective, many times it is still too complicated for the end user. That's a constant challenge. Compounding that is a shortage of good marketing people out there who can articulate who the company is, discuss the contract features, and also articulate the investment process or strategy that's backing these particular products. Those are skills that are not commonly available today in marketing people.

Having said all that, there are two areas that we see that can provide opportunities not only with the S&P 500 Index but also with the Lehman Intermediate Bond Index. There's a variety of indexes out there, and as the futures markets continue to expand, this enables those who are using portable alpha strategies to overlay those with futures or swaps moving forward. We're also seeing a fair amount of activity in the European medium-term notes. We're now seeing that being turned

into global notes. That market is probably bigger than the enhanced index marketplace.

I mentioned briefly the differences between the DC markets and the DB markets. Having sold GICs for a number of years, I now have transitioned over to the DB markets. I could best describe a GIC sale as more of a transaction sale. You have annual bidding. You can win or lose by a few basis points. Typically there has been a general account product where the assets are hidden. Credit analysis is a big issue. And there's some type of built-in demand. Even though it's dwindling, you still have annual bidding. There's a need to place this money somewhere. So, you have somewhat of a built-in market to do something.

In the DB market it's greatly different. There are fiduciaries. It's more of a process sale. It can take 12–18 months to get the marketplace ramped up to get comfortable with you to understand who you are and your product and the process that you're using. Fiduciaries are very concerned about making sure that you are doing your job and you're going to be prosperous in this product. I think the mix of the strategy, the feature of the product, and the structure of the product make it a little more complicated and unusual than in their typical search for a money manager. We've received questionnaires from major consulting firms, and nothing fits. We can't answer the questionnaire because they're not attuned to how these products are structured. It's quite difficult. You have a separate account. Assets are visible. They want to see what those assets are, how you're managing the assets, and be confident that you can be successful.

We have market inertia on the other side. Some of the issues that tend to be roadblocks for us are, number one, market illiquidity. If you have a typical index fund, they can liquidate the fund at any time. Quite frankly, they don't need that, but they feel good that they can do that. So, we have to get around that. There is a bias against insurance companies. This is typically a low priority for them. They already use a large index manager—Mellon or Vanguard or whatever. So, there's little incentive to change. This is something for which we're going to have to create demand in the marketplace. And on top of all that, unlike a GIC, there is no requirement to buy. They can leave the monies where they are and meet their mandates. So, this is a product that must be sold, not just purchased, in the marketplace.

Having said all that, we have experienced good success with these products and the carriers we've worked with. Some of the nice benefits about this is that there are few providers, so there is limited supply, which means that if you put the effort out, you'll get nice rewards for it. We've also found that these products have higher profit margins than traditional products. In fact, for one of the carriers I work with it is the most profitable product in their lineup by a huge margin. What this means, of course, is you have a chance now to enhance the overall earnings of the company and get diversification by both product type and market type. Finally, we think that there's still significant asset growth in these funds, and we think they're very stable. Our experience has been once a client buys this type of product, there's no frenzy at the end of the contract term for a bidding process.

It's typically just a normal rollover. So, it requires much less manpower and effort once the assets are on the books.

Mr. Modugno: We can take questions now.

Mr. John D. Murray: A quick question for Ron. One element, Ron, that I think employers look for is insulated separate accounts. Could you speak to that, and maybe Vic from the regulatory standpoint, about separate accounts that are insulated from the claims of general account creditors?

Mr. Oldenkamp: Vic, this is a good one for you.

Mr. Modugno: He's asking if clients want that. If insulation is an important sales issue.

Mr. Murray: It was not on your list.

Mr. Oldenkamp: It's true. It was not on my list. I guess it was implied by the fact that it says separate account versus a general account. That is an important issue that we emphasize, along with the overall structure of the product and the investment strategy. We tie all three together to give the prospects a comfort that they are going to be protected; that the product strategy historically has been very consistent, so that they can look at the separate account assets as almost a stand-alone and produce enough alpha, that the risk exposure to the carrier is very limited.

Mr. Modugno: If you look at the model regulation, deficiency reserves are not insulated, but I think only one state has adopted the model so far. There may be states where there's a question of separate account insulation, but I don't know how big it is. Do the clients want an opinion on that issue? I think they're looking at the insurance company credit and not really making a big deal out of it.

