

# RECORD OF SOCIETY OF ACTUARIES 1994 VOL. 20 NO. 2

## LONG-TERM MINIMUM INTEREST RATE GUARANTEES

Moderator: JOSEPH E. CROWNE  
Panelists: WILLIAM T. MCKINZIE\*  
              JOHN P. SCHREINER  
Recorder: CRISTINA S. KEPPLER

Many insurance products offer minimum interest rate guarantees for the life of the contract. In fact, some of these guarantees are mandated by statutory nonforfeiture laws. Although guarantees of 3–5% were once considered *de minimus*, the current low interest rate environment renders them problematic. This session will explore the product design, pricing and investment risk-management strategies to mitigate this risk.

MR. JOSEPH E. CROWNE: This session will explore the product design, pricing and investment risk-management strategies to handle what to many of us, I think, is the new risk of minimum interest rates.

Before I begin with a few opening remarks I'd like to introduce our panel. Bill McKinzie is vice president with First Boston Investment Management Company located in Chicago. Bill joined First Boston from Continental Bank last year. His responsibilities at First Boston include the analysis of insurance business lines, including asset/liability management, asset allocation, and investment strategy recommendations. At Continental Bank, among other responsibilities, Bill handled the development of insurance company capital-raising strategies, securitization, and surplus management.

John Schreiner is a consulting actuary with Milliman & Robertson in Chicago and has been with M&R since 1976. Among John's areas of expertise are product development and pricing, asset/liability management, mergers and acquisitions, and life company rehabilitations.

Our recorder is Cristina Keppler. Cristina is with the Life Insurance Consulting Group at Coopers and Lybrand. Cristina's areas of expertise include statutory and GAAP financial reporting, product development and pricing, and deferred compensation plans.

I am with the Merrill Lynch Life Insurance Group.

Now, notwithstanding the recent increase in interest rates, rates are still low relative to what many of us have experienced in our careers. And they're certainly low relative to interest rates in the interest-sensitive product era. For example, the five-year treasury curve shown in Chart 1 (showing treasury rates since April 1953) has declined from a peak in 1981 of nearly 16% to less than 5% in 1993. We had not seen the five-year treasury rate that low since the mid-1960s. Yesterday there was an auction of \$11 billion of five-year treasury notes at a rate of 6.78%, so rates have

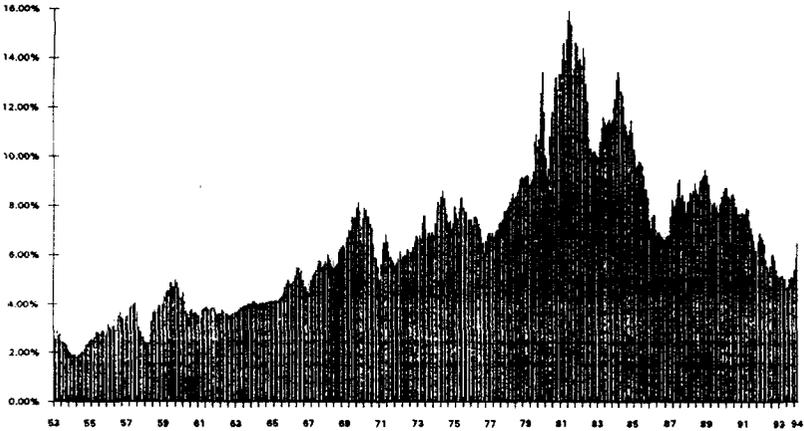
---

\*Mr. McKinzie, not a member of the sponsoring organizations, is Vice President of First Boston Investment Management Group in Chicago, IL.

## RECORD, VOLUME 20

come up some. However, in the May 25 issue of *The Wall Street Journal*, Paine Webber was quoted as predicting that the 30-year treasury rate will reach sustainable levels of about 5% by the year 2000. So notwithstanding the recent rise, there are predictions that rates will go down again soon.

CHART 1  
FIVE-YEAR TREASURY RATES  
APRIL 1953–APRIL 1994



Not too long ago, we considered long-term 5% rate guarantees as being virtually risk-free. And with corporate bond rates over 10%, this seemed to be a valid assumption. However, the spread between the life valuation rate, which frequently drives the guaranteed minimum rates on universal-life-type products, has narrowed considerably in recent years (Chart 2). In 1984, the average five-year treasury rate was about 12% throughout the year. The life valuation rate was 6%. In 1993, the life valuation rate was 5%, and the average five-year treasury rate was about 5.15%.

The spread between the single-premium deferred annuity (SPDA) valuation rate and the five-year treasury rates actually became negative in 1992 (Chart 3). Now as we know, the valuation rate is dynamic. However, in this age of rapidly changing interest rates it may not be dynamic enough. Also, the valuation rate is derived from Moody's corporate bond average, an index that's based on longer-term bonds. And, as you can see from Chart 4, not only did interest rates decline, but the slope of the yield curve steepened considerably. Chart 4 shows 5-, 10-, and 30-year rates. Now the valuation law is under review, and presumably a new law will be more dynamic than the current one.

Even though interest rates have gone up recently, they've had a lasting impact on our portfolios. Calls on corporate debt reached unprecedented levels in 1993 (Chart 5).

