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SOLVENCY ISSUES AND THE INVESTMENT ACTUARY

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- FASB activity in market-value (MV) accounting
- Ways to evaluate asset quality and default risk in an MV environment
- Impact of MV accounting on investment strategy
 - "Return on MV Surplus" – a new benchmark
 - MV behavior of assets and liabilities
 - Use of derivative instruments to hedge MV surplus volatility
- Investment aspects of risk-based capital

MR. DANIEL J. KUNESH: For over 75 years, the life insurance industry has been a pillar of strength, security, conservatism, and a consistency in the American and Canadian economies. Today it is rocked by insolvencies, bad investments, capital erosion, doubt, and fear from many observers and consumers concerned about their personal security and life savings. We have never seen as many failures of such major proportion as we have in the past two years. Never before has a series of so-called "bad luck" events ganged up to threaten the industry's long perceived foundation of financial strength and conservatism – such events as a reversal of fortunes in federal income taxation, a prolonged recession, new competitors in the marketplace, aggressive investment strategies followed by a sharp downturn in the junk bond and real estate markets, the darkening clouds of federal regulation, and, of course, a relentless press. Perhaps the greatest threat to the insurance industry is one of an erosion of public confidence stemming from a perceived inability of regulators, guaranty funds, and the industry itself to fully protect policyholders, and from investment practices that have become high risk.

In a period of less than one year, the tide has turned from the high risk of a battered junk bond market to substantial concerns over a very depressed commercial real estate market. Concerns relate not only to the C-3 reinvestment and interest rate disintermediation risk, but also to C-1 risks of asset default, credit quality, and liquidity. Even the Society of Actuaries Research Policy Committee has foreseen this crisis, at least in part. Earlier this year it commissioned a detailed study of credit risk related to two major investment classes with little or no secondary market – private placement bonds and commercial real estate mortgages. Industry exposure in these two investment classes alone is \$500 billion. Results of this study are expected to be released in late 1991 for those of you who are interested.

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PANEL DISCUSSION

We will explore a slightly different slant on solvency – market-value accounting of investments and its impact on the life insurance industry. Actually, the impetus for some form of market value accounting for assets, either directly in the income statement and balance sheet or indirectly through disclosure, started some time ago, perhaps as early as five years ago. More recently, in 1990, Chairman Richard Breeden of the Securities Exchange Commission called on the accounting profession to develop accounting standards based on the market valuation of assets.

We are privileged to have three distinguished speakers qualified to tell you about this developing topic in the industry. Our first speaker will be Wayne Upton, Project Manager of the Financial Accounting Standards Board. Wayne is no stranger to actuaries, having spoken at Society of Actuaries' meetings a number of times in the past. Wayne was a primary architect of the now famous Statement of Financial Accounting Standards No. 97. He will discuss recent, current, and upcoming FASB activities in market-value accounting, emphasizing the implications of a recent exposure draft.

Our second speaker will be John Sweeney, a consultant with the international benefits and insurance consulting firm, Towers Perrin in Atlanta. John specializes in asset consultation to large and medium-size companies and in asset/liability matters. He will share with us ways to evaluate asset quality and default risk in a market-value environment, and what companies are doing today.

Our third speaker will be Alan Routhenstein. He is a vice president at Merrill Lynch Capital Services in New York. He heads the Insurance Strategies Group which presently advises insurance company clients of Merrill Lynch on asset and liability management and the use of derivative instruments. Alan will share his thoughts on the impact of market-value accounting on investment strategy. He will focus on a proposed new benchmark of measurements called "return on market-value surplus," on the necessary behavior that market-value accounting imposes on both assets and liabilities and on the use of derivative instruments to hedge market value surplus volatility.

I will close with some additional thoughts on the impact of formula-driven risk-based capital on solvency matters and on the upcoming and long-awaited NAIC risk-based capital formula.

MR. WAYNE S. UPTON, JR.: I need to open with a disclaimer: the FASB encourages the expression of views by members of the board and staff, but much of what you'll hear this morning are my own views and official positions of the FASB are reached only after extensive deliberation and due process and are found in FASB statements and interpretation. That's the \$5 disclaimer. The 50 cent disclaimer is, if I should insult anyone, and experience proves I have some talent to do that, then take it as a *personal affront on my part*. Were the FASB to insult you in its official capacity, we would require an exposure draft, public hearings, extensive research, and all the rest.

I've titled my remarks today "The FASB and Market Value," and that's appropriate because market value is part of several topics that are on the board's agenda today, particularly in our project on financial instruments. In looking at market value, the

SOLVENCY ISSUES AND THE INVESTMENT ACTUARY

board has approached the problem in two ways and Dan alluded to them. The first is disclosure of information in the footnotes of the financial statements, and that's where I'll spend most of my time. The second is in the recognition and measurement of amounts in the face of the financial statement. And we also have a narrower project that, in the short term, we'll deal with some recognition in measurement issues. That project is quite a bit behind the disclosure project, so I won't spend as much time on it.

Before turning specifically to the exposure draft, I'd like to tell you a little about the broader project on financial instruments. It was added to the board's agenda in 1986, at the behest of several groups, including the Securities Exchange Commission, the AICPA, a major CPA firm, and a number of industry constituents of the board as well.

With the growth in innovative financial instruments many have become concerned that an ad hoc approach figuring out the accounting for each one of these things as we go along just wasn't going to work and that our existing accounting model just didn't deal adequately with the problems presented by innovative instruments. In addition, they were concerned that an ad hoc approach was ultimately going to leave us with a series of probably inconsistent answers, so the board added a broad project on financial instrument accounting. It is the largest project that the board has ever undertaken, largest both in terms of the staff resources and board time that's been devoted, and its potential implications for financial reporting generally.

The United States is not alone in its concern about financial instruments. There are major projects in Canada, Great Britain, Australia, and for the International Accounting Standards Committee. The board hopes that our project in the United States, by focusing on financial instruments in a broad sense, will give us answers that are useful both today and in the future. As a practical matter, attempting to deal one by one with each of the innovative instruments that are being developed is certainly an impossible task. At last count, our listing showed somewhere in the area of 200 instruments in the marketplace. Attempting to say how we're going to deal with each one is just impossible.

So how do we define a financial instrument? We're focusing on just financial instruments. And our definition of a financial instrument is, "Cash, evidence of an ownership interest for a contract that both a) imposes on one entity a contractual obligation to deliver cash or another financial instrument or to exchange financial instruments on potentially unfavorable terms to a second entity and conveys b) to that second entity a contractual right to receive cash or a financial instrument or to exchange financial instruments on terms potentially favorable to the first entity."

We have a mutuality there that's inherent in that definition. Now the definition includes many of the assets and liabilities found in insurance company financial statements including property/casualty loss reserves and the benefits reserves of life insurance companies. Clearly those fall within that definition.

It excludes some instruments that are routinely settled in cash like commodity futures, contracts, and executory contracts that require the delivery of goods and services.

PANEL DISCUSSION

Now the board began this project as it has many others, including pensions, with disclosures, and in 1987, it issued a large exposure draft titled, "Disclosures About Financial Instruments." That document would have required a whole range of disclosures about off-balance-sheet credit risk, liquidity, market value, and interest rate risk. It met with considerable opposition. Of the 450-odd comment letters received, I think three people were insightful enough to agree with us, if I recall the account. Much of the criticism that was received was because of the breadth of disclosure required, and the fact that it came all at once. The board responded to those criticisms and backed off last year issuing Statement 105 which dealt with off-balance-sheet credit risk and with concentrations of credit risk both on and off balance sheets.