Mr. John D. Marcsik: This question is for Mary Ida. I want to play devil's advocate to the type of analysis that you just gave us, and I would be interested in your response. It appears that what you've done is taken some time series of many managers through several strategies and done some statistical analysis on history. So, what you're telling me is an optimal strategy that I could have used at the beginning of your analysis, at the beginning of when your time series started, which doesn't seem to be very useful today. It's like saying I should have invested in Internet stocks in 1998. It doesn't help me now. Of course, I should have sold them in March 2000. Now, if you can convince me that it is correct, that your statistics are correct, they look very rosy. It appears I'm getting much better returns than the risks that you have up there, and, if that's the case, as a pretty big believer in efficient markets, I'm either doing somebody a service or there's some risk. Maybe it's a very infrequent risk that didn't appear in the time series over the horizon you studied. What is that risk, how big is it, and how do you quantify it?

Ms. Compton: That's a broad question. So, I'll try to attack it in pieces. When you do this kind of work, I have found it's more of an art than a science. There are a lot of things you have to deal with. One is survivorship bias. There are a whole lot of people who just fell right off the cliff that you don't even see. So, there's that caveat. You try to make as many conservative assumptions as you can. You can't predict the future. Nobody can predict what the stock market's going to do. Nobody can predict what your strategy will do. You try to keep hold of the possible risks that are out there and diversify those as well as possible across strategies, across manager, across investment process, be it quantitative or qualitative.

You should always take the end result with a grain of salt because of these risks that are in there, and mentally I usually divide by two. It's easier to do. But I try to avoid as many of the pitfalls as possible by looking at excess returns over time. So, if interest rates are higher or lower over these different periods of looking at the managers, it should be taken out. You should be cognizant of the time period over which you're looking—was it a bull market? a bear market? rising interest rates or falling interest rates?—to get a sense of your comfort level with the consistency. So, it is all really an art form, and you want to just take all of those caveats in before you actually say, "OK, now that we know all those caveats what's the best we can do?" This is what I felt has been the best I can do to select the strategies and the managers that I expect will be good going forward.

Mr. Marcsik: I just have a follow-up question then. Would you characterize this type of analysis as then purely technical or is there some further sort of fundamental attempt to understand where these excess returns are coming from, or is it a statistical exercise?

Ms. Compton: It's not entirely technical, but when you look at the qualitative judgment of the firms, the people making the investments, and the processes that they use and you try to understand what pitfalls could lie ahead. So, it's not entirely technical, but it's carefully selected.

Mr. Modugno: The most widely used investment manager in these accounts is W.G. Trading, an index arbitrage manager. If you look at their strategy, if there's no opportunity for arbitrage, they go in Eurodollar deposits. So, you do have a minimum underperformance there. The real risk, the outlying risk, is that they fail to execute the strategy correctly. That's where your extreme tail risk is. But if they do execute the strategy perfectly, you can't really underperform LIBOR because if there is no arbitrage opportunity, then they're in Eurodollar deposits. Let me ask Ron a question. Where do you see these S&P 500 contracts being priced now?

Mr. Oldenkamp: The pricing of the products has been unusually consistent for 18 years. I first came up with this idea in 1982 or so where we asked a plan sponsor what they would like to have us offer, they said, "we'd really like to have the S&P 500 Index plus 25 basis points." This is a hurdle rate, and below that there's not a lot of interest or incentive for the plan sponsor to take the time out to go through all of this, understand the product and the strategy, and go through the contract for

much less than that. I think once in a while products have been sold for slightly less than that, but it's very unusual.

Mr. Modugno: What's the tenor of a typical contract?

Mr. Oldenkamp: The term is typically three years. I think that as this market matures there is a greater comfort to go off four years and five years, but as a first-time buyer they tend to have a very high comfort level with a three-year term. That seems to be manageable for them mentally.

Mr. Marcsik: I don't mean to hog the questions, but since it appears nobody else is waiting in line and we have plenty of time, I thought I'd ask another question. First I want to describe how I understand the strategy that Mary was talking about and maybe try to understand the risks that are involved in it a little better. It appears it's an S&P 500 fund, and has a very good chance of outperforming and a very small chance of underperforming. When it does underperform, hopefully it will just a little bit. Hopefully nobody gets upset. So, I have a bunch of money at the beginning that gets dumped into the fund. I'm going to get the exposure to the S&P 500 through the futures market, which requires almost no cash from the fund. Built into the futures contract there's an inherent dividend rate and interest rate. I want to take my cash and beat that if I understand it right. What would happen to a strategy like this if 1987 happened again? It sounds as though the S&P futures are pretty much buy-and-hold, so if the market has problems on a day where the market moves a lot, doesn't appear there's a risk there, but is there a risk that the futures market gets messed up for 1 day or 2 and the market moves 20% or 30%? Is that a risk?

