

RECORD, Volume 23, No. 3*

Washington Annual Meeting
October 26–29, 1997

Session 33PD

Are Individual Annuities Profitable?

Track: Product Development

Key words: Annuities, Product Development, Variable Annuities

Moderator: DOUGLAS C. DOLL

Panelists: NOEL J. ABKEMEIER
JOHN M. FENTON
PAUL H. LEFEVRE

Recorder: DOUGLAS C. DOLL

Summary: In this session, the panel reviews profitability of deferred annuities over the last few years. The panel uses its crystal ball to predict the profitability of currently issued products. Three kinds of individual annuities will be discussed: fixed, variable, and deferred annuities.

Mr. Douglas C. Doll: I'm a consultant with Tillinghast-Towers Perrin in Atlanta. In 1996, Tillinghast did a survey of pricing methodology, and we included in that survey what companies' profit objectives were for 1995 issues of various product types. We chose 1995 profit objectives because of antitrust considerations. We asked companies what their profit goals were for new issues of single premium deferred annuities. For the high sales companies, the median answer seemed to be a return on investment (ROI) of about 14%; variable was about 15%. Then we thought we would be clever. We also asked the respondents to indicate whether they really felt that 1995 sales would meet those objectives. To our surprise, fewer than 10% of the respondents said they did not expect to meet those targets. When we presented those results at a session at last year's annual meeting, a number of people indicated that they did not believe those responses. They believed that annuities certainly were not that profitable and people were either lying or mistaken when they answered those surveys.

So we're doing something a little bit different this time. We're putting together a panel of three experts to talk about (1) whether annuities have been profitable in the past, and (2) what their predictions are for annuity profitability in the next few years.

We're going to address three different kinds of individual annuities, and we're going to go from the traditional to the more recent developments. First we're going to talk about fixed, single premium deferred annuities; then we're going to talk about variable annuities; and finally, we're going to talk about equity-indexed annuities.

Our first speaker to talk about the traditional annuities is Paul LeFevre. Paul is the executive vice president at Keyport Life Insurance Company. Keyport has specialized in annuities since the early 1980s. Paul LeFevre has been with Keyport since 1979 and over these years, Keyport has grown from \$30 million in assets to over \$15 billion in assets.

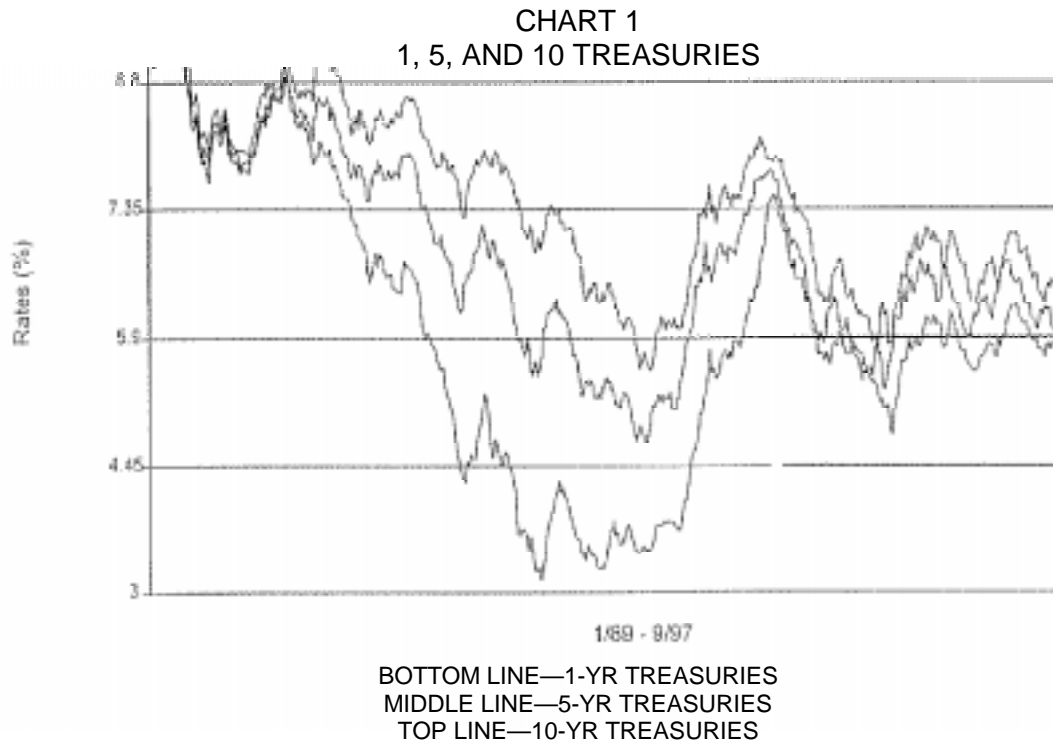
Our second speaker, to talk about variable annuities, is John Fenton. John is a principal at Tillinghast-Towers Perrin and manager of the firm's Atlanta life office. John joined Tillinghast in 1985 and has extensive experience in product development and marketing issues for annuities. Other areas of his practice include variable life products, agent compensation and actuarial appraisals for mergers and acquisitions (M&A). He is the head of Tillinghast's sales effectiveness practice and is the outgoing chairperson of the Society of Actuaries (SOA) Individual Life Insurance and Annuity Product Development Section.

Our third speaker is Noel Abkemeier. Noel is a principal and consulting actuary in the Chicago Office of Milliman & Robertson. He specializes in the design and pricing of annuities and life insurance products. In the past two years, he has worked primarily on equity-indexed annuities and equity-indexed life insurance products for many insurers. He currently serves on the equity-indexed products task force of the American Academy of Actuaries (AAA).

Mr. Paul H. LeFevre: I'm going to talk a lot about the past, some about the present and a little bit about the future with regard to single premium deferred annuities (SPDAs). In doing that I'm going to try to point out my observations, which are my opinion and not the opinion of Keyport.

I think one of the keys of the environment that we have been in is what has been going on with interest rates. Chart 1 starts around the beginning of 1989 when we had higher interest rates in that early period. Treasury rates are close to 10% and pushing the double digits. I chose to look at the period of time over which a product with a seven-year surrender penalty would have been issued and come out of penalty. We started out relatively high with a relatively flat yield curve. In the early 1990s, we had generally decreasing interest rates and a rapidly steepening yield curve. In 1994, interest rates shot up. Because the short end shot up much faster we end up with a fairly flat yield curve. We then had some reversal of the 1994 increases, though the flat curve remained. We just sort of float around after

that. Since then, we've been in a fairly tight range with a lot of intra day movement, with a relatively flat yield curve. I think last time I looked, the difference between five-year and ten-year rates was about eight to ten basis points. There have been other things that have happened over this period of time.



Traditional asset classes, such as corporate bonds, collateralized mortgage obligations (CMOs), and asset-backed securities, have had a decrease in spreads. There has been a very large narrowing of spread, as much as 50–75%. As I pointed out, the yield curve has flattened. But 1994 could have been a real interesting year for our industry and for the SPDA marketplace. It could have been a real test of a lot of surrender assumptions. It could have been a real test of asset/liability management (ALM). There wasn't enough time, fortunately, for some of it, because rates reversed. Rates almost stopped on a dime at the end of the year and came back down. I can remember looking at renewal rates in that period of time when you'd had a big hump in between, but the new money rates were the same at that time in 1996. Those are some of the things that have occurred.

In 1991 and 1992, we had some insolvencies. We had a flight to quality, if you will. We discovered there were ratings agencies other than A.M. Best. We had the National Association of Insurance Commissioners (NAIC) developing risk-based capital requirements. All these things were strongly affecting the SPDA business. The numbers below here are just based on running pricing runs with a different earned rate assumption carrying the same amount of risk-based capital. The only

other adjustment made to the pricing run was to move the statutory valuation rate along with the lower interest rates.