In December of last year, the board issued the exposure draft that's going to be the subject of my discussion -- disclosure of market value. Now as I mentioned, disclosure is the first step. Last year, we issued a discussion memorandum that dealt with liability and equity instruments and instruments that share characteristics of both. Next month we'll be issuing the largest discussion memorandum we've ever prepared on recognition and measurement of financial instruments. And we've also just recently issued a research report on hedging relationships.

I commend the discussion memorandum on recognition and measurement to you, if you are interested at all in this field. Now a professional who deals regularly with a broad range of financial instruments probably will find little new in this discussion memorandum. The other 99.44% would pay quite a bit for as good a perimeter on modern financial instruments and finance generally. I know of no document anywhere that as thoroughly addresses modern financial instruments and their accounting implication, so I highly recommend this document to you, especially since it's free. I would recommend it as a resource document. We plan to use it internally as a text as we work through the rest of the project.

Let me turn to the disclosure project and the exposure draft on what we call fair-value disclosure. The board has completed public hearings on this document. We expect all the board meetings that would be necessary and directed the staff to begin work on a ballot draft. The final statement would require entities to disclose information about the fair value of all financial instruments with a few exclusions. It applies equally to financial assets and liabilities both on and off balance sheet. Now the term fair value is an exchange from the exposure draft that referred to market value. Several who responded to the exposure draft expressed a concern about representing that something was a market value in the absence of an active trading market. And we're not particularly disturbed about the notion of fair value since that term is a term of art in the accounting literature and one that they're reasonably comfortable with. The underlying concept though, remains the same and it is that the fair value is the amount at which an instrument could be exchanged in a current transaction between a willing buyer and a willing seller. If a quoted market price is available for the instrument, then the fair value is the market price per trading unit multiplied by the number of trading units on hand.

Now a focus on trading units is designed to answer the concern that many had in 1987 with the exposure draft about the problem of blockage. By focusing on trading units we say that fair value of a financial instrument is influenced by the size of the entity's investment in the instrument. We're talking about the value in the

SOLVENCY ISSUES AND THE INVESTMENT ACTUARY

marketplace. Focusing on trading units doesn't require that an entity go through asset by asset, liability by liability, and contract by contract and make a fair value determination. Instead, groups of instruments with similarities like a loan portfolio, certainly a credit card portfolio at a banking institution, or perhaps parts of an insurance company's GIC portfolio can be valued on a portfolio basis. If instruments are reasonably homogenous and similar, the objective is to obtain what the fair value of the individual instruments would be, but that doesn't necessarily mean that one needs to go through on a specific identification basis.

Now the exposure draft doesn't give a lot of detailed guidance. It doesn't give *any* detailed guidance, as a matter of fact. The board recognizes that financial instruments that don't trade in an active market are going to require some judgment about methods and assumptions made in reaching decisions about fair value. And the bonus for making those judgments is going to be on those who prepare the financial statements and those who attest to them. The exposure draft provides only general guidance. It will give some information about appropriate techniques that might be used across a broad range including present value, option, and matrix pricing models, quoted prices of similar instruments, a whole series of things that one might consider in making a decision about fair value. But even in a traded instrument, there are a number of amounts that one might look at to get the fair value of the instrument including the asked price, the bid, the price at last trade, the closing price, the price at last trade adjusted for commission, and the average of the bid and asked. The exposure draft permits any of those alternatives.

Now this general guidance isn't a cop out. Instead it's the board's recognition that this is in large part a new area. It's also the board's recognition that many entities, particularly in the financial services sector (including banks and insurance companies), may already have developed techniques internally that they use to produce internal market value information. Frankly, the board had no desire to require those entities to shift away from the acceptable approach that they were using internally and to impose a single method on everybody right now. That will lead to some lack of comparability, and the board recognizes that up front. This was a cost benefit judgment in the final analysis and the desire of the board to make some market-value information available, and to increase the amount that's available to investors, and to recognize that there may be some lack of comparability.

Finally, I would note in passing that several of the board's critics have complained greatly about what they consider to be overly detailed accounting guidance, and they usually point to lease accounting, pensions, and postretirement benefits as areas that they consider overly detailed. Now, we can talk a little bit about whether or not that assertion is true, but if you don't like overly detailed guidance, then this is the place for you because this one gives broad, general guidance.

The exposure draft also introduces the notion of practicability. If it isn't practicable to determine the fair value of an instrument then an entity need not try to do so and this is a cost judgment that will be made by each entity. Some entities will find that almost all of their instruments are practicable. Others will find that very few are. We expect that. What was practicable last year may become impracticable this year and vice versa. If you do find you are an entity that it is impracticable then there are some other disclosures in the exposure draft that are required.

PANEL DISCUSSION

A quick word about exclusions. If contracts that provide insurance are excluded, even though they are financial instruments, they are excluded from the market-value disclosure. And the operative document here is Statement 97. If it passes muster as an insurance contract under Statement 97, then it is excluded from the fair value disclosure. If it is an investment contract under Statement 97 (and I would expect that almost all GIC, single premium deferred annuities (SPDAs), and a large portion of the pension business would not pass muster under 97), then it is subject to the fair value disclosure. Transition is scheduled to begin December 15, 1992 with a three-year hiatus for entities of under \$150 million in assets. They need not apply until 1994.

I want to touch on three areas that I think are of particular concern to insurance companies and actuaries. The first is that transition that I just mentioned. As I understand it, about 35% of the companies that are registered with the American Securities and Exchange Commission, have assets under \$150 million. But recognize that the board also has a project on its agenda on reinsurance accounting that would, if the board goes ahead with its tentative conclusions, require gross up of reinsurance. That might very likely push some companies that are below \$150 million above \$150 million because of the gross up of reinsurance balance.

The second point has to do with asset and liability management, a notion very near and dear to the heart of many I'm sure. In determining fair value, a company's asset and liability management practices are irrelevant. A GIC that is matched against treasuries and a GIC that is matched against junk bonds do not necessarily have different market values. The market doesn't care what a liability is matched against or what assets match what liabilities unless the company's investment structure leads the market to make different decisions about credit risk or the company has agreed to share investment performance with the holder of the liability. Beyond that though, in the plain vanilla situation, the market doesn't care about asset and liability management. Similarly, it does not care about servicing efficiency. Some companies believe that because of their cost structure they have a competitive advantage and that gives them a value of use to financial instruments. The market doesn't care. The market prices instruments the way it does, so efficiencies of scale or efficiencies of internal management are irrelevant.

MR. JOHN C. SWEENEY: I generally meet with actuaries on the playing field known as asset and liability matching or modeling. A number of the issues that I'm going to be talking about will be in the area of forecast. The basic issue with which I'm going to be dealing is the market-value issue with respect to assets.

I want to talk about just three issues here. The first one is the recent developments in asset quality. Some of this may be totally obvious, or I may be reiterating the obvious, but let me just say when I discuss the smaller companies, under a billion or so in assets, a lot of what I'm going to be talking about may be new information. I mentioned that much of this is from my experience and a set of interviews and questions that I've asked a number of larger clients, major insurance companies with multibillion dollar portfolios on how they would handle some of these issues.

In terms of recent developments in asset quality and funding new products with more traditional assets, I want to talk about one experience I've had recently and that's the

SOLVENCY ISSUES AND THE INVESTMENT ACTUARY

market-value annuity (MVA) – not market-value accounting, but a market-value annuity. It's kind of a case study in a way of what's going to happen or what I think will be happening with some of your newer products. I have talked with four or five carriers of this product. It was interesting to me because I was working with one company and finding out what several of the other companies were doing on the investment side. What I found out about it may be a harbinger of how things could go. I was under the impression that MVA carriers would be using some of the more exotic of the 200 or so instruments that Wayne alluded to. In fact, of the four or five companies that I talked to, the typical portfolio was a very traditional BAA to AAA type of bond portfolio, which I found kind of interesting because it's a very competitive product. It's sold basically on its rate not unlike a universal life policy or an interest-sensitive product. What I found happening was that because of the problems that the insurance companies have had with junk bonds, and because of all the issues that Wayne just talked about, there was a move back to a more traditional investment approach. The result was instead of taking extra risk, the insurance companies were, in effect, reducing the credited interest rates. Every month, as we went through this process of setting rates on this particular product, interest rates were falling in the marketplace and interest rates were falling on this particular product.