Ms. Compton: There's always the risk that the market is going to move like that, but what you have with your underlying asset allocation is a desire to be exposed to that market, whatever its ups and downs happen to be. So, hang onto the contract and roll it when it's over.

Mr. Modugno: The contracts are not putable, so the client can't get out.

Mr. Oldenkamp: Are you asking about a delinking of a futures contract to the stock market itself?

Mr. Marcsik: I guess I was more worried about the inability to transact on a day in the futures market when the market moves a lot. It sounds like there's not much exposure because you buy and hold on the futures.

Mr. Modugno: You have a little bit of roll risk. If the future is maturing and you're going to buy a new one, and that happens to be a bad day, you could have a little bit of loss there in the futures. One of the reasons a swap is more expensive is simply because the investment bank is taking that risk that you can't roll the S&P future. But under the contract, the client is locked in, regardless of the fact that the market collapses or goes up or down. So you don't have that one-day event, that liquidity risk. I know they had a session on extreme risk (66PD "Managing Risk in

Extreme Market Situations") and what they called fat tail risks the other day, and those are liquidity issues. It's a different issue in here because the contracts can't be put. You can ride through that bad time.

Mr. Bruce D. Sartain: Two questions. The first is you mentioned how important the credit quality of the insurer was to buyers, and I'm wondering if there's a threshold point where that's important to keep that rating up at a certain point. My second question is on the enhanced value. Is that a minimum guaranteed rate or is that a strict guaranteed rate where they know they're going to get exactly that?

Mr. Oldenkamp: Let me answer the second question first. The contract is what I call a nonparticipating contract. Whatever the enhancement is that is stated in the contract, that's what they get. That's the maximum. That's the minimum. That's it. Credit quality is definitely an issue. They have to have some comfort that you are at least a single A. You have to be at least a single A, and there has to be a pretty high comfort level that you're not going to drop below that during the term of the contract because they're pretty much locked in. So, triple A's would be wonderful. We don't see a lot of those out there. But we try to sell the whole package as a well-constructed product that makes good economic sense for all parties. You'd be surprised. There are customers out there who are very concerned that the carrier prospers and does well with a product. They don't want any unhappy surprises. That's the reason for the issue of looking at the asset strategies and feeling comfortable that these things are going to have a good chance of succeeding. So, they're basically on the same side as the insurance company. Does that answer the question?

Mr. Modugno: Are there any carriers now that are below double A? I know Sun was split-rated, but right now are there any issuers out there who are below double A?

Mr. Oldenkamp: Yes.

Mr. Frank J. Cataldo: My first question might be for you, Ron. Can you give us an idea of how much money is currently invested in these types of products, approximately? My second question may be for you, Vic. Wouldn't you see a fluctuation in the capital that would have to be ascribed to these products as the markets themselves move up and down?

Mr. Modugno: Well, it's not really the market that's doing that. If the S&P goes down, your account value goes down. The deficiency reserves could change. Let's say you had debt securities and spreads blow out. Your market value declines, and you're going to have a deficiency reserve.

Mr. Cataldo: Also in terms of RBC.

Mr. Modugno: The RBC is a third of a point, but under the model regulation the actuary would set up a haircut, and that could result in additional deficiency reserves. I thought what you were referring to was market value fluctuations in

the account. You'd increase the statutory deficiency reserves, and that is a risk. Let's say you're buying floating-rate corporate bonds. Spreads blow out. You have a loss on those bonds. You come to a valuation date. You'd have to set up additional deficiency reserves.

Mr. Cataldo: I was also talking about value of the futures.

Mr. Modugno: The futures should track the S&P 500. Your liability is the S&P 500. If the futures track that, that's not going to result in any deficiency reserve. If the market goes down 30%, your account value goes down 30%—there's zero effect on capital. The effect on capital takes place when your assets lose value because the credit spread widens or asset defaults or something happens on the asset side in a LIBOR strategy where you were supposed to get LIBOR plus something and instead got a minus return. Then you have to put up the excess capital. It may be temporary if there's no default. It's just a temporary spread widening.