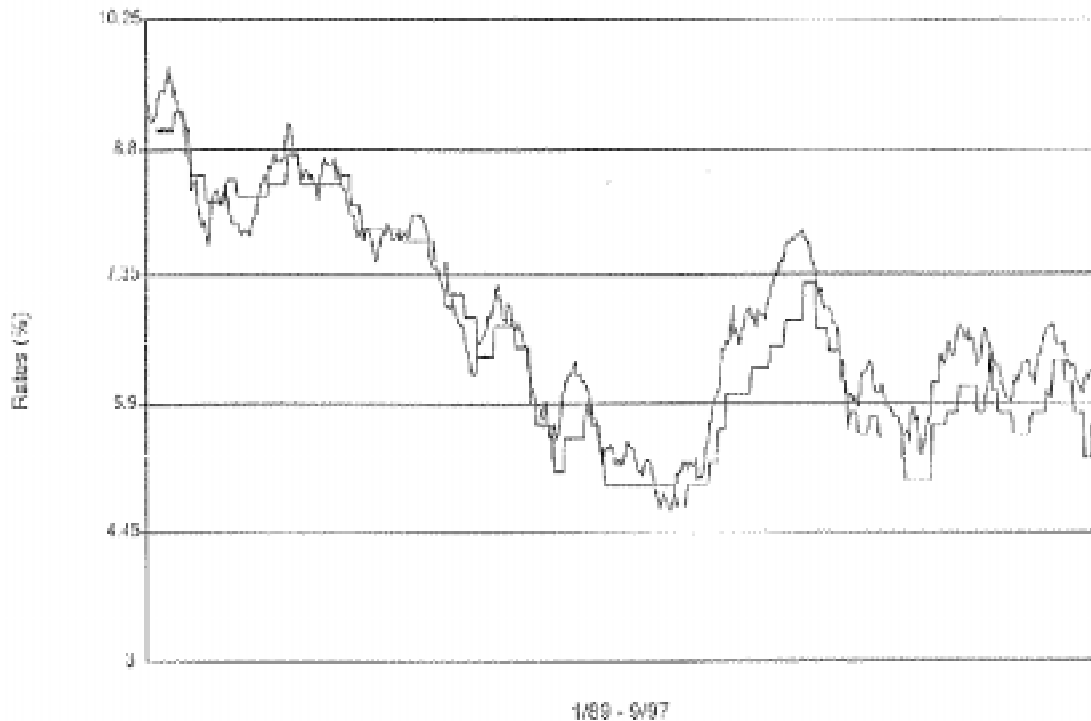
Earned Rate	ROI
6%	9.9%
7%	10.8%
8%	11.6%
9%	12.4%

What these numbers are meant to illustrate is if you are pricing your SPDAs with what I'll call a constant spread, in other words, our target spread is x basis points, this is what happens to your ROI if you leave that x unchanged as interest rates change. So you can see that this is just a natural decline in ROI or GAAP ROEs, which are somewhat correlated to ROI. If you price the SPDA this way and if you don't use any leverage, the lower interest rates get the higher your spread has to be. If you think about that, you're going to be taking more out of the product, in absolute terms, at a declared rate of five or six percent than you are at a declared rate of 10–12%. In percentage terms, you finally get to where you've got to keep most of it and there's nothing left for the customer. It implies that you wouldn't expect large profitability. When we're at these low interest rate levels, for pricing at 14% or 15% return, we need another source for that profitability. Otherwise, the product is going to be priced so low that nobody is going to buy it or sell it.

Another driving tool was the technology; the knowledge of ALM has really increased. Option pricing, cash-flow testing, durations, key rate durations, and much of the work that Tom Ho has done has started to give us a better understanding, if we're willing to use it, of the product and the way to price it.

What does all this mean? Chart 2 shows how the new money rate, the initial rate of a five-year penalty SPDA, compares to the five-year Treasury. And it doesn't show it very clearly. It shows, over the period of January 1989 to September 1997, how the relationship between the rates on annuities has shifted. If you go back three or four years further, you'd find that they were running at maybe 50 or 70 basis points above five-year Treasuries. They dropped down to 50 or 70 points below Treasury except for periods of intense competition or other reasons. The drivers of this are the things that I have just been talking about. Spreads are down. Capital requirements are up. The yield curve is flatter. All these things have forced SPDA rates down, at least relative to Treasury rates, to a lower level. In this type of environment, many companies made money.

CHART 2
5-YEAR TREASURY RATES VS. TYPICAL 5-YEAR SPDA



THE STEP-LIKE LINE - SPDA THE SAW-TOOTH LINE - 5 YEAR TREASURIES

I would say most companies made money on SPDAs. Keyport has been in the SPDA business since 1983. We've always made money. We've always had a dollar profit. ROEs have dropped off for some companies. I say this somewhat tongue in cheek, but the companies that have made the most money over the past two years have definitely been mismatched. If you were mismatched long on assets, you made more money than if you were perfectly matched. Option pricing just tells you the way you should run your business. It doesn't tell you that if you run it a different way and the right scenario comes along, you're going to be in trouble. Companies that were mismatched long on assets made good money. Companies that started this period of time with a good existing block made good money. Companies that sold that existing block sometime in the last three years probably made very good money.

Companies that were invested in call-protected collateralized mortgage obligations (CMOs) benefitted a little bit more from a decrease in interest rates because they were able to keep their rates up more than other companies. They were also able to draw from them and keep some positive spread. If you were invested in traditional asset classes, and you were also long, you benefitted greatly from the spread tightening.

The last thing is, they were very lucky in 1994, because if interest rates had leveled off in 1994 or kept going up, there would have been a lot of moaning and groaning.

I'll paint my picture of the present. I'm doing this from the perspective of a company that's active in the bank market, in the stock brokerage market, and is somewhat active in the independent market or the Modified Guaranteed Annuity (MGA) market. The reason that I don't talk about the stock brokerage market here is because not much SPDA is being sold there right now, so in that market there's not a competitive pressure on new money rates. There's competitive pressure on the product you're selling today. I'll come back to some of the things to do with existing blocks. There are a lot of banks entering the market. There is a lot of competition among insurers to get in front of these banks. Banks have developed the request for proposal (RFP) process of signing up a carrier fairly well, which is a way of saying, "This is the product we want to sell, what would your rate be?" That's how you get into a bank in some cases. There's a lot of competition for bank products and for companies to get in. There's a lot of pressure on pricing.

In the independent market, where there has been a different kind of annuity, there seems to be a lot of competition for the agents' attention and many product designs. I'll get into some of the specifics in a minute that are pushing the potential profitability of products. I would say that one of the things about the present is that there's an awful lot of competition. When you combine that with the low interest rate levels and some of the other things that I've talked about, this is not a time to be thinking that you're going to make 15% or 20% in the SPDA market, unless you find a very special niche.

There are market conduct issues. There is aggressive pricing followed by increasing spreads. I'm not sure it's happening but MGAs are talking about it like it's happening. What I mean is that, in this environment, in order to push a fairly good rate out into that market, companies may be pricing products with the idea that if they go out with a substandard spread, they'll make it up in the future in their renewal rates. In other words, they are going to be making much larger spreads in the future. If you have a product with an 8–12% penalty period, you could try to price on that hope. I think that it certainly seems to be a type of pricing that has some very interesting connotations down the line and some interesting market conduct. Bonus rates have become a part of our industry over the last five or ten years, but they're usually disclosed. Some of this seems to be undisclosed bonus rates.

Renewal rates are going to get a closer look. There has already been a class-action suit filed against one company. I don't know whether there's any merit or whether they'll win or lose, but that's an indicator that companies will be held responsible

for what they say or what their brokers say about the renewal rate process. That has something to do with the first one. If you're going to imply or say that your rates are going to have some relationship to interest rate markets, and then you drop rates when interest rates are going up, you might be held accountable for that.