The final point I'd make here is that a traditional bond portfolio without the encumbrances of junk bond high yields and some of the derivative products that are out there are being used in the MVA product. If you go to just a standard bond portfolio you'll see some rational marketing strategies set in because the investment people now are talking with the actuaries, and the actuaries and investment people are talking with the marketing people (at least in this particular product area). The net result is reduced credit rates when interest rates go down, and a marketing strategy that doesn't set rates two or three percentage points ahead of the other guys just to bring in market share. Now that happened in universal life if you go back to the late 1970s and early 1980s and that was one of the areas that created the problem with universal life. Everybody was front running the market when you didn't have assets under management. I'm not seeing that here, and I'm not suggesting that this particular trend will remain forever, but at least in MVA, we're seeing a return to a more traditional approach to selling the product with crediting interest rates.

What's happening in asset quality development? Well, there's a reduced emphasis. I want to mention that it's the smaller insurance companies that I'm hearing this from. I haven't talked to everybody, obviously, so I'm making some generalizations, but *there obviously has been a reduced emphasis on use of mortgages right now.* Mortgages, from an MVA product perspective, will be somewhat of a problem for some companies to come up with market values. It may even be true for some of the larger companies who say they can do it. The problem with it is putting a credit rating to mortgages. Exactly what quality do you have there? How do you discount it? How do you bring it back to some sort of market value? In the mortgage area that's particularly difficult to do.

Concomitantly, it's true in the private placement area. Here you have the same kind of sticky issue for a lot of the bigger companies as well, because the large private placement could go out where you could have five or ten large companies owning a piece of the private placement. Theoretically, on the market value basis, they're going to have five or ten different values for that particular investment. Wayne had asked

PANEL DISCUSSION

whether you do option pricing or matrix pricing on this sort of thing. Some sort of systematic approach is going to have to be initiated so that people who have pieces of the same type of investment have similar types of values to it across the board.

Now in the private placement area, most of the bigger companies have said pricing at market value isn't a particularly bad problem for them. There are methodologies there, and for the most part, the NAIC rating can be used to approximate the general credit quality of that particular issue. However, you will be faced with this issue of five companies owning the same private placement. Theoretically, it's not unlike a municipal bond – when you go to the market with it you can find a 5-10% swing in the actual quoted rate for that particular bond. So obviously there will be some slush in any of these market values, but you could have some major deviations on a private placement between one group pricing it one way and another group pricing it another way (i.e., options pricing versus matrix pricing or whatever).

The final point would be real estate. I'm not quite sure how that's going to be handled. I didn't get feedback from the insurance companies that I was dealing with. It's obviously an issue. An appraiser can give you an appraisal value for it; however, when you go to market with it, the true market value could be as far off as 50%. And I say that because I have a portfolio I'm working with right now in which we had written it down 25% from its current market value. We had every property appraised, but the appraisers reduced it another 25%, so it was marked down 50%. So if we go to market with it, we really don't think we're going to get the values we have right now. We have a full portfolio marked down at least 50%! The appraisals are a problem. How you deal with market value for real estate will be an interesting issue for the industry to work out. Nonetheless, you can see a reduced emphasis on it. If you're going to be marking this sort of thing to market, those are going to be your major problem areas. There are others but those are the three big ones that I can foresee.

Now a final point on the development in asset quality. What else is happening out there? Well, there's a move towards hedging strategies, and in this case, it's a double bind in a way. Hedging strategies require derivative instruments for the most part. They don't entirely require that. There are many things you can do to hedge, but for the most part when I say hedging strategies I'm talking about the use of options and futures. The hedging strategies are being implemented right now. Again, you have to look at this on a state-by-state basis since each state regulator, in effect, has to say yes or no to the use of options and futures and I don't believe that there's unanimity on this particular issue. When I was managing money just five years ago in North Carolina, we weren't allowed to use even call options in our portfolio, not even as a hedging strategy but a covered call option strategy.

Hedging strategies will vary from state to state, obviously, until they're approved and if they're approved by the state regulator. You'll see a movement toward the use of derivative instruments to offset either interest risk, for the most part, on bonds, and in the case of equities the market valuation or the volatility of the market. In fact, one thing that drew my attention to this particular point was a major advertisement in *Institutional Investor* where it basically played up the benefits of hedging investment portfolios with the Chicago Board of Options Exchange instruments. The basic premise of this ad was that this major insurance company in the southeast was using

SOLVENCY ISSUES AND THE INVESTMENT ACTUARY

it in a GIC portfolio. This was the first time I've ever seen an insurance company actually place an advertisement for an investment instrument, if you will. I find that a little bit unusual, but I think it is a movement in the right direction. At any rate, those are the sort of things that are happening in the asset quality area – a move back to the more traditional assets, bonds for the most part, and to investment grade bonds. My definition of an investment grade bond is the same as the industry's definition of an investment grade bond – BAA or better.

The practicality issue that Wayne talked about was interesting. Just one point on it. On all of these investment issues, exactly how one comes up with a market value approximation is obviously going to be a point of debate for many of the insurance companies out there. If you go to the market to try to price a bond portfolio, you can find as much as 5%, possibly 10% deviations in the quoted prices from brokers in the market. An exercise that you might find interesting is to go to your investment department and ask them to give you a quote on a municipal bond. That particular market is very inefficient in the textbook sense of market efficiency. The net result is you get huge deviations in your quotes. When you put a huge portfolio of bonds together to market now, you're going to see that there will be some major deviations if you try and do a cross company comparison of positions. This is not as true in the equity market, but it certainly is true with bonds and private placement. So the pricing issue is a real one. It will be interesting to see just how practical it is to mark some of these particular instruments in a reasonable manner.

Next, I want to talk about some recent developments in default control. While I am not an actuary, I do sit in on a couple of the research committees. The Committee on Bond Default Risk is one in which I've been somewhat active. What you're going to hear from me, however, is based more on my experience with insurance company clients.

One of the things that's happened and has been recorded in the press is that there has been a divesting of junk bonds from insurance company portfolios, to a greater or lesser extent, at the expense of the insurance companies. That is to say, if you are or were in the junk bond market, you will have noted this market might be up about 45% over last year. They've had a major rally. Nonetheless, the emphasis on junk bonds has diminished considerably. We're not seeing anywhere near the type of interest in these particular products other than to sell them off in mass. I don't think that is going to reverse itself in the near future.

Again, the experience has been too bad for those who have been involved, and unfortunately, those who have divested have even taken a second whack because the bonds have rallied again and come back. So it's been a bad, bad experience all the way around for companies in junk bonds, and I think the fact that they're not even being issued to any great extent today, obviously, makes this particular statement true. You're not going to see a whole lot of junk bonds moving into portfolios.

One of the things that comes out of this was the use of equity-type analysis to review credit risk. This is especially true of high-yield bonds. The difference between stock and bond analysis is that you might have a group of people in your investment department looking at Moody's and Standard and Poor's credit ratings.