LONG-TERM MINIMUM INTEREST RATE GUARANTEES

CHART 2  
VALUATION RATES VERSUS FIVE-YEAR TREASURY  
1984-94

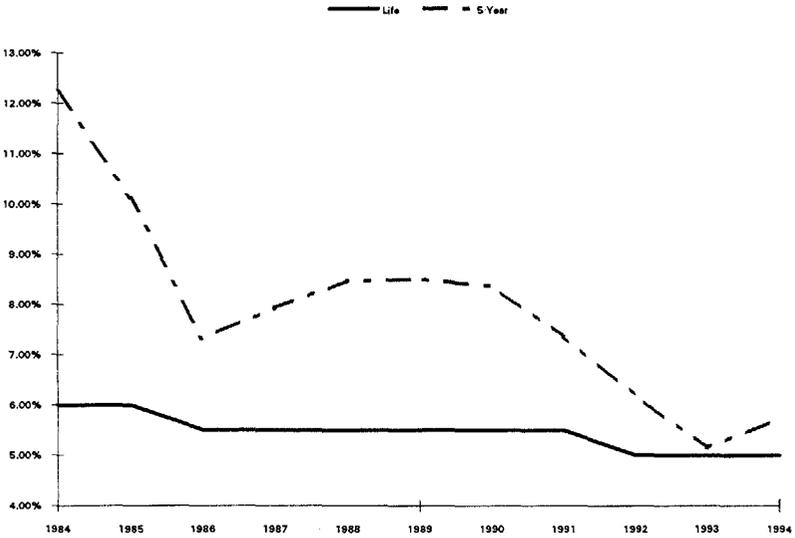


CHART 3  
VALUATION RATES VERSUS FIVE-YEAR TREASURY  
1984-94



RECORD, VOLUME 20

CHART 4  
AVERAGE TREASURY RATES  
1984-94

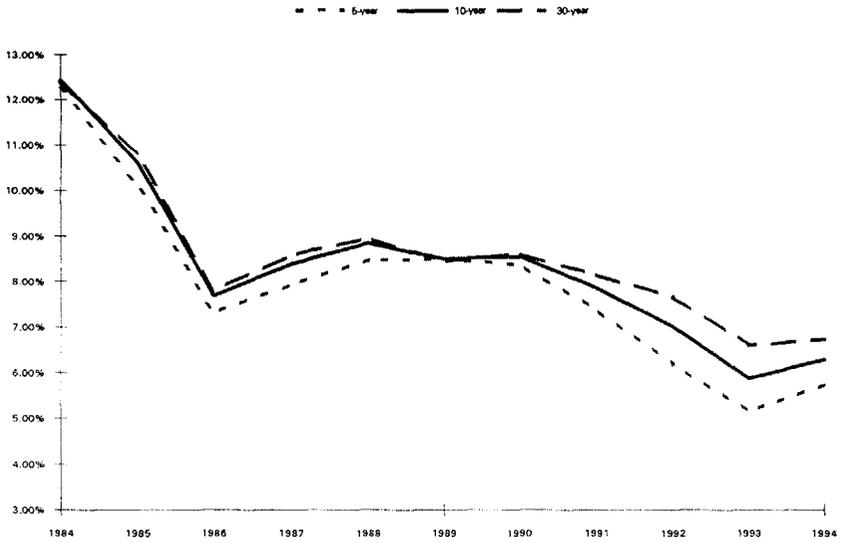
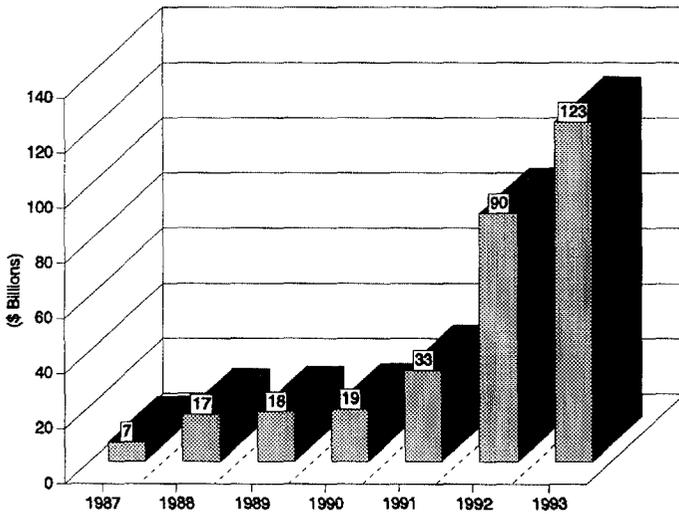