There's also a lack of attention to the buyer of the product. Most products today are being created for the seller of the product, not for the buyer of the product. They've become very complicated. They have features in them that the customer doesn't really care about. I've heard that some studies have shown that as many as 50% or 60% of the owners of annuities, and this is not just fixed annuities, shouldn't really have the product. They weren't told that it meant tax deferral to their heirs instead of tax deferral—period. Many people are buying these products and holding them for the purpose of passing money to their heirs. There are tax situations in which that's positive; but oftentimes the tax bracket of the heirs is a lot higher than the person who owns the annuity. I think there is an awareness that a lot of the annuities aren't being sold correctly. If that is true, then that means something to profitability. That means somebody is going to discover it, and that means your persistency isn't going to be what you planned.

Another thing is that when we wrote these annuities over the last few years, we didn't really sit down five years ago and ask, what is the persistency of these going to be when somebody comes out with an equity-indexed annuity? We didn't know. What is the persistency of these products going to be when Standard and Poor's (S&P) goes up 20–30% three years in a row? All these things are affecting persistency. They're affecting persistency through 1035 exchanges. Fifty percent of the SPDAs at Keyport leave via a 1035 exchange to a variable annuity. Sometimes it's ours, but sometimes it isn't.

What's happening today is that if you don't know your customer well enough and if you're a company that is selling only SPDAs and distribution forces, then you're really in a bad position for keeping that business in force because you can't stop it. You can't stop it from moving to an equity-indexed annuity or a variable annuity. I'm not judging whether all these movements are right or wrong for the customer, but many of them are right for the customer. We have this situation right now where there's money moving around between these different products and that's something that you have to recognize going forward. My comments about the future are that you must pay attention to what's going on with the marketing and market conduct issues, because they can be expensive. You can get involved in suits, and they can dampen profitability. All these things affect the persistency. Even though we've written a lot of SPDAs, how do we get around selling a product that will pay 6% for the first year, but make the customer wait until next year to be told what will be paid then, but it won't be less than 3%. That's sort of a nice

description of what we're selling. The customer is going to demand more than that, and I think that we're going to need to disclose more about renewal rates or start indexing renewal rates or something like that, or work on products such as market-value-adjusted annuities, where there isn't a renewal rate. There's always a guarantee period.

Out-of-penalty renewal rate management can be another tough one. It is not tough today, but it was tough in 1992. In 1992, with out-of-penalty liquid money and a yield curve as steep as it was then, you were faced with a decision of having to pay somebody rates that required you to invest long, or rates that were short—short enough that they were 200–300 basis points off new money rates. You have to really figure out a way to manage the out-of-penalty process. It's not a big issue now because of a flat yield curve, but it will be again. Then you have to start relating and start thinking ahead relative to how you're going to handle the next hot product that comes out, the next equity-indexed annuity. How are you going to handle portability between different types of products? If you just stay in the SPDA box, you'll have a problem.

Another marketing and market conduct issue is distribution. Compensation would be one item. I've been in the business since 1993. Since 1993 somebody has always said, we should pay trails. Since 1993, about five people have ended up getting trails and enjoyed them. It's tough to move from front-end compensation to trails. It has been talked about for a long time. There is a little bit happening now, but that has to be thought through.

Another issue regarding distribution is agents have to be trained. Equity-indexed annuities aren't the only products; you have to know what your agents and your distributors are saying, and you have to be sure that it's not going to get you into one of the trouble areas that I've talked about.

Finally, in distribution, you have to come up with a way to manage persistency. The more contributions someone has made to one of your products, the more he's tied to you, the more he is showing faith in your company, etc. Perhaps you can expect better persistency from people who keep putting money into a product than from people that just bought one or sold one a little while ago.

Although we call this a retirement product, we're selling it to 75-year-old and 80-year-old people. We've got to start aiming this product at the people who need to save for retirement. We need to start targeting the people who will get the full benefit of both the product features and the tax features.

I've already mentioned portability of the product. We've got to make the product simpler.

Last, but not least, I think a successful company of the future will have a broad product array and will be a partner with, not a victim of, the distributor. At the basic level, that means that they will share the customer with the distributor. I'm not blaming the distributors for this—victims cause it to happen to themselves. Don't think anything I'm saying is antidistributor. It's the way you deal with the distributor; it's the way you set your relationship with them. Because of the low interest rate environment and because of the pricing push right now, you must have intelligent capital management. You have to figure out how you're going to use leverage. You have to figure out how you're pricing, how you're handling the part of the capital question. One of the things that leads me to think about this is, there are distributors now that are, in a sense, securitizing your trails. There's one distributor who will turn your front-end commission into a trail. They'll take the trail out, securitize it, and end up with a higher front-end commission. Think about it. That tells you something about the way we price and the way we deal with our capital cost, etc.

Mr. John M. Fenton: I'm going to be talking about the variable annuity portion of the equation. First, I'll just give you a brief overview of my presentation. We're going to take a look at a standard variable annuity product, and then we'll take a look at typical profit measures and goals on a variable annuity. During the main part of the presentation we'll be talking about factors that drive variable annuity profitability, and I'll finish with a few concluding thoughts.

Products available in the retail variable annuity market have become largely commoditized with similar features and benefits. I put about six or seven variable annuity product features and key drivers of profitability in the column on the left in Table 1. I looked at a typical product and what I call most competitive. It's important to note that these are not drawn from one particular product. It's kind of a hybrid from the best of the best so to speak, but it is a typical variable annuity product with product asset charges, usually called the mortality and expense (M&E) fee and the administration fee of about 140 basis points. That's probably where the most competitive products are as well. It has a contract fee of typically \$30 or \$35, which is waived at higher amounts. It has a guaranteed minimum death benefit provision in it. I'd say that a typical feature would be a seven-year multiple reset tied to the surrender charge period of five to seven years.

Some of the more competitive, cutting-edge products would have an annual ratchet of the 5% premium accumulation to kind of up the ante a little bit. In addition to the product asset charges, you also do get some revenue from the investment

management function. There are wide dispersions here. I guess the typical range that we see is 0–20 basis points, although there are some products out there that could be 35 or even 45 basis points, especially if you have your own series fund and manage the money either yourself or go to a subadvisor.

Products have a surrender charge in the six- to seven-year period starting at 6–7%. There is a slightly shorter period and lower percentage for the most competitive products. It's common to allow access to money without a surrender charge. The standard feature might be something like 10% of premium on a noncumulative basis. If you want to up the ante a little bit, you might even throw in a cumulative feature, which means what you didn't take last year you can use this year or you can allow withdrawal of some earnings as well.

For the broker/dealer concession, a standard product might have a 6% broker/dealer concession or it might give a trailer option, which I think we see used on the variable annuity side a little bit more than on the fixed side. The overall prevalence is low, but perhaps growing. A trailer option might be something like 5% up front and 20 basis points on all account values. The top end of the market is somewhere around 7.75% in terms of a payout.

Table 1 focuses on variable annuities that are sold in the retail market through nonqualified business or maybe an individual retirement account (IRA) rollover. It is not really targeted at the recurring premium business. We'll go into some more of these features later on.

What sort of profit goes to companies who typically use variable annuity business? Based on the work that we've done and the surveys that we've seen, many companies target a 15% ROI on variable annuity sales with a few caveats that we'll talk about. Going into the market, we saw a number of companies who were targeting returns higher than that, perhaps even up to 20%, three to five years ago. The market has become a little bit more competitive. The anecdotal evidence suggests that several companies now accept less than a 15% ROI basis, so the pressure is on. These measures are based on distributable profits, which is statutory earnings with provision for taxes and target surplus. It's also important to note that this doesn't reflect any use of debt in the holding company to leverage the returns up.