PANEL DISCUSSION

Now, obviously, they'd do a little more than that at times. Interest charges are estimated and so they'd want to see the coverages. However, when junk bonds got into their portfolios and they recognized high volatility was involved, a number of the bigger companies consulted equity analysts who dealt with the volatility of the stock market and looked at companies from that perspective. You're now seeing detailed equity-type analysis of bonds. It's somewhat different. It's not a relationship between S&P's and Moody's ratings, but rather the fundamentals behind particular companies. Now that should help in default control, but I'm not going to suggest that it does because it all depends on how good your analysts are. Nonetheless, there is now a greater use of analytics in the bond portfolio analysis for the most part.

The third point covers synthetic investments. I was doing an asset and liability study recently and the liability involved was an SPDA type of product. I called a money manager and said, "I have this liability." I told him I was trying to model the liability with its underlying assets and asked him how he would do the match. How would we do a duration match on this product? Unfortunately, I must have gotten one of the younger managers. Generally, the younger people in the money management firms now have engineering degrees, and, if not, Ph.D.'s in mathematics. To match this particular liability he said he would buy a puttable bond associated with a treasury bond of similar duration. He would also put an inverse floater on it and then take an interest rate future to hedge the entire position. Now I listened to all this and I wrote it down. I'm giving you a generalization on it. There were some additional details, but he proposed four different instruments to match this liability and his point was that it was a perfect match as long as interest rates didn't move too much!

You can have major problems with synthetic instruments. They are complicated. They are numerous. Wayne has said there are 200 instruments out there. The synthetic analysts are the people who are creating some of these new instruments and who can take existing investments, match them with other options and future type derivative products and produce a synthetic investment. By way of definition, a synthetic instrument generally is one that has a treasury bond component with an option or a future and a puttable or callable aspect to it that changes it's nature. It makes a synthetic type of instrument. You can take something that isn't what you want, say a treasury or corporate bond, and the characteristics you want from a duration standpoint or from a cash pay off standpoint can be accomplished by adding options and futures. That's a synthetic instrument. Synthetic instruments are exploding!

Again, they are controlled in the insurance industry to the extent that most of the state regulators have yet to rule on whether or not they'll let insurance companies use options and futures in their portfolios. I don't have a survey of how many states are allowed to do it right now, but I believe it's a minority. The point is, however, insurance companies are moving to synthetics. If you have someone who understands and knows how to control them, then derivative instruments can help you in default control. They can be useful, even though there is a lot of risk involved.

A side aspect of this is the use of interest rate swaps and, if you will, "swaptions." I don't know if anybody's heard of swaptions; but it's an option on a swap. The use of swaps should be growing. You'll see it more and more, because it's really cash-flow matching in a way. It's the selling off of cash flows. I'm not sure how they are

SOLVENCY ISSUES AND THE INVESTMENT ACTUARY

being handled within the context of an insurance company. I see this more in the area of pension fund money management. Nonetheless, the use of swaps is becoming quite popular; that is, swapping one set of cash flows of a fixed portfolio for another of fixed interest rates or floating rates or vice versa. There's no real exchange in principle, but you can control some of your default risk if you swap out of some issues and swap into others.

Some companies are looking at "putting" reserves on corporate bonds, private placements and probably even equities. I didn't really get down to what they are reserving in the truest sense, but I am getting requests to develop a formula or a relationship to reserve for possible defaults on corporate bonds. Not just junk bond, but any type of corporate bond. Companies are asking the question, what about the volatility of equities and how would we reserve for that? Is there a relationship or a formula that can be developed? I don't want to say that it's a major trend but we may see something like this resulting in yet another reserve out there beyond the Mandatory Securities Valuation Reserve (MSVR) to help control problems with default risk.

Here is my outlook for the future on what will happen when market-value accounting is accepted or imposed. Total return management will be emphasized, that is, the end of a buy-and-hold investment strategy for bonds in particular. In fact, I thought that the buy-and-hold strategy didn't exist in anyone's mind other than in textbooks. It was used 20 or 30 years ago by insurance companies.

I have to tell you that when I was doing asset and liability matching with other actuaries, a buy-and-hold strategy seemed to prevail from an actuarial standpoint. In fact, several of the major models that are out there from actuarial firms assume a buy-and-hold strategy for the most part. Under this strategy, you buy the bond and let it mature. Then as it rolls over, you just buy another bond of some duration, whatever it might be. Unfortunately, those who work with investment people find that just isn't the case. In fact, for some of these major models, it may take a day just to enter the entire bond portfolio. You model the portfolio into your computer, but find out by the end of the day your investment people have traded away maybe a quarter of your entire portfolio. They're actively trading. They do that on a daily basis. So a buy-and-hold strategy in modeling is not realistic.

Total return management in effect says that in measuring the performance of our investment group, we're going to consider not only coupons and dividends but also capital gains. That is the traditional way that money managers run a portfolio. That's how they view it. You can be at odds with the strategies here. Total return management, in effect, is really looking to trade a bond portfolio for capital gain, not just for the coupon. And when you're setting credited rates, it becomes very interesting from an actuarial perspective. I deal with this on a regular basis. You may have actuarial assumptions built into those products that use a buy-and-hold strategy; that is, you're looking at current coupons to set your credited rates and determine your spreads. However, your portfolio managers are trading those bonds on an active basis, and if they're any good they could be getting 10%, 12%, 15% and, in some cases, even 20% and 30% on bond portfolios. Obviously, on a year-to-year basis there's volatility in those kinds of total returns. Capital gains go up and down, but from an actuarial perspective it's going to have some impact on the way you price products. Indeed,

PANEL DISCUSSION

you should recognize that total return management not just a buy-and-hold strategy, is being utilized in doing your pricing.

My second point involves performance measurement of investment return. Again, this may be sort of carrying coals to Newcastle, but performance measurement in insurance companies is a whole lot different from performance measurement of a pension fund. Pension fund money managers are measured on the return that they get from stock dividends, coupons on bonds and capital gains. Performance measurement is done on a market-value basis. You can't measure capital gains unless you know what the market value is. I've had the experience of going into a major insurance company to measure the performance of their investment group. In fact, we couldn't do it because all the assets were book value assets, and we needed an accounting system within the company to do a performance measurement (that is, look at the assets at the beginning and end of the year, and then find out how well they've done). Performance measurement has to be based on market-value accounting. You've got to look at total return. You've got to look at capital gains as well as the income that's generated. And the net result of market value accounting, obviously, is that it's going to make performance measurement a lot easier to do.

From my perspective, there are a lot more jobs for me to consult on when you move to market-value accounting, because I don't have to worry about how you price these things. I've had a great experience trying to come up with schemes to price private placements, mortgages, even real estate for big companies because they don't have the systems to value such assets on a market-value basis.

I believe that performance measurement of insurance company investment returns will move more towards the traditional pension fund approach. An offshoot of performance measurement is that investment management compensation could be affected in a lot of insurance companies because it depends on how active the insurance company is in managing its pension fund monies. If they have a very large pension fund unit, then they have very sophisticated people who are attuned to all of these issues because they're managing a pension portfolio and selling services to pension funds. However, for those who don't have that kind of expertise or who don't have a pension line and have an in-house investment advisor, it's a notoriously well-known fact within the industry that the lowest paid people in the investment industry are insurance company money managers and there's a reason for it. It goes back to what I said about the buy-and-hold strategy. You didn't need to have a whiz kid to buy bonds with triple A ratings, hold them for 20 years, and just watch them mature.

What prevailed in the 1950s and 1960s became a liability in the 1970s and 1980s when inflation started going through the roof. I remember in 1981 that a majority of the insurance companies in the country, if marked to market, would have been insolvent because there was a 30% depreciation in the value of their bond portfolios because inflation had gone to 18% and the investment departments were sitting on bonds from a buy-and-hold strategy with 5% coupons. My point is that you're going to wind up with more money managers increasing their expertise in this area, and they're going to require compensation on a par with money managers in the pension fund area. You're going to see a movement away from just picking somebody out of college or a young MBA and putting him into a buy-and-hold strategy. So

SOLVENCY ISSUES AND THE INVESTMENT ACTUARY

compensation should change with performance measurement, and you should see an improvement in quality and performance.