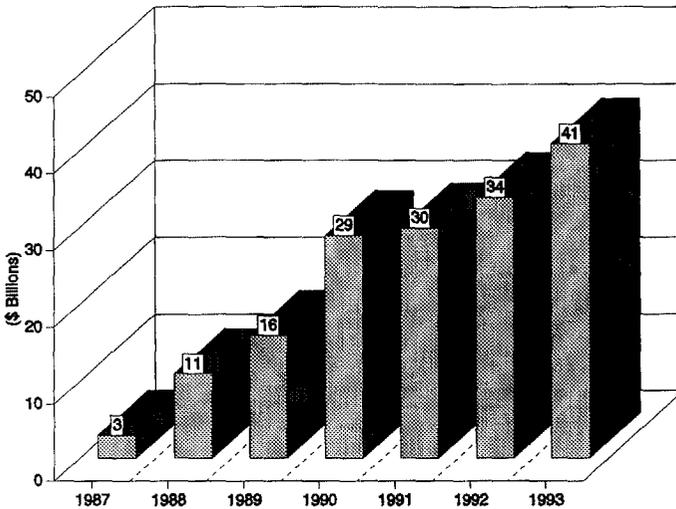
CHART 5  
TOTAL CALLED DEBT  
1987-93



## LONG-TERM MINIMUM INTEREST RATE GUARANTEES

Just looking at it by year since 1987, calls were \$7 billion, then \$17 billion in 1988, then \$18 billion, \$19 billion, \$33 billion, \$90 billion and an incredible \$123 billion last year. To all this cash flow from calls add corporate debt maturing (Chart 6). Corporate debt also reached a high, though less dramatic, in 1993 of \$41 billion.

CHART 6  
TOTAL MATURED DEBT  
1987-93



Then there were mortgage-backed securities. Mortgage-backed-security prepayments reached what many characterize as unprecedented, and in many situations, unexpected levels (Chart 7). In March 1993, the annualized prepayment rates on FNMA 8%, a bellwether mortgage-backed security, jumped from an average of about 7% to 13%, and reached nearly a 60% annualized prepayment rate in November 1993. There seemed to be a virtual frenzy as mortgage lending firms appeared to materialize overnight and aggressively solicited mortgage refinancing.

So what happened to all this cash? Well, new issues of corporate debt totaled \$264 billion in 1993 (Chart 8). This was nearly twice as much as in 1991. Therefore, the market provided us with many places to put our cash. Unfortunately, it was at fairly low interest rates. Thus, the low interest rates will have a long-term impact on our portfolios.

Even now, insurance company portfolio rates have been dropping rapidly, with all the calls and the prepayments of mortgages. Nominal guarantees of 5-6% did not seem so nominal anymore. Guaranteed settlement options suddenly had value as they were more competitive than immediate annuity rates.

CHART 7  
 FNMA 8% ANNUALIZED PREPAYMENT RATES & 30-YEAR TREASURY  
 JANUARY 1992-APRIL 1994

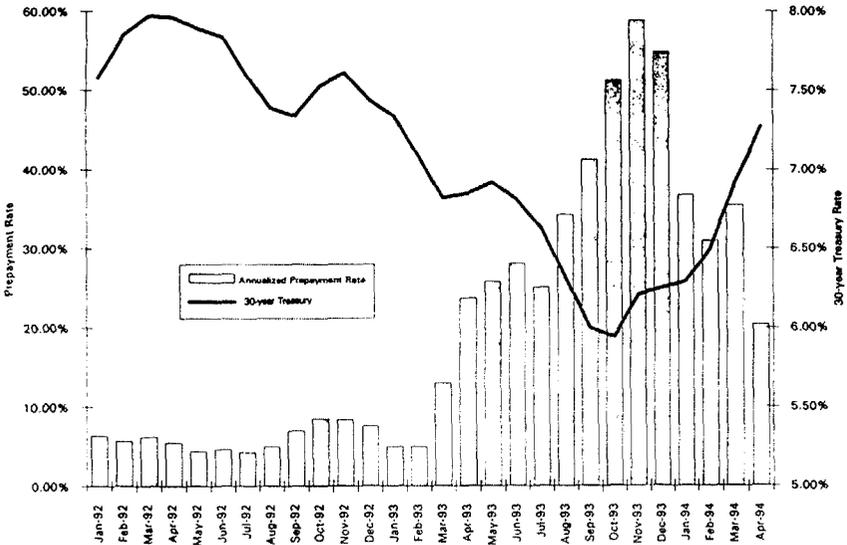
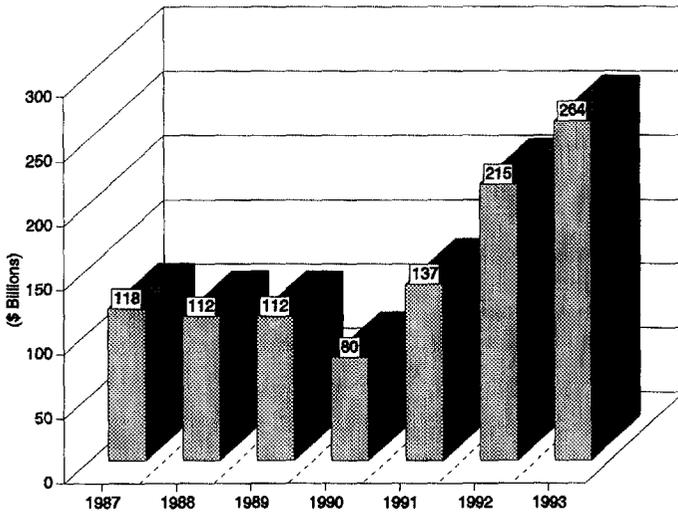


CHART 8  
 GROSS NEW ISSUANCE  
 1987-93



## LONG-TERM MINIMUM INTEREST RATE GUARANTEES

Vanishing premiums, which have been discussed quite a bit in the press lately, didn't vanish as expected, and it may be many more years before they vanish. Therefore, although the decline in interest rates might have been abated for now with the recent rise, the effects of the recent decline are long term and will affect our portfolios for years to come. And there is one thing for sure: interest rates will go down again. Will they go down by the year 2000? Will they go down by the 1996 presidential election, as some are predicting? Or they will go down tomorrow? One thing is certain, they will change.