TABLE 1
SYNOPSIS OF STANDARD VA PRODUCT

Variable Annuity Feature	Typical	Most Competitive
Product asset charge	140 bps	140 bps
Contract fee	\$35 (waived at \$50,000)	\$30 (waived at \$50,000)
GMBD	7-Year Multiple Reset	Annual Ratchet or 5% Accumulation
Profit on Investment Management	Wide Dispersions, Range is 0 to 20 bps	35 bps
Surrender Charge	6% to 7%/6 to 7 Years	6%/5 Years
Free-out	10%, Non-Cumulative	10% Cumulative or Sum of 10% Non-Cumulative + Earnings
Broker-Dealer Concession	6%, Trailer Option 5/20 bps	7.75%

Products sold in other markets, such as 403 (b) and direct (e.g., low-load) may have different features and drivers of profitability

In addition to looking at ROI, many companies also look at a return on assets (ROA) or a GAAP ROE. This is important because 15% is not a bad rate of return in the insurance industry. Most of our product lines don't get that. It's important to note here that the required investments (RI) in variable annuities is relatively small and in some cases occasionally negligible. Table 2 shows the impact of different levels of required investment and the annual dollar amount of return that we have on the variable annuity product versus a fixed product. They're all shown at \$1 billion of annual sales. The variable is shown at two different levels—0.5% of reserves is kind of the investment that we have in the business that reflects the commissions going on, setting up reserves, target surplus, and things of that sort. These are approximate numbers.

If we are able to achieve a 15% ROI, which is in the ballpark, we see that our return is \$750,000 to \$1.5 million for \$1 billion of sales—the annual figure. By contrast, the fixed annuities have much more capital invested in the business, somewhere in the range of 5% or so. The returns there are probably not quite as high in terms of a percentage, in a dollar amount, we do have a \$5 million return. The main point of this particular table is that the variable annuity product has a relatively small dollar amount of return for \$1 billion of sales. It also means that when you're selling both products in your same portfolio, you need to sell a lot more variable to get the same dollar amount of return. That's important to note.

TABLE 2
VA PROFIT MEASURES AND GOALS—THE AMOUNT OF RI IN VARIABLE ANNUITIES IS
RELATIVELY SMALL (OCCASIONALLY NEGLIGIBLE)

Type of Annuity Product	Annuity Sales	RI	ROI	Annual \$ Amount of Return
Variable	\$1 Billion	5 Million	15%	\$.75 Million
	\$1 Billion	10 Million	15	1.50 Million
Fixed	\$1 Billion	50 Million	10	5.00 Million

VA Product has relatively small \$ amount of return for \$1 Billion in sales.

What we found is that because of the small level of investment in the ROI calculation, many companies in the variable annuity business also look at an ROA type of calculation, where the typical target is in the range of 20–25 basis points per annum, which would be based on distributable earnings. Some companies do look at after tax as well. The difference is not significant between the two.

It is important to note that the ROAs will vary substantially depending on the discount rate. For example, if you have a product that's priced to earn 15% ROI, it's going to have an ROA of zero at a 15% discount rate, so you need to pay attention to what you use as a discount rate. We see the discount rate for this calculation as tied to the pretax earned rate on general account assets, I would say it is somewhere in the range of 6.5–8%.

Let's dig a little deeper in some of the factors that drive variable annuity profitability. We're going to start out by looking at a few assumptions for what I call the independent channel, and I refer to it as independent representatives. I think this would refer to stockbrokers selling through both the national warehouse firms as well as the regional. It would refer to the commission and financial planners of the independent broker/dealer channel with which many of the independent insurance agents have aligned themselves for the purpose of selling variable products. It would include banks as well.

In the retail nonqualified market, a typical product would have a total distribution cost of 7–8.75% of premium broken down by components as follows. It is a fairly wide range, but you have to kind of dig down. The broker/dealer concession is 6–6.5%. If you went back a few years ago, the standard was at six. We're now upping the ante a little bit through specials and other programs that are going into place to differentiate our firms.

You also have direct marketing costs, which might include such things as a wholesaler salary, overrides, expenses or use of an outside third-party marketer. You also have in that category marketing materials and running your sales desk and promotions and things of that sort. That might be 0.5–1% of premium. On top of that, it is common to allocate some fixed expenses to the line, both in the marketing department as well as corporate overhead, which may raise another 0.5–1.25% of the single premium. It's important to note that these are targets more so than actual costs. Some of the actual costs may come at the higher end of the range.

I have a few observations about some of the things that I've shown here. For companies operating in the independent agent market, the ability to change the distribution cost, unless you're moving it upwards, is very limited. Basically the cost is what it is. There is very little leverage to reduce your distribution costs. I would also suggest that companies that don't really have a story to tell (in other words, they're a new entrant to the market, or they haven't had a great deal of success, or they have an ancillary product that doesn't attract much attention), are probably going to be at the high end of the range of cost either through raising commissions to differentiate yourself or not getting the volume, which is going to drive your fixed expenses up.

In terms of the actual selling representative, the commission is going to be derived by applying the grid system that we see in the stock brokerage world to the broker/dealer concession. The payout is going to depend on the type of concession. Some of the national warehouses and such would have relatively low payouts which is tiered somewhere in the 30–40% range; if you go to the independents, they are perhaps combined with the manager of the payouts, which might be as high as 85% or 90%, but it's a whole different world in terms of the services that are provided and what gets charged in each one.

The marketing costs that I showed before did assume the use of internal wholesalers. If you used a third-party marketer, you probably would generate comparable variable cost, perhaps in the 1.25–1.5% range. It's variable as opposed to a fixed expense.

I would say a few companies reflect overhead expenses through a higher pricing target rather than a direct charge. For those companies that do reflect overhead in their pricing, they probably also would charge a portion of renewal years. That portion probably depends on how long they've been in the business and where they can absorb the cost.

I have one final observation on the distribution cost. Many companies do offer the trailer commission option. We would say this is generally designed to provide

equivalent profitability with a few notable exceptions. My example before was kind of a 5:1 trade-off, where 6% would equate to 5 plus the 20-basis-point trailer. There's obviously a lot of new trailer options that have gone in the market recently, and people are trying to be a little creative there.

Let's turn to persistency now, and again we're going to stay in an independent distribution channel. I think all of us realize that business sold through this channel is almost always at risk to move at the end of the surrender-charge period. A number of representatives in this channel view the business as maturing at the end of the surrender-charge period. There's no magic solution, but I think the ability to retain business is driven by several factors. First, you still have to be selling through that channel. If you're not, that suggests that you're in a difficult position to try to retain it past the surrender charge period. You're also going to look at product competitiveness, particularly on the variable side. How well has your fund performed? How has it done relative to similar asset classes? We've been in a pretty favorable market for variable annuities, which has helped sales.

The continued exchange activity/abuse might spur action by regulators. I think if we continue to see widespread abuse, we may see some action on the industry side.

What can you do to improve persistency? A number of companies came out with defensive programs and some of these are more prevalent on fixed annuities, although aspects have been seen on variable as well. In compensation, many distributors are now paying a trailer at the end of the surrender-charge period. Even if it wasn't priced in originally, it's probably better to get a portion of the spread on something rather than a full spread on nothing.

Product enhancements, like the guaranteed minimum death benefit (GMDB), were driven directly by persistency and perhaps a special rate of that is definitely more applicable in the fixed annuities. Another one that we wanted to throw up here was partnering with the distribution. If you can partner the distribution and bring it into part of the equation, their interests are going to be aligned with yours. Frankly, not a whole bunch of those deals have been worked out yet, but there is some potential in that area in the future. The other area, of course, is to build in product design features in the front end that promote better persistency, like the longer surrender charge period, and/or a significant trailer commission, or perhaps a guaranteed minimum death benefit.