A few final points. There has been a return to traditional bonds, mortgage-backed investments like collateralized mortgage obligations (CMOs), Government National Mortgage Associations (Ginnie Maes) and the like. I think you're going to see more and more of that and less emphasis on some of the exotic instruments that are coming down the line. There will be an increased utilization of derivatives in hedging strategies. I think that's obvious. It's happening now and it will be happening more. However, how often derivations are used will be a function of the regulators approving and allowing you to do it.

Finally, there will be a move away from assets that are difficult to value. Mortgages and private placement bonds have valuation methodologies out there. In fact, I'll go on record and say that there will probably be a couple of consulting firms who will help you to value instruments such as pension funds. There will probably be firms growing up around the mortgage and private placement area that will develop methodologies for you to systemize the market valuation of these assets. Whether or not this also happens with real estate remains to be seen. I'm not quite sure how real estate is going to be handled and I look forward to seeing developments in this area.

MR. ALAN J. ROUTHENSTEIN: My primary topic is, "The Impact of Market-Value Accounting on Investment Strategy." I'm not going to spend significant time on derivative instruments, but please don't tell my boss that I didn't. I did speak to Wayne Upton and got a lot of the technical content for what I'm doing from the recent conclusions of the FASB.

Before I move on to market-value accounting, I'll first discuss the general account asset allocation impact of the NAIC Asset Valuation Reserve (AVR) proposal, that was released for exposure at the September NAIC meeting. You'll find that these comments are very much in tune with those that John was making. For those who are not aware of the changes to the proposal, the NAIC is proposing to use the AVR to replace the MSVR, and to reflect all invested assets. This will have a significant impact on companies with large exposures to assets exempt from the MSVR, including real estate, mortgage loans, limited partnerships, and joint ventures. Another material change is the reduction from those assets that are illiquid but MSVR-exempt, such as *limited partnerships and real estate, to more liquid assets such as common stock.*

On the fixed income side, you'll see a switch from mortgage loans to high-grade preferred stock and corporate bonds.

Even though equities might look better than they did last year, some companies with a weak surplus position may decide to increase statutory surplus by selling investments with high AVR requirements and switching to low AVR investments. Many companies that pursue such a strategy began to utilize different types of instruments to obtain equity exposure without having common stock AVR, such as convertible bonds and preferred stock.

PANEL DISCUSSION

My discussion will include the impact of market-value accounting on investment strategy. First, I will summarize the October 9 FASB decisions about fair value disclosure, as Wayne has discussed in depth. Second, I will discuss the impact of accounting method on investment strategy. Finally, if time permits, I'll spend some time on "total return on market-value surplus," introducing an idea that if market value becomes an important measure for insurance companies, actuaries are going to try to figure out ways to make sure that market value surplus looks positive and desirable.

I'll reiterate some of Wayne's major points on the FASB fair disclosure project. Most importantly, FASB intends to release a statement in December to become effective for year-end 1992, and it requires the market-value disclosure of:

1. Almost all invested assets except real estate property, commodity futures contracts, and a couple of other odd things,
2. Debt liabilities, meaning any corporate debt that your insurance companies have issued (but common stock and preferred stock are not included), and
3. Annuity liabilities (which SFAS 97 calls investment contracts), including guaranteed investment contracts (GICs), term certain single premium immediate annuities (SPIAs) that don't have a large mortality element, flexible premium retirement annuities (FPRAs), tax sheltered annuities (TSAs) and market-value adjusted (MVA) annuities.

As Wayne pointed out, the market value assumptions are supposed to be the insurance company's best estimate, very much like the actuary's best estimate on the liability side. An important point to note is that a lot of companies are concerned about the media coverage of market value disclosure results as they come out, and of rating agency interpretations of these results.

Concern that other parties might try to put together a market-value balance sheet for you, if you don't do it yourself, will encourage a lot of companies to disclose the complete balance sheet, which will be permitted and encouraged by the upcoming FASB Statement.

As I mentioned on the calculation of the market value of debt and annuity liabilities, each insurance company or actuary is supposed to disclose his best estimate. In my opinion, it probably warrants an Actuarial Standards Board (ASB) standard on annuity market valuations. Hopefully, the ASB will move quickly, although I don't know what has been decided yet.

The fair valuation of noninterest-sensitive liabilities will involve relatively minor system enhancements. However, the fair valuation of interest-sensitive liabilities, such as SPDAs, will require insurance companies to make extreme system enhancements. Wayne Upton mentioned that insurers could defer the fair market-value disclosure of a privately placed asset or liability if not practicable. Many companies can be expected to utilize this "impracticability" argument in 1992.

SOLVENCY ISSUES AND THE INVESTMENT ACTUARY

As Wayne pointed out, no method is going to be mandated. I hope that any actuarial standard that is to be written will provide the actuary flexibility in deciding what method is most appropriate.

Using bond market mathematics that are used to calculate the market value of fixed income assets, what you would do first is calculate the expected cash flows based on an assumed stochastic process for most noninterest liabilities. You would develop a deterministic set of cash flows if you're looking at a product such as a single premium immediate annuity with a 20-year term certain period. The stochastic process involves mortality. The mortality assumptions should be estimates of actual experience perhaps with margins for conservatism to reflect the relative volatility of the cash-flow volatility.

Next, you would use the treasury yield curve to calculate implied spot rates (i.e., zero-coupon bond yields), and discount each future cash flow at appropriate spreads above treasuries to obtain the market value. I use the word appropriate because I really wasn't sure what Wayne was going to say with regard to what is appropriate. I think what Wayne was leaning towards was that an insurance company really should be using its cost of funds for senior debt, in other words, the yield at which you could issue bonds.

There are some important liability market valuation assumptions for which the FASB does not provide definitive answers. For small blocks of business the question is, when should you use "expected" benefits or "most likely" benefits? How should future premiums, for example, be treated for a flexible premium annuity? Should they be included in the analysis? Although we don't yet have guidance, I expect that the FASB intends to require inclusion of marginal expenses in the liability's value, and these might be industry average expenses rather than company specific. On the spread assumption, one possibility is to use the cost of funds as the appropriate spread, i.e., spread over treasury. Another is the risk adjustment spread on your assets. Wayne seemed to indicate that this may not be appropriate under the FASB statement. The risk-adjusted spread is commonly used by companies that do this type of analysis when projecting profits.

Most companies today use a single spread. In many ways it's really a term structure of spreads such that you could use a different spread for each zero-coupon bond if you had that kind of information. Again, that would be left up to the judgment of the actuary. For interest-sensitive liabilities, the crediting strategy, interest-sensitive surrenders and annuitizations, the interest rate diffusion process and volatility assumptions are all also clearly complications and involve assumptions by the actuary.

I was talking about noninterest-sensitive liabilities at the beginning of my presentation. We all know that insurance companies write interest-rate options embedded in their assets and liabilities, and there's a need for a process to value those options appropriately. One approach is to use a path-dependent market-valuation process. Others have called it an option pricing process. I'm not going to go into any real detail, but I want to point out that the right side is the liability module and the left side is the asset module and you'll notice that they're parallel. The idea is that you're modeling the assets and liabilities in a consistent fashion.