Bill McKinzie will discuss asset-management techniques to protect us against changing interest rates. John Schreiner will discuss in-force management and product-design techniques to mitigate against this risk.

MR. WILLIAM T. MCKINZIE: I hope that long-term minimum interest rate guarantees are not the ticking bombs in your liability portfolio that keep you awake at night. We're going to talk a little bit about what the problem is and a way to define the problem and then deal with some solutions.

First let's talk about how these things developed. Rates were deregulated during the peak period of spiking 16% interest rates. People's frame of reference for long-term minimum rate guarantees is really what bank deposits use to pay. And when you have credited rates of 10% and 12%, you can just see the marketing guy. He's always arguing that he needs more product options to sell the product. It must be as easy as possible. And he needs a little spiff in the product. The guarantees were way below the credited rates: 5% and 6% guarantees meant nothing when you're crediting 10-12%. Very little reserving was involved. "Of course, just because you're giving me a long-term minimum interest rate guarantee you're not going to lower my current credited rate. I couldn't sell it otherwise" said the marketer. A bit of the book-accounting mentality developed a trap here.

From an investment perspective, you know that what we really have here are rate-floor options. You were giving away rate-floor options. The investment managers in your companies at the time weren't even aware of them. They didn't even think about them. You could have theoretically hedged them when they were issued, and they were way out of the money. And nobody did this. To my knowledge I don't know of any companies that were actually hedging against these things when they originally were issued. And investment managers were really being pressed for yield.

Let's think about where investment portfolios were 15 years ago versus where they are today. Insurance company portfolios were more diversified in many ways than they are today. Particularly with the development of rate-sensitive products, people have been driven into the U.S. fixed-income markets, high-quality U.S. fixed income. That's the conservative way to go. Once upon a time, however, private placements were more widely available and used. Use of commercial mortgages and equities was greater than today.

A number of other asset classes were involved. We've been in a cyclical declining interest rate environment the last decade. There was a great need for liquidity. And as people started thinking about these things, there was always the option, I suppose, of trying to do a match. As we've discussed, interest-sensitive products have

dynamic durations. So only theoretically could you have perfectly matched and avoided the minimum interest guarantee problem, but you wouldn't have been competitive over time.

What you or your companies were pounding your investment managers for was yield and liquidity. This framework of yield, yield, yield in a declining interest rate environment has been very good for the U.S. bond market. People started being narrowed down into the high-quality fixed-income market and then asked to stretch for yield. Now what does that really mean when you're being stretched for yield and you're predominantly in the U.S. fixed-income market? That means you start going for yield-maximizing assets. One way, of course, is to give out call options. There are only so many ways to stretch these instruments.

Now what's a call option? All a call option means is that, with the mortgage-backed securities we've been talking so much about and their derivatives, collateralized mortgage obligations (CMOs), homeowners prepay their mortgages as rates fall. They have an option on your asset. Corporations built that into their issues as well, and they can call the bonds.

So you've given up a rate floor option. You've told your investment manager that he or she has to be in high-quality U.S. fixed income. Within that constraint, he or she had to go out and get yield. So what did he do? Not thinking about the floor options, he, of course, went out and got yield and gave up call options. Policy-holders' options started going up in value just as the options on the assets came into play. This, obviously, negatively impacts surplus and what will happen will depend on where you head.

But you've basically gotten yourselves to a point of a double whammy. One strong one way, and the other strong the other. If you look at pure annuity companies, you'll find that they have triple-A mortgage-backed securities giving up these options and a lot of single-A, triple-B corporate also giving up call options. That's how you maximize yield while staying liquid in a high-quality fixed-income market. In the declining interest rate environment of the last ten years coinciding with the development of interest-rate-sensitive products, you looked great due to capital gains. Because of the declining interest rate environment, your bond portfolios did well, particularly if you were using book accounting, pre-interest maintenance reserve (pre-IMR). You could take the gains off; they turn into capital but you're not doing anything to adjust your liabilities accordingly. So you're using book accounting. You're rarely the company's big gun who can decide to adjust its reserving. In fact, the only way you're adjusting your reserving on minimum interest rate guarantees is if your cash-flow testing begins to drive that.

As we've talked about in earlier sessions, there are questions of whether the cash-flow testing being used fully captures the optionality of your products. In many cases, it does not.

So we have this situation, what are we going to do about it? First, do not panic. The long bond hit 5.77% in October 1993. Now if people had decided that they absolutely had no more tolerance for declining interest rates and had gone out and hedged their portfolios at that point in time, it would have been a disaster, given what

## LONG-TERM MINIMUM INTEREST RATE GUARANTEES

has happened since October 1993. So what one has to do is to quantify exactly what your down side is. Can you live in a 6% long-term bond environment? What does that imply for the rest of your portfolio? What is the breaking point with your minimum interest rate guarantees, if the return on your portfolio falls below a certain level? Quantify how likely it is for that interest scenario to happen. If you feel you're compelled to use some hedging techniques, what is the opportunity cost of protecting the downside? A book-accounting approach wouldn't necessarily quantify the opportunity cost sides. Mark to market might but we're not there yet.