There has not been a great deal sold in this market that is past the surrender charge period. It's limited. When we work with companies in this area, we think that perhaps a reasonable pricing assumption might be a spike lapse, which is the year after the surrender charge in the 30–45% range and then following up 10–15%

thereafter. If the business is going to move, it tends to move right after the surrender charge period.

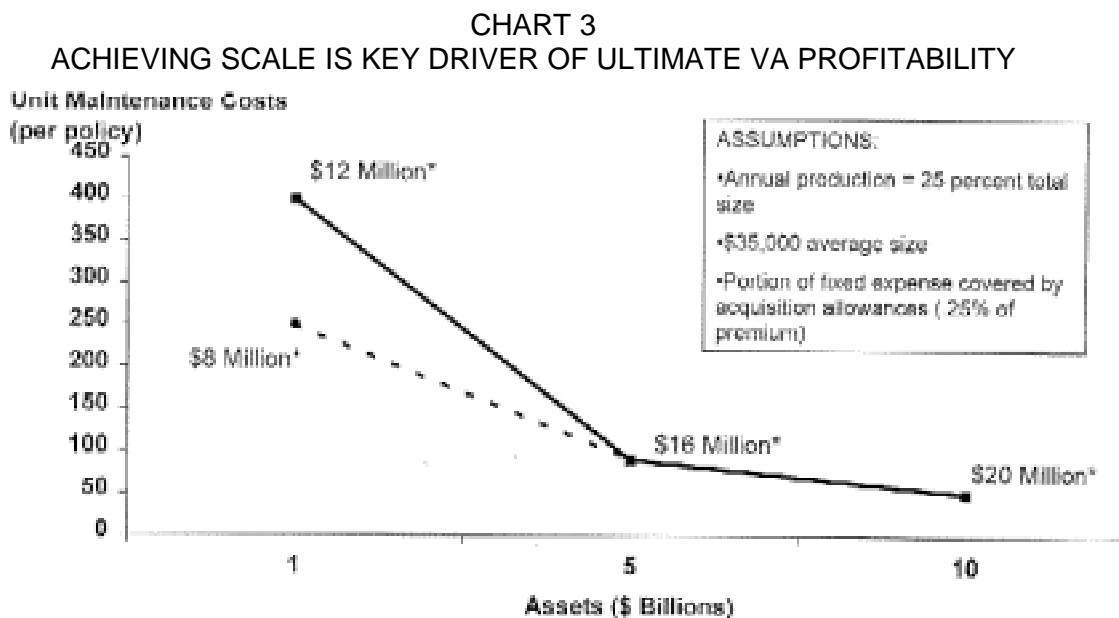
Let's switch channels here a little bit and talk about the career agents—those companies that work with a branch management system or a general agency system. Business sold by career agents exhibits somewhat different elements of profitability. We do note that a large portion of the business sold by career agents is done through the 403(b) and the 457 market. When you get outside of that, I'd say the career life insurance agents have not been a high volume channel for the variable annuity sales. It is picking up, though, and 10–20% of total commissions is now from career agents and the work that we've done suggests that's going to be a growth area for the future in terms of insurance agents selling a broader range of products.

The distribution costs of these types of channels tend to fall in the low-to-middle portion of the range relative to the independent representatives that we showed before. However, that is perhaps not the true story. Some work that we have done suggests that perhaps annuities may not be allocated their fair share of agency expenses, so it doesn't contribute fully to manager compensation or benefits or things of that sort. Also, there is a potential for overhead costs to be higher, particularly if your volume is not that high. Career agency business tends to have a lower average size, it's closer to the \$20,000–30,000 range as opposed to the \$35,000–50,000 range for business sold by the independents. I do think that overall, because you are able to control the compensation costs a little bit, you have more leverage over the return in the career agency channel relative to the independents. It's less of a pure variable payout. That doesn't mean that it is necessarily a better return. It's just that there are more moving pieces to work with.

We do see that persistency after the surrender-charge period is much less of a concern. The experience that we've seen in this channel has been good, although it has been primarily for the recurring premium product, but barely in the double-digit range, which is quite good, obviously.

Let's switch gears a little bit. We're going to talk about maintenance expenses. Chart 3 suggests that achieving scale is a key driver of ultimate variable annuity profitability. This chart plots unit expenditures for various total asset sizes and fixed expense levels. Note the assumptions that we have here. For a company with \$12 million of fixed expense (a portion is going to be allocated to acquisition, and the rest will go to maintenance) and that has a billion dollars of assets, you're going to have a unit maintenance cost of about \$400 per policy. What's appropriate here is to try to do this type of analysis for your own company. The ability to grow the size

of your block is the key way to reduce your unit cost down to a tolerable level which is below \$100 per policy or so.



*REPRESENTS TOTAL FIXED EXPENSE (I.E., NON-DISTRIBUTION RELATED) ESTIMATED FOR DIFFERENT ASSET LEVELS

Again, one could quibble in terms of the expense levels that we have relative to the size of the block. The bottom part suggests here that using a third-party administrator (TPA) would flatten the curve. You move much more to a variable type of cost. If you're going to administer the block yourself, being able to drive to a critical asset size is probably very important in terms of keeping your expenses under control. As I mention, this chart is illustrative to some extent, and I think it's useful to look at for your own particular companies.

I'll just touch briefly on investment profits. They are influenced by the fund approach used. We show here the pluses and minuses of using external funds or a subadvisor. On the subadvisor, you probably have greater profit contribution of up to 35 or 45 basis points, but you have to spend money to get there. You have to invest in the business. Also, the higher cost is reflected in the advisor fees, which is going to pull down the returns to some extent.

There are, of course, other factors that impact profitability as well. There's also GMD cost, and there's a lot of attention to this over time. Because of the relative performance of the stock market, it has not been a big actual cost issue. But it is something we need to pay attention to. A typical approach that we would use is to

place the mean cost of the feature in the basic pricing, which is perhaps based on the results of multiple scenario testing of various asset classes. It suggests that you reflect the tails of this distribution in your target surplus needs and make provision for the mean cost in the basic pricing. It is also important if you're working with reinsurers to reflect their cost as well.

On the separate account side, the risk-based capital formula doesn't necessarily produce reasonable results. It may only have a C-1 and a C-4 component, and the C-4, if you book your monies that way, comes through as a percentage of premium. I would suggest that it's probably more prudent to hold at least 0.5-1% of reserves as the appropriate target surplus level. Correlate the amount of risk that you're taking with the product. You also need to reflect the rating agencies requirements.

Partial withdrawal utilization has historically been relatively low in the annuity market unless there are special programs that exist, such as systematic withdrawals or annual withdrawal of interest; it is more applicable on the fixed annuity side. Of course, withdrawals in the nonqualified market are to some extent tax advantaged.

There are obviously a number of other assumptions that we could go through, but I think we've kind of covered the more important ones, although other ones may have impact as well.

I have a few concluding remarks. As we said, the ability to leverage the return, and to drive it in the independent representative market, is limited. Essentially you have to take what the market will give you. We see that new entrants and those without a story to tell are probably at a relative disadvantage in this market. The key driver of ultimate profitability is definitely persistency beyond the surrender-charge period. We talked about how interest rate levels and stock market performance could have a big impact on this going forward, but can you retain 70-80% of the business after the surrender charge?

Companies operating in the career agency channel may have more leverage on the return, but they need to find ways for their agencies to survive with a larger percentage of the business coming from annuities and related products like mutual funds. I don't mean to suggest that career agents are more profitable in this particular channel, but I think there is a little bit more room to work with on the distribution costs, which is one of the most critical areas.

We also talked about the need for critical mass in both the maintenance operations, particularly if you're using an internal approach, as well as on the distribution side. Again, critical mass is important if you're using internal wholesalers as opposed to

going outside. What we hear out there is you must continue to invest in new technology to stay up with the market.