PANEL DISCUSSION

TABLE 1
Insurance Companies Write Interest Rate Options

	Assets	Liabilities
Call Options	Call provisions on callable bonds Prepayment provision in mortgage-backed securities	Minimum interest rate guarantee Policy loan prepayment provision Dump-in provision Bailout provision
Put Options	Extension risk on mortgage-backed securities	Book value withdrawal provision Book value policy loan provision

Duration and convexity explain market value behavior. Although most insurance companies in the past used Macaulay duration for investment strategy development, many companies today have begun to use option-adjusted duration and convexity for internal asset/liability management purposes. FASB wants market-value surplus, and disclosure requirements will accelerate this trend because option-adjusted duration and convexity provide information on a financial instrument's market price sensitivity to yield curve parallel shifts.

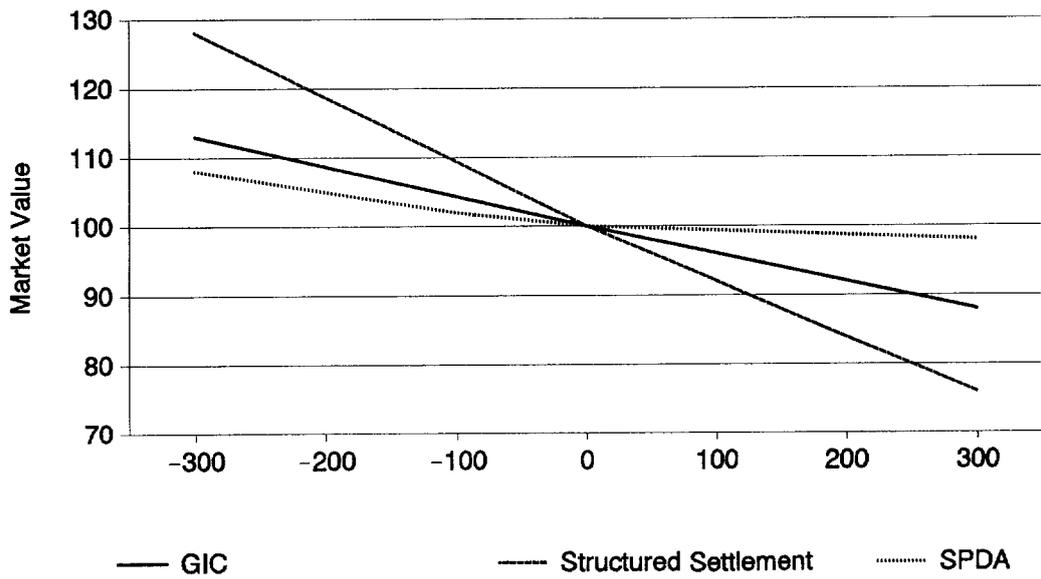
This market value graph (Chart 1) demonstrates, for three common annuities that will require disclosure (a bullet GIC, a structured settlement, and an SPDA), the sensitivity of the market value of each to instantaneous changes in interest rates immediately after issue. The option adjusted or effective duration is calculated from a market-value curve as $-dP/dY \times 1/P$, where P is the market price and Y is the parallel shift in the yield curve. For the liabilities on this graph, the SPDA had an option-adjusted duration of about two, the GIC has a duration of about four, and the structured settlement has a duration of about eight. Convexity, equal to $d^2P/dY^2 \times 1/P$, reflects the degree to which the market value curve is concave upward, and is generally small for bullet GICs and structured settlements and rather large for SPDAs.

Duration and Convexity Explain MV Behavior

- Macaulay Duration
 - Expected Mean Term of a Static Cash-Flow Stream
 - Is Equal to $1/\text{SUM } CF_t \times \text{SUM } tCF_t / (1+i)^t$
- Option-Adjusted Duration (or Effective Duration)
 - First Order Measure of Market Price Sensitivity to Yield Curve Parallel Shifts
 - Is Equal to $-dP/dY \times 1/P$
- Convexity
 - Is Equal to $d^2P/dY^2 \times 1/P$

CHART 1

Market Value Behavior of Annuity Liabilities



PANEL DISCUSSION

Chart 2 shows how the surplus strain supporting these liabilities at issue varies on a market value basis with regard to changes in interest rates. Surplus strain varies drastically depending on each individual insurance company's investment strategy. I assume that the structured settlement and GIC did not have a lot of options embedded into the underlying assets or liabilities, so the surplus strain behaves according to the common duration mismatch. It's not uncommon for companies to pool these asset portfolios under a barbell strategy, and have the GIC liabilities be a little shorter than the assets and the structured settlement liabilities be a little longer. Embedded in the SPDA are options related to the account value surrender provision and call options because of a longer term interest rate guarantee. Many of the assets supporting these products also have embedded options, such that a convexity mismatch results in a concave downward market value surplus curve, as shown.

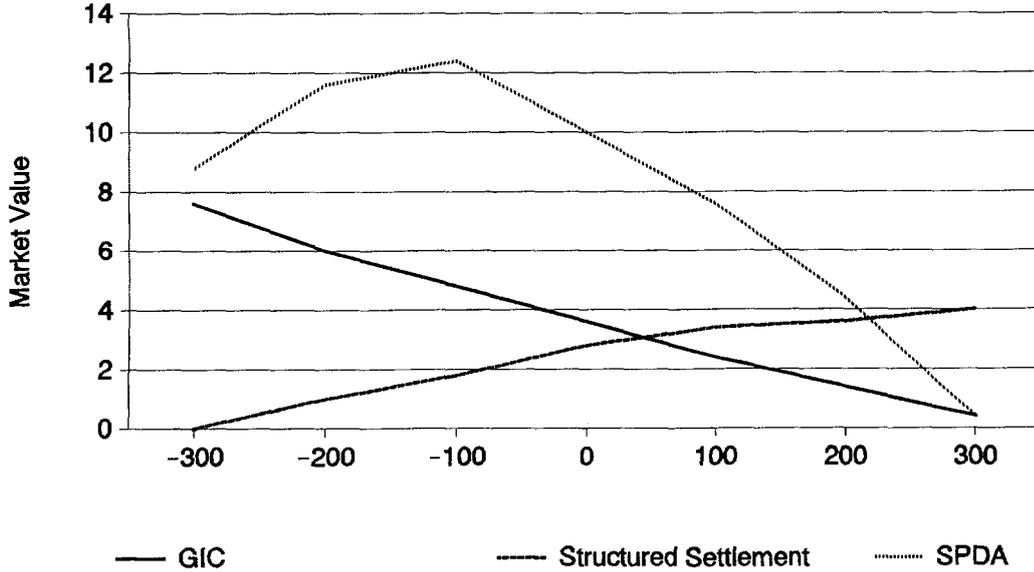
The accounting method used has an impact on the investment strategy that a company chooses. In particular, Table 2 compares amortized cost to market-value accounting under seven different investment decision categories. As John Sweeney has said, amortized cost tends to lead most companies to use a book-yield measure as a primary motivation for investing, such that relatively few companies use total return on assets as the leading objective on the investment side. I believe that with market-value accounting, a lot of companies will not move to a purely market-value, total-return-on-assets basis, but to a return-on-surplus-type measure that could be part of an incentive compensation package for senior management. What this also implies, as I mentioned earlier, is a shift from Macaulay duration and an average-life-type of measurement to an effective duration or option-adjusted duration, and much more careful duration in convexity matching. I believe many companies will start using a surplus investment strategy that is distinct from the strategy for assets directly supporting liabilities. That might involve significantly more equity investment by some insurers because of the elimination of the discriminatory treatment of common stocks under amortized cost accounting. As John also mentioned, active portfolio management will also become more prevalent under a market-value disclosure.