What are some of the other things you can do? I'm going to let John Schreiner expand on this first point. When you issued annuities with minimum credited-rate guarantees, you were giving away a floor-rate option. But you didn't ask for anything in return. In fact, if you had hedged the guarantees at inception, when they were out of the money, that cost should be reflected somewhere in the product pricing. As Joe Crowne pointed out in an earlier session, the duration of your liabilities changes with interest rates. Your surrender charges should vary, as well, to reflect this.

On the investment side of the house, the real issue is the interest rate risk component in your portfolios and the need to diversify that risk. In a sense, if you think about where the industry has been in the past, while we've had this 10% decline in rates, insurance executives view U.S. high-quality fixed income as conservative. Essentially, portfolios dominated by that had a concentration risk called interest rate risk. Book accounting doesn't always pick up on it. Mark to market certainly would. Regardless of where rates go, this is going to be an issue.

To deflect this issue, people have talked a lot about their spread management. "Oh, we can keep it all in fixed income. But of course, we're always going to adjust our credit rates. We're going to keep the fixed-income portfolio positioned to lock a spread." Well, I've been looking at the quarterly numbers coming in from the most interest-rate-sensitive companies. Profits have gone down. Spread management is helpful, but it's not completely working. Stock prices have gone down on those companies as well. Lets think back about this concentration of interest rate risk, and think about where we've been and about some of these so-called bad asset classes that might diversify this risk.

You bring up high yield. "Oh, high yield—First Executive. We can't be like them." Marketing people go out and say, "If you have any high yield, people won't buy our product."

Well, in reality, as someone else in an earlier session pointed out, if two-thirds of your portfolio is in high yield you have a problem. That's First Executive. "Commercial mortgages brought down Mutual Benefit; they must be evil." Well, not everybody's commercial mortgage portfolio looks all that bad. Some people had concentration risk and poor underwriting, but not everybody did. Private placements are a declining section of the market, but in the past they have had the benefit of having call protected.

Again, these assets classes don't lock step move every time Allan Greenspan and the boys decide to raise or lower interest rates. They are diversified. They are not correlated to that interest rate risk.

There are also new asset classes that this industry, I think, is behind others in pursuing at this time. For example, 54% of the securities markets exists outside this country. I'm not saying you should run out and put half your portfolio abroad. Larry Gorski, a leader of the NAIC Model Investment Act Committee, wouldn't let you do that anyway. But if the Model Investment Act allows you 20%, my bet is that three years after the Model Investment Act comes out, the industry average will be 5%, but not 20%. Yet, if you think about it, international government bonds carry triple-A credit risk. The Federal Reserve in this country in the last few months has been raising rates but the Bundesbank in Germany has been lowering rates. If you're a bond manager, you want to be where the rates are going down to pick up the gains, in a total-return sense.

Let me just give you an example, and I'm going to be careful in my introduction of Chart 9. I'm not suggesting you go out and invest your portfolios in the mixes I've put here as portfolios A and B. That's not the point. This is purely looking at asset risk. This is designed to make a point about just how "conservative" your portfolios are from an asset perspective.

The Lehman Aggregate Index represents the U.S. fixed-income bond box. It is probably not representative of the more aggressive interest-rate-sensitive players' portfolios. The "current portfolio" is the Lehman long bond index that is probably more like what your portfolios would look like. All sorts of other indexes that are recognized benchmarks in the asset-management business are shown. What you have, of course, is their risk on a historical basis. This is going back only eight years. We've gone back as far as 20 years, and there you get into other distortions with that comparison.

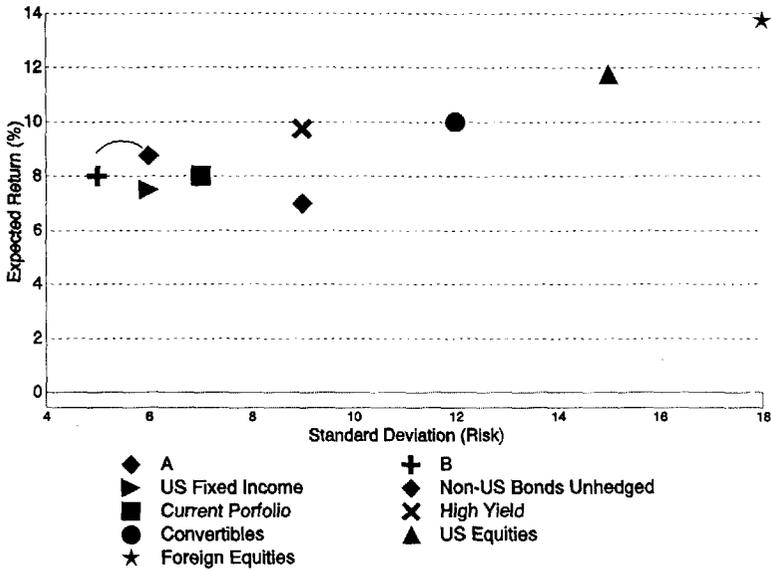
But we're looking at historical standard deviations of risk and expected returns developed by my firm. One of the things that comes through is that returns are additive, but risk is not. When risk classes are not correlated, you can have a mix for which individual components might on their own be risky, but the combination isn't necessarily as risky.