Mr. Noel J. Abkemeier: Now it's time to hear about the new kid on the block. First, you heard from Paul who talked about fixed annuities, which have been around for 100 years more or less. John talked about variable annuities, which have been around 30 years. As a result, there is a lot of history to talk about. Equity-indexed annuities have been around for two-and-a-half years, which is really not much of a history. My comments mainly are going to focus on the future because we really don't have a lot of history to measure against.

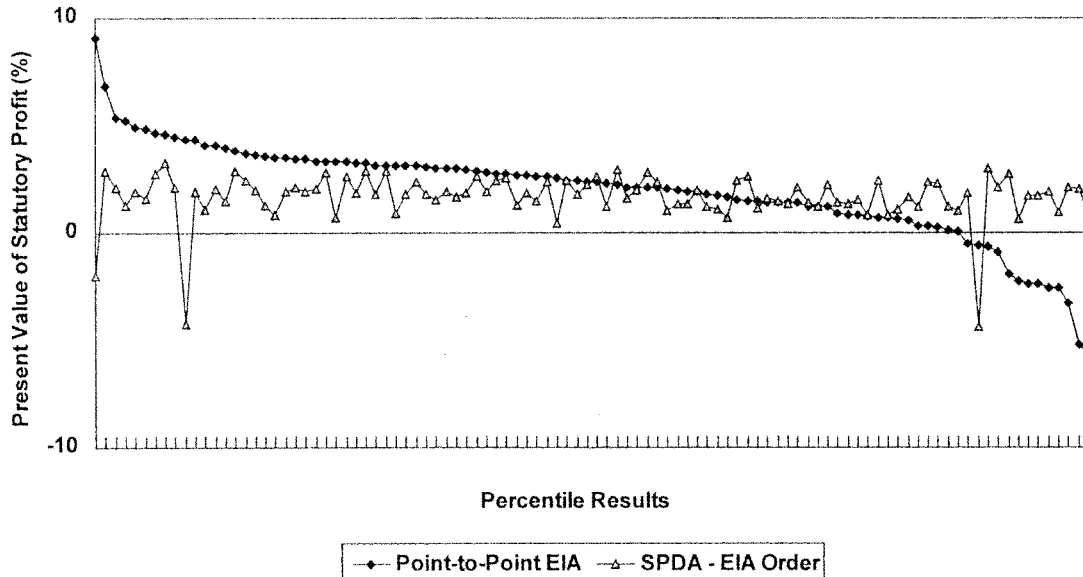
Paul indicated that there are certain risks in the marketplace with fixed annuities. Market conduct risk applies to equity-indexed annuities. An equity-indexed annuity is a fixed annuity that simply has a different way of crediting interest. Therefore, what applies to fixed annuities carries over quite strongly to equity-indexed annuities. Again, the market conduct risks are there. Perhaps we have an additional one, which is the potential of misunderstanding with the multiplicity of products in the market and there could be an additional risk for companies in that respect. He also mentioned something that really should be dealt with, which is the trust-me nature of fixed annuities. Again that carries over into equity-indexed annuities, so if you're going to change the trust-me nature by putting a little more guarantees into it, there will probably be a need in the equity-indexed area.

Having flexible premium products to tie people to your product more so than single premium products would also be advantageous. Finally, the basic idea of simplifying the product would apply to equity-indexed annuities. There are a lot of things about fixed annuities that apply to equity-indexed annuities. I want to talk about the specific differences between the traditional fixed annuity and the equity-indexed version of it. The capital requirements are essentially the same. The C-1 risk is for an equity-indexed annuity. You're looking at bonds plus call options that have C-1 requirements, which are essentially the same as a bond, so you come up with the same C-1 risk. For C-3 you're recognizing the same kind of surrender charges, so you're playing the same roles there.

If you look at profitability, companies start off looking at profitability in fixed annuities and seek to get the same thing on an equity-indexed annuity. The result is that companies tend to be shooting for a 12% internal rate of return (IRR). They start off shooting for 15% and settling for 12%, which is a reasonable rate in today's market. That's 500-600 basis points above a ten-year Treasury, which is a good rule of thumb. We feel companies are trying to stick to that.

As you look at the profitability that emerges, you find that it is distributed a bit differently on an equity-indexed product. The extremes of profitability show on an equity-indexed annuity. Your good years are better than your good years on a fixed annuity; your bad years are worse than the bad years. Under a given scenario, you don't exactly zig in the same direction as an SPDA is zagging. Chart 4 shows the profitability of an equity-indexed annuity under 100 scenarios. The best scenario is about a 9% present value of profit to premium, and the worst scenario is about a 6% loss. In contrast to that, for each of the 100 scenarios, the SPDA line represents where a fixed annuity would fall under that very same scenario, and you see there isn't much of a correlation. There are possibly three bad scenarios on the SPDA, but again they're not occurring in the same price, where it is on the equity-indexed annuity.

CHART 4
PROFITABILITY OF EQUITY-INDEXED ANNUITIES

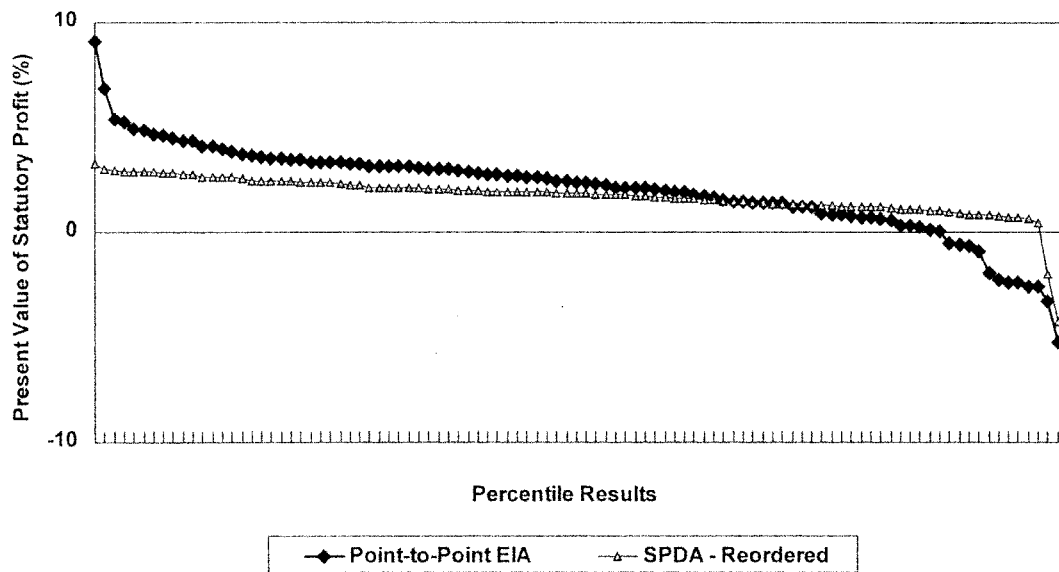


In Chart 5, we see the point-to-point EIA line is the same as before, but we're ordering the SPDA, so it shows its best case to its worst case. The slope from good to bad is quite flat on an SPDA. There are a few bad ones at the tail end, but it is still fairly flat, which contrasts with an equity-indexed annuity. You should be ready for more variability in your equity-indexed annuity profitability, but on average, you should be able to achieve nearly the same result.

Why does it differ between the two products? The SPDA lapses are driven by interest rates whereas you have an additional variable coming into the picture for equity-indexed annuities, which is the change in index over the years. You have a double set of variables. Second, when lapses do take place, the disintermediation that affects you is a function of two variables. On SPDAs, an interest rate spike

might be depressing bond values. In an equity-indexed annuity, you will also have your hedge, which is driven by the level of the index, the interest rates, and the volatility. These additional variables give you the different results.