Mr. Oldenkamp: That's why it's so important to have strategies that float with that LIBOR number. That takes a lot of anxiety out of the product.

Mr. Modugno: Ron, would you estimate the amount in these contracts to be \$5 billion?

Mr. Oldenkamp: I was going to say \$6–8 billion, and part of that is just lack of availability. We tend to ramp up the marketing effort and sell out what we have; then we don't take any more money and you have to start the whole process over again. So, it's stop and go. You just can't turn the switch back on. You have to start the whole process over again and get yourself back up on the top of the priority list because the pension funds are looking at equities or alternative investing, and they're not interested in talking right now. No matter how good the product might be, within limits, they just say call me next year.

Mr. Modugno: The volatility on the statutory earnings does cause some carriers to not issue too much of this to limit their exposure. How many carriers would you say are out there—five or six?

Mr. Oldenkamp: About four.

Ms. Compton: I've also seen a couple of people starting to offer this as a limited partnership vehicle. More money managers are coming in and saying I'm going to create a fund of funds here and get it wrapped by an insurance company, so then that will be a place where you can, on a monthly or quarterly basis, whatever they decide, make your investments.

Mr. Modugno: We've actually had money managers offer to take first loss on some of these separate accounts up to a certain amount. You have to employ their strategy and share the gains, but they would put up \$1 million for first loss on the contract.

Mr. Jeffrey S. Roth: A follow-up to the question about RBC. You mentioned in here that they all got a rating of Class 1. Were all the carriers able to get that?

Mr. Modugno: That's a product-based RBC. It has nothing to do with an insurance company.

Mr. Roth: But isn't there an underlying assumption that the assets are exactly tracking what the liabilities are doing?

Mr. Modugno: Right, and that's why if you look at the model regulation, if you have a basis risk between your investment strategy and your index, you're supposed to set up an asset maintenance reserve, which is a haircut to the assets. So, in computing your market value you haircut the assets. Now, the determination of that is up to the actuary. But if you look at the logic behind NAIC RBC, it would be a 95% confidence interval—3 standard deviations from expected return. Let's say you had floating-rate junk bonds. You presumably would haircut that in a way similar to a general account haircut.

Mr. Oldenkamp: I have a question for the audience. How many of you use outside managers now to manage some portion of your separate account or general account assets? I'm trying to get an idea of how involved you get in the investment side. Do you have some involvement in investment strategies?

Mr. Murray: Let me speak to that if I can. We do use outside managers at Pacific Life and one time there was a relationship with a subsidiary of the company. But working with an outside manager makes a lot of sense because your inside managers who are managing a general account are interested in matching liabilities or providing a spread over liabilities on a book-value accounting basis. If you're going to go to something that's total return, such as an enhanced index fund, you're probably looking for either a total return manager or some kind of an enhancement strategy using options. You have to understand the manager because you, the insurance company, are ultimately underwriting their performance.

The other thing we've run across is that you also have to be aware of the type of investments they are using that might run up against regulatory limits, the basket limit, or your internal limits on, say, foreign exposure or something like that. So, you can hire them, but you have to understand what the investment guidelines are, you have to agree on them, and you really have to monitor them. So, they are semi-independent.

From the Floor: Do any of you know anything about cash-flow testing on these products? Have people done what Mary has done as far as projecting in the future?

Mr. Modugno: I don't think these historically have been included in that. These products, because they're in separate accounts, have not been included.

Ms. Compton: You could certainly run a simulation model incorporating the liability side. Is that what you mean? To incorporate projected cash flows?

From the Floor: Right.

Ms. Compton: That's easy enough to do.

From the Floor: But I mean as far as from a regulatory standpoint these haven't been cash-flow tested.

Mr. Modugno: I don't really see what you would do. These are not interest-sensitive; they're not kept at book value. Everything's marked-to-market. So, what are you testing?

Mr. Marcsik: Vic, you used the term noninsulated deficiency reserves. Does noninsulated just refer to the fact that that's a general account reserve or is it something that's in a separate account?

Mr. Modugno: They could be held in the general account or they could be in a separate account, but if they're in a separate account, they're not insulated. So, in insolvency they would be subject to other creditors and other policyholder claims. You would have policyholder status, but you'd be competing with other policyholders for the remaining estate. You would get 100% of the assets in the insulated separate account. If those assets were 99%, the 1% shortfall would not be insulated from other policyholders.