For example, we list a typical portfolio backing SPDAs as being the "current portfolio." A similar risk portfolio looks like point A, which is very different from the "current portfolio." Similar returns with even a little bit less risk is point B. I can imagine some companies, seeing this and thinking in disbelief: "Wait a minute, we're running a high-quality, U.S., fixed-income portfolio. Do you mean that a portfolio incorporating high-yield U.S. equities and non-U.S. equities has the same risk?" From an asset perspective, the answer is yes, given the fact that historically these markets don't move together. In the last few months, the stock market has been going down with the bond market. But that has not been the case over time.

From an asset-risk point of view, the risk in portfolio A is equivalent to the Lehman aggregate, which is a relatively high-quality fixed-income measure. The lower risk Point B is more typical of what you might be able to do. It's almost all fixed income. It's just involving more bets, more diversification. In this portfolio, non-U.S. equities are only 2%, and non-U.S. bonds unhedged are 3%. Convertible bonds, which are a bit of a hybrid, are included, along with hedged non-U.S. bonds. We included the high-yield market because it doesn't move with the rest of the markets.

LONG-TERM MINIMUM INTEREST RATE GUARANTEES

CHART 9  
EFFICIENT FRONTIER



Portfolio A		Portfolio B	
U.S. Fixed	70%	U.S. Fixed	70%
U.S. Equities	10%	High Yield	10%
High Yield	10%	Non-U.S. Bonds	10%
Non-U.S. Equities	10%	Convertibles	5%
		Non-U.S. Bonds (Unhedged)	3%
		Non-U.S. Equities	2%

So the point of this is not to say run out and invest in all these things today. It means that if you have an interest-risk concentration, in other words, when your assets are moving in the opposite direction of your liabilities, there are alternatives. They're called alternative markets. Even though the asset class by itself might be far out in the risk spectrum, used in smaller amounts, it can lower the risk of your portfolio. Note in this analysis we've set a minimum for U.S. fixed at 70% to reflect generically asset/liability management considerations. These portfolios would look much different if invested in an unrestricted analysis. One should not deride this as "pension" thinking.

Even if you keep 70% of your portfolio in high-quality U.S. fixed-income strategy, diversification can lower your risk. In some cases, if you're comfortable with the level of risk that you have now, you can increase returns.

There are obviously some business considerations to do this. You all have to certify reserves. That's one of the things one of the gentlemen brought up earlier. He said

"This sounds great, but we still have statutory accounting. We have book accounting. We have to certify reserves." Well yes, you do and that's going to be a challenge. How do you certify reserves when you're backing part of your portfolio with equities? Or with non-U.S. equities? Or with one of these other asset classes? That is definitely a challenge.

RBC was developed for the specific purpose of determining when a company might be approaching insolvency problems. Yes, some might misuse this measure. We hope not. It is an issue because the asset risk is an additive function in the RBC formula. Many of the asset classes you might diversify into are going to carry higher RBC charges. That really gets down to how that measure is used. I personally think that if you say that a company with 200% RBC is therefore stronger than one with 175%, that's a misuse of that formula, and it almost becomes irrelevant at those higher levels. We'll see how it's used for marketing purposes.

Obviously, what I've been focusing on with minimum interest rate guarantees is interest rate risk. Just because you get into some of these other asset classes and lower portfolio risk doesn't mean that they don't have risk. Of course there is risk. They have alternative risk. You have to have a tolerance, an understanding, and a comfort with these risks. You shouldn't invest in anything you don't understand.

Also, think about the product lines involved here. If you have a long-term-disability block, obviously you don't want to invest in assets that are going to go down in value when the economy goes down in value, because that's when a claim upsurge is going to occur in a long-term-disability book. So you have to think about your comfort with the alternative-risk measures. At least you're diversifying away a bit from your interest rate risk. Ultimately, the goal here is by reducing your correlation with your liability options, you can slay the double-whammy dragon. More importantly, you can defuse that ticking bomb that might give you away.

MR. JOHN P. SCHREINER: Bill obviously has some good thoughts on how to deal with or at least attempt to manage the mess that we're in from the asset side of the balance sheet.

What can be done on the liability side of the balance sheet? Well, I think we all know, or at least we're getting better at knowing, what can be done with future business. And that's simply to test and price for and reflect all of these so-called meaningless policyholder options that we've granted. How about for existing liabilities? I'm going to concentrate my talk on one particular strategy that some companies have explored, and even a few have embarked on, for their existing liabilities.

It is a controlled 1035 exchange program. This is a program under which a company will proactively replace its fixed SPDA business. The replacement could be done entirely internally, or it could be done with one or more external insurance company partners. The first question you ask yourself is, why would a company want to replace its in-force business? Well, as the title of the session implies, one very good reason would be to get out from underneath the high, long-term, minimum interest rate guarantees that have been granted. There has been a significant amount of business written in the late 1970s and throughout the 1980s with guarantees, which

## LONG-TERM MINIMUM INTEREST RATE GUARANTEES

as Joe said earlier, did not seem very meaningful at the time but are seen now as being quite substantial.