CHART 5
PROFITABILITY OF EQUITY-INDEXED ANNUITIES
POINT-TO-POINT EIA PROFIT VS. SPDA PROFIT



The drivers of lapse sensitivities fall under the categories of external, internal, and resistance. The external drivers are those that are merely drawing somebody to another contract. In the first external situation, your market interest exceeds expectations for the equity index. If you have a 13% interest rate in an SPDA, that could be drawing people away from your equity-indexed annuities, who would rather take the definitely certain return of an SPDA against the uncertainty of an equity-indexed annuity. Another external magnet is if participation rates are higher on currently sold indexed annuities. Perhaps interest rates have risen. This makes it possible to have higher participation rates. Perhaps there's a more favorable slope to the yield curve, and your clients may wish to bail out of the existing product area and jump to another one that is more favorable under today's circumstances.

The internal causes for lapsation are unique to equity-indexed products. In the first cause, the index is below the starting point on a point-to-point product. If you bought at a 900 S&P level, and it has fallen to 700 because of the market correction, you have to make up 200 points of S&P before any benefit starts accruing to you. As a result, you might want to get out of that product and buy a new one, which is going to lock you in at a 700 starting point, so you can start getting benefits right off the bat. Similarly, if you have a high water mark product where you have locked in

some kind of index level on one of the more recent anniversaries, if you fall below that, again you have to work your way back up to the high water level before you start adding to the benefit that you've already locked in. As a result you may wish to get out of the product if there isn't something else to hold you in place. Resisting these draws to go out are your various surrender costs, which you can build into your product. The typical surrender charges might be analogous to those in your fixed annuity—a decreasing surrender charge over the period of the index term or a level surrender charge throughout the term. Those are relatively weak resistance factors. There are stronger ones that tend to be put into a number of products.

If you have a point-to-point product, it is quite common for the surrender values to equal minimum cash values under the standard nonforfeiture law. If it's single premium, 90% of premium growing at 3% might be the cash-out value. If you compare that with the inherent value after the market has risen a great deal, you may find that this is a very large and perhaps increasing de facto surrender charge, and that could be a strong vehicle for resisting the lapse tendency.

Some products have market-value adjustments that will adjust cash value for spikes in interest rates. It does not protect you in the event of index movement in any direction.

Finally, the protective factor can be gradual vesting of the interest in the contract, which makes only a portion of the interest available to the customer year by year, thereby decreasing the attractiveness of surrender. How much money does it cost the company if you leave? If the index goes down or interest goes down or if volatility goes down, the value of your hedge has decreased, so this could be a negative factor on the insurer in conjunction with whatever might be the negative factor on the bonds underlying the product.

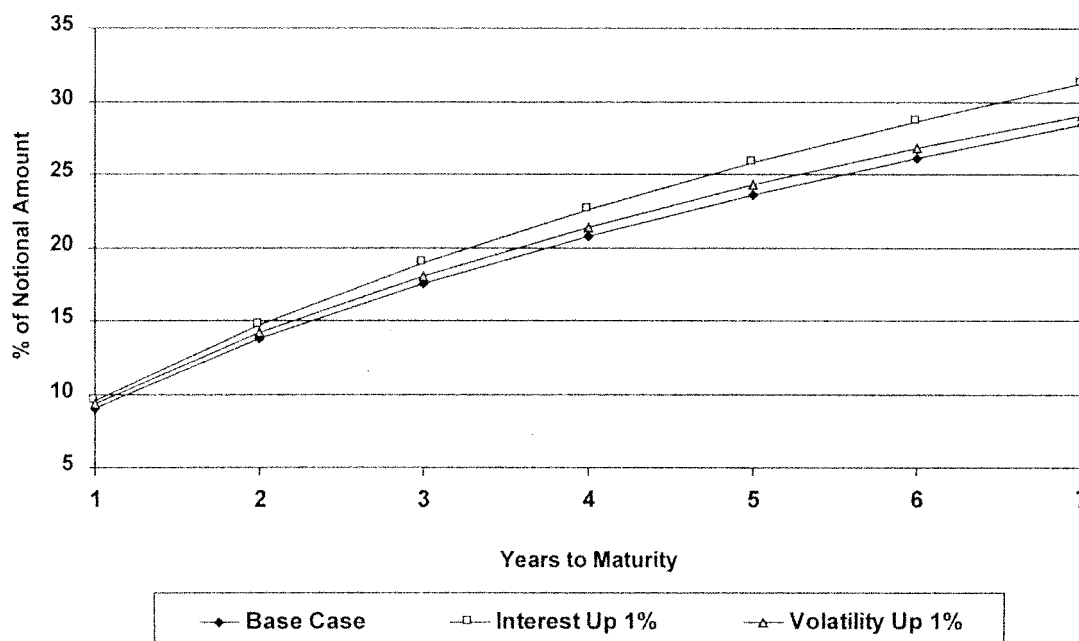
The interesting part to note is the effect of interest rates on a call option is opposite the effect on your underlying bond; if interest rates spike, your bonds go down, but your call option goes up. There is a little bit of a mitigating factor there. However, you must recall that there are other factors coming into play with your hedge, namely the volatility and the level of the index.

Chart 6 is a profile of how the option cost varies with changes in volatility and interest. The base case line shows, on a seven-year call option, that it might be that about 28% of your notional amount is your option cost. If your volatility is up 1%, your option cost may be up about 1%—about 4% of the base case cost. In contrast, if interest is up 1%, the option cost is in the neighborhood of 32%. So you go from about 28% to 32%, and that's about a 15% increase in your option cost. These are

important when you're looking at the cost of disintermediation or actually when you're buying your original option.

When we look at the combination of lapsation and disintermediation impact, it is most significant on your point-to-point products for two reasons. First, point-to-point products have the greatest sensitivity to lapses. As I mentioned before, if the index has fallen below your starting point, you have ground to make up. That's a factor that is special to point-to-point and high water, but it's strongest in the point-to-point product. Second, at the time that the surrenders take place, you must liquidate your option. The point-to-point option is purchased for a seven-year benefit in the case of the seven-year design, and it is most impacted by the change in interest and volatility. This contrasts with a ratcheted product where, if the index goes down in a given year, it doesn't hurt you over the long run. It means you'll get no benefit that year, but the next year you get a fresh start. The sun always shines tomorrow, so you do not have a whole lot of lapse sensitivity. You have virtually none. The option underlying a ratchet benefit is a chain of one-year options. If interest goes up, it is really affecting that year's segment of your option, not the remainder. So you don't get hurt as much by the disintermediation aspect of the product.

CHART 6
PROFITABILITY OF EQUITY-INDEXED ANNUITIES—POINT-TO-POINT OPTION COSTS



Aside from the disintermediation, there are other ways where your profit can be impacted. First, there is the rate reduction inertia. This is a phenomenon that exists

in fixed annuities alone. Rates go up a lot more quickly than they go down. The responsiveness of companies is not particularly symmetric, and it is true on equity-indexed annuities too. It's particularly true now as it's a new product in the market, and companies want to establish the market share. They're reluctant to fall behind their competitors. As a result, there has been a slowness in responding. As you look at the last year and a half or almost two years, the volatility of call options was as low as about 12% in late 1995, which everybody thought was particularly low. In the middle of 1996, it was in the neighborhood of 15%, which everybody thought was normal. People wondered where volatility would go. If it went up a lot, it might hit 17%. In reality, in the latter part of 1996, it got into the 18–19% neighborhood, and in July 1996, it got into the 21–22% neighborhood, so we found it moving a lot more than anybody expected it to move. I think companies are perhaps hoping that it comes back before they have to lower their rates too much.