TABLE 2
Impact of Accounting Method on Investment Strategy

	Amortized Cost	Market Value
Primary Motivation	Book Yield	MVS Total Return
Duration Definition	Macaulay, Average Life	Effective
Duration Matching	Discourages	Encourages
Convexity Matching	Discourages	Encourages
Surplus Investment Strategy	Discourages	Encourages
Equity Investments	Discourages	Encourages
Active Portfolio Management	Discourages	Encourages

I'm going to go through a quick example in Table 3 of how one could analyze the total return on market-value surplus with three different investment strategies to try to determine what is the most appropriate investment strategy. Let's take the example of a five-year bullet GIC for which the valuation actuary requires a C-2 risk target surplus of 1%. The C-1 risk target surplus component is 1% for all three investment

Market Value Behavior of Annuity Product Surplus



PANEL DISCUSSION

strategies, which do not differ by amount of credit risk. The C-3 risk target surplus depends on the interest rate risk of each investment strategy.

TABLE 3
Five-Year Bullet GIC MVS Total
Return Analysis: Assumptions

	Target Surplus	Bond	Option-Adjusted Duration	Rating	Spread Over Tsy	Spread Over GIC
Liability: Bullet GIC	N/A	5-Year	4	AA	57.9	0
Investment Strategy: One-Year Mismatch	3.5%	7-Year	5	A	94.6	67.5
		7-Year	5	A	94.6	67.5
Duration Matched	2.5%	5-Year	4	A	78.5	20.6
		5-Year	4	A	78.5	20.6
Zero-Duration Surplus	2.0%	5-Year	4	A	78.5	20.6
		Floater	0	AA	57.9	N/A

The bullet GIC is basically a five-year note with an option adjusted duration of four. Assuming that the rating of the typical GIC insurance company is AA, the spread over treasuries when the GIC is issued is 57.9 basis points.

Let's look at the three different investment strategies in Table 3. The example uses a single-A credit rating, to use a level of credit risk typically taken by life insurers. This bond has a 94.6 basis point spread over treasuries, and thus a spread over the GIC of 67.5 basis points. For this common strategy, I chose a 1.5% C-3 risk target surplus, resulting in a 3.5% total target surplus.

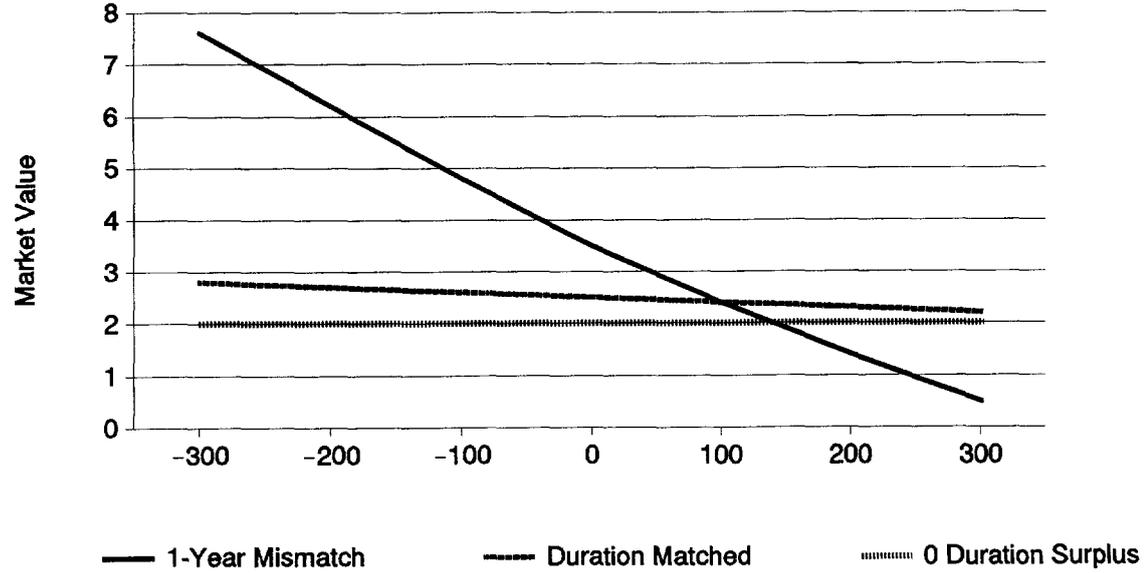
The second strategy is a duration-matched strategy where the insurer buys a five-year single-A bond to support in a sense, the five-year double-A debt that it has issued. The bond is purchased at 78.6 basis points over treasuries, which is a 20.6 basis point spread over the GIC. This strategy is much less risky, and has a C-3 risk requirement of 0.5%, and a total target surplus of 2.5%.

I call the third strategy a zero-duration surplus strategy. It involves a distinct investment strategy for the surplus strain supporting the product, where the other two strategies automatically invest the surplus strain in the same instrument supporting the liability. This strategy eliminates all C-3 risk so that there is no C-3 risk component in the target surplus, so the total target surplus is 2%. This 2% is invested in a five-year floating rate asset, commonly called a floater, so that it matures at the same time as the liability. It has an option-adjusted duration of zero meaning it's always at par. That's generally the way floaters work in the marketplace. I chose a double-A rating rather than a single-A rating with the idea that the insurance company is investing its surplus in a manner consistent with its own credit rating.

Chart 3 is a market-value surplus analysis of the three different strategies where we're concentrating on the issue date similar to the graphs we looked at before. We have the total assets minus the liabilities, and we are looking at the sensitivity to changes in

CHART 3

Bullet GIC Issue Date MVS Analysis



PANEL DISCUSSION

interest rates up and down 300 basis points. As one would expect, the one-year mismatch is the steepest line and slopes downward to the right due to its positive surplus duration. The duration-matched strategy slopes downward to the right more gradually, because surplus under this strategy has a smaller positive duration. The zero duration surplus line is flat, by definition.

The issue-date market-value surplus analysis is commonly used to decide on a hedging strategy, but pricing doesn't really provide enough information to assess the relative profitability of the alternative strategies. Total return on surplus is an approach that ties together the traditional actuarial methodology of projecting out profits with the market valuation approach.

The calculation of total return on market-value surplus is as follows. First, select a time horizon (I used two: one-year and five-years), and identify scenarios over which total return will be evaluated. Project expected asset and liability cash flows along the scenarios. Calculate the market value, at the horizon date, of the posthorizon asset and liability cash flows. Accumulate the asset and liability cash flows at appropriate spreads above treasuries to the horizon date and define the horizon-date market-value surplus as the sum of horizon date market values and accumulated cash flows. Calculate the horizon total return on market-value surplus as the bond equivalent total rate of return. The total return profile of surplus at issue on an annuity can be compared to the profile of other investment alternatives.