Any actuary who has done cash-flow testing by using the year-end 1993 yield curve sees this very clearly. What's another reason? There has always been a cost of capital, but that cost has not always been recognized. But with the advent of RBC and its use and misuse, and the influence that the rating agencies have had on companies' business plans, I think that cost of capital is clearly recognized and measured today. Risky, marginal, profitable business is simply not as desirable today as it might have been in the past. Getting rid of this business removes the balance-sheet leverage and improves capitalization. Today a strong balance sheet is much more desirable than simply a large balance sheet.

Finally, this program can reduce risk and eliminate underpriced options. I think we, as actuaries, have always realized that the policyholders hold a very valuable option in a rising interest rate environment in a book-value SPDA product. Few of us focused during the 1980s, and, in fact, not until recently, on the valuable option that the policyholders also hold on the downside.

How would this control 1035 exchange program work? I've outlined is a very simple exchange program. Obviously, a whole host of bells and whistles are possible and many considerations must be thought through. But the first step is policyholders are offered the opportunity to surrender, typically for the full account value. The policyholders today can surrender at anytime at cash-surrender value. So in this case, a benefit is provided by waiving the surrender charge.

The policyholder is exchanged to an internal or external product. Some companies, regardless of the pure economics, won't voluntarily part with assets. It's just something they don't do. Or more importantly, these companies have a distribution system where an external exchange just doesn't make sense. The exchange would be internal for these companies. Other companies don't have the same constraints, have different cultures, have different distribution systems, and may team up with one or more partners to do an external exchange.

The next step is the direct writing company would receive a ceding commission from the company to which the business is exchanged. In an external exchange this would likely be a market-rate commission. The exchanging company is simply becoming a distributor in this case. The advantage to the assuming company is that a large block of SPDA business is available at a market commission.

In an internal exchange, there really is an implicit commission through the issuance of a new product and a new surrender charge.

The exchanged-to product or company should be different. It would be great but probably not possible to simply get your policyholders to exchange their 5.5% guaranteed-rate contract for a 2.5% guaranteed-rate contract. Typically, a different product would be offered. What would be most common would likely be combination contracts, variable annuities with fixed- and separate-account options, or perhaps another contract with a bell or a whistle that a policyholder would find attractive, that you've had an opportunity to test and price for this time around.

## RECORD, VOLUME 20

When we talk about a different company, it probably means a higher-rated company. Or perhaps a similarly rated company that's willing to offer a more attractive SPDA product, overall, than the product your policyholders currently have. And finally, you may want to provide incentives. There might be incentives for the policyholders; we've already talked about the incentive of waiving the surrender charge. Some kind of interest bonus incentive may be offered, too. The policyholder is giving up something of value. I think you have to provide some incentives for that policyholder to give back that option.

There may also be incentives for the distribution system. Some sharing of the ceding commission that we talked about with the distribution system might be appropriate. Obviously, paying the distributors some commission can go a long way in facilitating the exchange.

What are the advantages of this program? I really think that, at least in the right situation, this can be a win/win/win situation: a win to the direct writing company, a win to the policyholders, and a win to the assuming company.

Advantages to the direct writing company include the elimination of long-term high guarantees. Another advantage is an improvement in capitalization. Many of these exchanges, I think, will actually create statutory surplus. Now it obviously depends on the relationship between the policyholder account value, the statutory reserves you're holding, and the ceding commission that you're receiving. It also removes the leverages from your balance sheet. So even if it's surplus neutral, or if it costs a small amount of surplus, it may actually improve capitalization. It allows you to exit, perhaps profitably, a nonstrategic line of business or what has become a non-strategic line of business. This may be the entire fixed SPDA portfolio or perhaps only the portion sold through a specific distribution force. It may be a more effective way to harvest value than by selling the block through assumption reinsurance, which is the typical way to exit these nonstrategic lines.

It's going to improve your cash-flow-testing results. Again, any actuary who did cash-flow testing by using the year-end yield curve sees that some of these SPDAs start looking a lot like single-premium immediate annuities (SPIAs). What we thought was a favorable interest rate environment for fixed SPDAs, the declining interest rate environment, can be quite unfavorable when you're starting with the yield curve that is as low as what we had in the fourth quarter of 1993.

And finally, it may allow you to harvest capital gains. This was probably a more relevant point at year-end 1993, or last fall, when there were substantial capital gains in a company's fixed-income portfolio. Today those gains may be gone. Cash must be raised to do this program. You have to write the policyholder a check with the exchange, which means you sell assets. There are rules in dealing with the IMR, that under certain circumstances capital gains can bypass the IMR. Depending on the level of surrenders—and going through an exchange program like this can have a big impact on the level of surrenders—capital gains may bypass the IMR and flow directly into surplus.

What are the advantages to the policyholders? There are likely companies in the marketplace that are willing to offer better overall terms to the policyholder than your

## LONG-TERM MINIMUM INTEREST RATE GUARANTEES

company. Presenting the policyholders with an opportunity to exchange to a different contract without a surrender charge one they might find very attractive today either in terms of contract features or in terms of the company offering it, is clearly a benefit.

The advantages to the assuming company include access to a large block of business at a market commission rate. Another big advantage to the assuming company is that the product gets written on the assuming company's policy form. That, at least from a purely administrative point of view, is a big advantage.