Another part of the rate reduction inertia is the inclination of companies to cast their participation rates in terms of 5% multiples, so they always want to wait until it's justifiable to go down the full 5%. This could be painful over the long run. Hedge management can be very critical to the company. The present value of profitability on one of these products is perhaps between 2% and 3% of premium. If you manage or hedge poorly, you can blow that whole profit in your hedge management.

There is risk if you don't buy your hedges on a timely basis. We've seen the market move very rapidly in recent days. Two percent or 3% moves on a given day are no big surprise anymore, and if you have failed to buy your hedge before the market jumps up 3%, you may have just blown all your profit that day. It is important that you have a strategy that gets your hedges in place on a timely basis, so you're not left behind.

In the hedging, companies are typically buying some degree of laddered hedges. You'll buy hedges for the entire term (five, six, or seven years) for that share of people who you expect to be around at the end of the term. Then, perhaps you can buy some lesser amounts of hedges to cover the death benefits and index-sensitive lapses that occur before that. If you have assumed lapses such that you expect only 85% of the customers will be around at the end of the seven-year period, you want to stay on top of it in the event that lapses do not occur. If fewer people are lapsing, you might have 90–95% of the customers instead of 85%. You better have purchased additional hedges in the meantime to get you back in place for the future, although you might have lost a little bit in the past on your hedges.

Second, you might have situations where you have to unload some of your hedges. If you have had a high degree of lapses, the hedges you have are now redundant, so

you should get rid of them in one way or another. Either sell them or assign them to some other part of your business. If you fail to do that and the market goes down all at once, you might find that, inadvertently, you have been speculating with these extra hedges and lost on the speculation as the market took the price down.

Hedge management can be an opportunity for enhancing your profit in the future. Right now the common method for purchasing hedges is buying a large amount of hedges for the full term and lesser amounts for some interim immediate periods. The better you can fine tune that, the less need you'll have to buy or sell additional hedges as you're going through the years.

Something that I see evolving, as people have to adjust their hedges, you'll find that it's not that easy to sell a small portion of a hedge that you have, and it's not easy to buy a small additional amount. What I first see happening is these extra amounts are perhaps being transferred to a new block of business. Have your investment department figure out the sensitivities in the extra hedges and translate them into how they can apply to a new block of business so you can put them back to work right away. As you do this more over time, I think you will see less and less of the correlation between a particular large hedge and a particular block of business, which is the way companies have it now, and more of a slow migration to aggregate hedging where you will be looking at the overall sensitivities of your business, the sensitivities to interest, volatility, and so forth. Then aggregate hedging may evolve, which can be more efficient than what is being done right now.

Another dimension is using replications. This has been presented to a number of companies. It's not widely used yet, but it's something that may play a role in the market in the future. This is a case where typical hedges are over-the-counter hedges for a lengthy period (for the full term of your indexed annuity). In lieu of that, replications could be used whereby you purchase hedges on the exchange rather than go to the counter; you'll be buying for 6–12 months at a time and these replications are designed to have the same value movement as if you had purchased a long-term hedge. There are combinations of futures, puts, calls, and Eurodollar strips. It is a bet by the insurer that volatility will be more favorable than that which is assumed in the over-the-counter hedge. The long-term over-the-counter hedge is assuming a volatility surface analogous to a yield curve, so it's moving upward a bit and you are paying for that increase in volatility over the years. If you're using the short-term rolling replications, they are essentially betting that the volatility isn't going to have an upward trend, but will stay in the neighborhood where it is or perhaps soften. If these develop favorably, you might find that your profitability might be 50–100% more than it otherwise would be. These are something to give consideration to in the future.

Finally, current profitability. We see relatively aggressive participation rates to establish a position in the market. Inertia or slowness to reduce participation continues. Quantifying external and internal lapse drivers is a little bit difficult. You can make analogies to interest-sensitive lapses and convert them into index sensitive, but only time will tell whether those conversions have been accurate.

As I said before, the base line is fixed annuity profit. Where its profits go is roughly speaking where equity-indexed annuities will go, but the wild cards are in how lapses operate and what option costs do. As you're pricing a new product, if option costs stay very expensive, will companies become realistic or will they try to squeeze out participation rates that are too attractive? Finally, how will hedging practices evolve? That is the area where you might be able to get extra mileage out of your product.

Mr. Richard J. Tucker: I wonder if you have any comment on the trend of where the cost to clients of variable annuities is going. On the one hand, I see what I call cost creep, which is going from 125 basis points to a standard of 140. I see mutual fund companies introducing 12B1 charges on the funds within variable annuities. On the other hand, one of the largest variable annuity manufacturers just announced a product with a 95 basis point M&E that left most of the other charges basically unchanged. I just wanted to see if you or anybody had any prognostications on that.

Mr. Fenton: In terms of variable annuity products and the trend on fees, the new tax law is going to have an impact on the business. I think some of you may have heard this before, but I think that there is a difference in products that are bought versus sold, and I think the vast majority of variable annuities are still sold to a large extent. I think that some of the companies that have been selling through the direct response or no-load basis, such as Fidelity, has already announced the move downwards in terms of their M&E. They basically had to do that in order to make the product viable to their customers when put up against a mutual fund. There are a lot of considerations that go into comparing mutual fund returns versus variable annuities.

I think for the other part of the market, where the vast majority of products are sold, it's going to be tough for the companies who unilaterally lead the trend down in terms of fees of whether the distributors will go down there with them. The major players are going to give the distributors the choice of product, and it's going to be a difficult struggle in terms of how you differentiate the lower-fee product from a full-fee product. I think that they might work at that and put in some things in terms of commissions on a different basis for different product features. But we will just have to stay tuned to see whether the distributors go with them down and start

selling the business. There's not much room in this particular product, so lower fees are going to have to be driven primarily by lower compensation.

Mr. LeFevre: The area of variable annuities, in general, is probably one of the only areas of financial services where there has been a steady increase in the distribution costs and in the commissions over the last ten years. That must plateau a little bit. I think you have to look very hard. I saw a recent article on the Ten Reasons Why You Don't Want to Own a Variable Annuity. I think that this continual pressure on the product and continual education or noneducation of the consumer is going to drive at least a close look at cost. I think we've probably seen a plateau. I don't think the 200-basis point M&E is just around the corner. I think you're going to start seeing pressure the other way.

I just wanted to ask Noel about the charts that were comparing SPDAs to equity-indexed annuities. I'm just curious if the driver of this is just surrenders, or is the assumption here that both the SPDA and the equity-indexed annuity are properly hedged so the variation we're seeing is just from different surrender experience. Or, are there other factors?

Mr. Abkemeier: The assumption is that the equity-indexed annuity is fully hedged and it is totally surrender driven.

Mr. LeFevre: So the SPDA is also matched?

Mr. Abkemeier: It is matched.

Mr. LeFevre: I would submit that this chart would look different if we looked at actual practices, and you would see many more possible variations and many more correlations of an unmatched SPDA with an almost hedged equity-indexed annuity. It is just an observation. Because it is very clear, at least at the present time, that most SPDAs haven't been fully matched.

Mr. Doll: If this is Paul versus Noel, I have another question. I notice an inconsistency between your two presentations. Paul, you had a chart that showed how, as interest rates go down, your ROI goes down because you're earning less interest on your required capital. Noel then indicated it was appropriate to have profit objectives as a spread over the ten-year Treasury, and I noticed from Paul's slide that you were getting more or less a constant spread over Treasuries as interest rates fell. Although your profit was going down as interest rates fell, maybe Noel would argue that's appropriate.

Mr. LeFevre: Yes, I agree with that.

Mr. Abkemeier: I think Paul did show the increase in spread.

Mr. Doll: It was increasing slightly, but Paul's chart actually showed a slight increase in spread as interest rates fell.

Mr. Abkemeier: That is what you need to maintain the higher end.