Potential problems? Sure. Say you are exchanging from a fixed to a variable contract, and then the market goes down. I would think this could be a problem, especially if an incentive is provided to the policyholder to switch. You have to be very careful here. There are perception problems. We've talked once or twice about upgrading to other companies. You certainly don't want to give the perception that you're a troubled company and leave that perception with your core lines of business. You have to be very careful how this is presented. GAAP problems? Maybe. Generally this will have a positive GAAP impact, but again it's something you have to look at. Finally, you need liquidity here. You are selling assets to raise cash to pay off policyholders. Even in an internal exchange, if they're going into one of these combination contracts you need liquidity. Somebody wants to switch from the general account to a separate account. They switch at cash; they don't switch at the mortgages or private-placement bonds that you have on the books. On the flip side, it's likely that less liquidity would be needed going forward because you've improved the liability side of your balance sheet.

Is it for everyone? Clearly not, but it is one approach that companies have examined as they struggle with the liability side of the balance sheet and long-term guarantees.

MR. HOWARD L. ROSEN: Relative to the 1035 program, it seems to me that the timing of this thing, or programs like it, may be key because I see potential situations that I'd like you to comment on if you would. Offering a 1035-type exchange program, where you are giving up surrender charge potentially for exchanges, could first make the surrender charges contingent and therefore increase liabilities over the valuation date. Second, for the same reason, it could increase RBC requirements, because at least as far as SPDAs are concerned, the RBC requirement for a liability with a material surrender charge that is more than 5% is 100 basis points less than that for SPDA liabilities that can be surrendered without surrender charge. So John, if you would comment on those two points.

MR. SCHREINER: Yes, it is a good point actually. Again, this whole thinking is kind of in its infancy. A couple of companies have actually tried it. At least four transactions come to mind, but I hesitate to share them because I just don't know how public they are. And thinking through it, I can't think of any that would have overlapped year-end, so I don't know if the contingent surrender charge became an issue. But I certainly agree that it is potentially an issue. You may argue that the surrender charge is contingent only if a commission of a roughly like amount is received by the company so that the net payment is close to cash surrender value. This would argue for not viewing the surrender charge as being contingent. There are just many things that have to be thought through in this type of exchange, and this is one good example. It's just not as easy as simply saying we're going to offer a 1035 exchange.

## RECORD, VOLUME 20

MR. CROWNE: Do you know what the success rate has been on cases where this has been done in companies?

MR. SCHREINER: One company that I know of was about 60%, and this was a very large block of SPDAs.

MR. EDWARD P. MOHORIC: With regard to new business, certainly on annuities, a way to avoid the minimum guarantee problem in the future is to have products with a lower rate guarantee like 3%. With the new nonforfeiture law it might be as low as 2.5%. With life insurance you really don't have that option because of Section 7702. I'm curious as to whether anyone is up to date or knows the IRS status in terms of reviewing Section 7702 to allow something other than 4% for your premium test.

I had heard the IRS is looking into it. I don't know if that means that it is going to come up with something next month or in 1999.

MR. CROWNE: I think it does point to a need for some kind of dynamic rate for the 7702 test.

MR. BRUCE D. SCHOBEL: The Internal Revenue Code's definition of life insurance (in section 7702) includes premium limits that are determined by using interest rates that cannot be less than 4%. At lower guaranteed rates, a contract's premiums could be too high for the contract to qualify as life insurance under the law. Unfortunately, the minimum interest rates are set by the statute, not by the Internal Revenue Service. The only way to change the rates is to change the law; the IRS cannot do it by regulation or ruling.

Actuaries who specialize in tax matters, as I do, are aware that current rates have gotten close to the minimum rates in the law. The problem has been discussed within my company, in ACLI working groups, and informally with staff at the IRS. Everyone who has looked at this agrees that the problem can be solved only with legislation. However, most industry people agree that any effort to obtain legislative relief would be a very dangerous proposition, especially during these times of tight budgets and never-ending searches for new revenue sources. When you invite Congress to tinker with the tax law, you often get more than you bargained for!

MR. STEVEN C. SCHNEIDER: To get briefly back to the 1035 exchange, I have one question regarding a possible drawback that wasn't mentioned. Is there an ethical issue? Obviously, we know that there's some value to the guarantee that we're giving. Could this be construed as inducing the policyholders to give up a guarantee that they don't know the value of for something that's perhaps less valuable?

MR. SCHREINER: I think that's one reason why you have to give the policyholders some additional benefits also. And I think you can argue that by allowing them to withdraw today, while at the same time waiving the contractual surrender charge, it is clearly a benefit. If you are getting out of this line of business, and you're teaming up with some external partners, you certainly want to find some highly rated external partners. And there again, that's arguably a potential benefit that you're giving to the policyholders (i.e., an upgrade in rating). It's something again that has to be thought through very, very clearly. But you certainly want to make it somewhat attractive

## LONG-TERM MINIMUM INTEREST RATE GUARANTEES

also to the policyholders. They are giving up, as we've seen in the cash-flow testing, what is a very valuable option that they may or may not realize they have.

MR. CROWNE: John, do you know of companies that have approached regulators prior to doing these exchanges either for informal or formal approval?

MR. SCHREINER: No, not that I'm aware of.