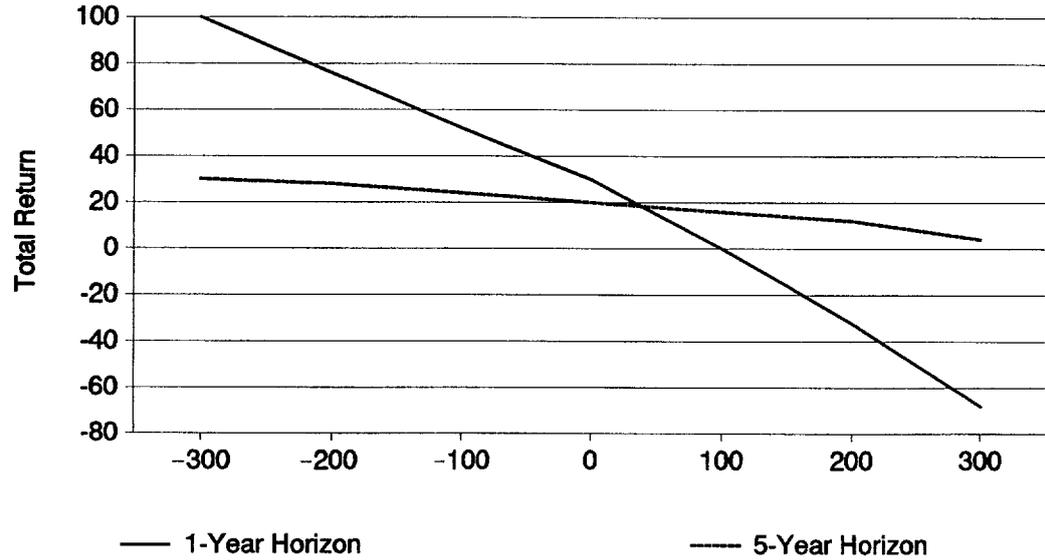
In Chart 4, I show the one-year mismatch strategy. It includes the one-year and five-year horizon total return profiles for parallel yield-curve shifts. There's a 100% return on surplus for this particular strategy. The number is about 25 for a five-year horizon return on surplus and it goes down to roughly -70 under the one-year basis. Under a five-year horizon, the strategy looks reasonable. The return ranges from 30% for a 300-basis-point drop in rates to about 5% for a 300-basis-point rise in rates, with an expected return of about 20%. Over a one-year horizon though, I think all of us would agree the profile is too volatile for any chief financial officer (CFO). The total return varies from an expected value of about 25-100% for a 300-basis-point drop, and to -70% for a 300-basis-point rise.

Chart 5 shows the duration-matched strategy which shows profiles that are much more within tolerable levels. The five-year return is about 14%, regardless of the yield-curve shift. Notice how the one-year return has an expected value of 16%, but it still behaves like a five-year bond, ranging from 24% for a 300-basis-point drop to 8% for a 300-basis-point rise in rates. Although many CFOs would be content with this level of volatility, some will insist on a strategy with returns that consistently outperform treasuries.

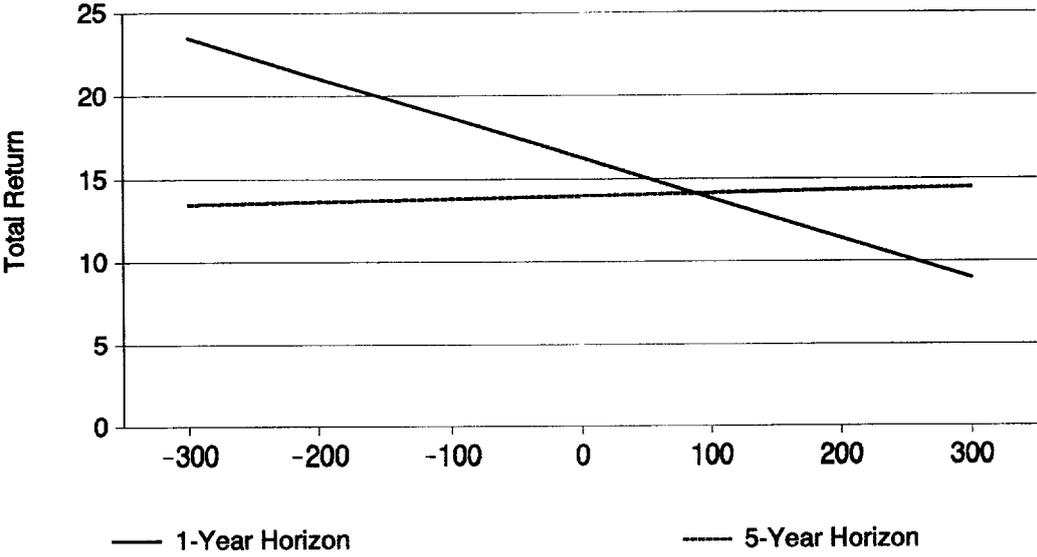
Chart 6 illustrates rates for the zero-duration surplus profile. The five-year horizon ranges from 134% for a 300-basis-point drop to 7% for a 300-basis-point rise, and the one-year goes from 15 to 18 basis points. This shows, if you have a zero-duration surplus strategy such that your surplus is invested with the duration of zero, how it basically performs like a portfolio of horizon-matched treasuries plus a spread.

For this particular strategy, the spread is about 1,000 basis points because of the leveraging effect of profit from the GIC.

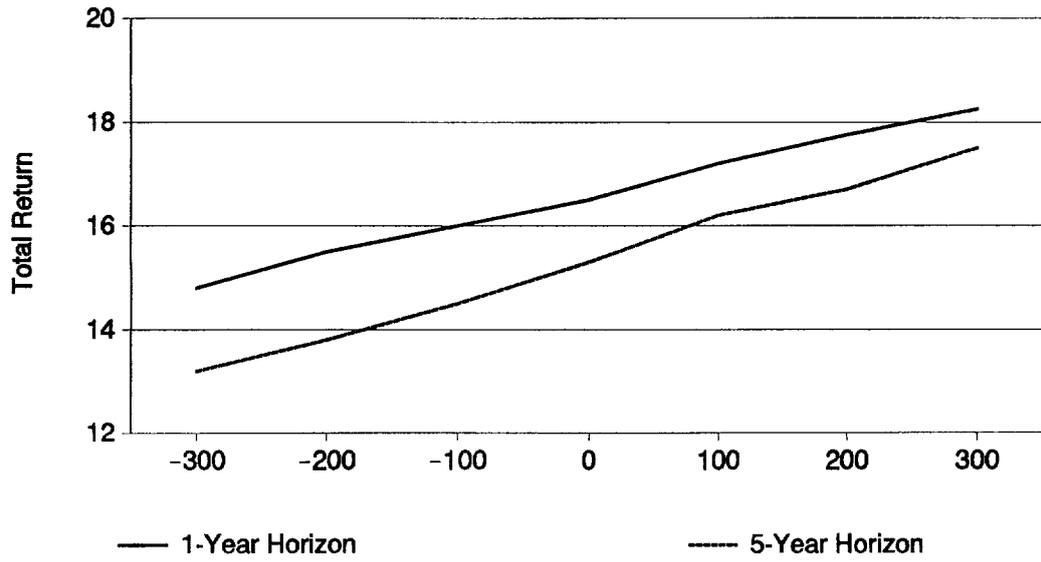
Bullet GIC MVS Total Return Profile: One-Year Mismatch



Bullet GIC MVS Total Return Profile: Duration Matched



Bullet GIC MVS Total Return Profile: Zero Duration Surplus



PANEL DISCUSSION

MR. KUNESH: This is a very complicated area. There is no doubt that you will be hearing a lot more about market-value accounting in the future. Let me comment briefly on the relationship of the various investment risks on risk-based capital (RBC). From what I have seen of RBC formulas used by companies today, anywhere between 25% and 60% of risk-based capital will be C-1 alone. It's not uncommon for it to be 40% or 50%. The level of C-1 RBC depends on the quality of your investment portfolio and how aggressive you've been in the marketplace. I did have a few slides showing relationships, but I won't do that now. There was a very good session two days ago introducing the NAIC version of an RBC formula that's expected to come out in December 1991. It should be stated that the NAIC formula will merely serve as a guide, a regulatory tool. Hopefully, the rating agencies will not pick it up as the basis to gauge required levels of surplus in the industry. It definitely is not clear today how the NAIC will use these results and what levels of regulatory surveillance they will impose in troubled situations.

FROM THE FLOOR: I want to thank all the panelists for a fine presentation. My question is addressed to all the panelists. It concerns the exposure draft not taking into account the valuation of liabilities of asset and liability management strategy, i.e., the asset side. What I heard about the exposure draft is that one would be able to take into account the asset side if there was some mechanism by which you could transfer risk to the contractholder. I was thinking about an experience-rated contract. My understanding of asset and liability management is that it is a process by which we can either transfer risk of the contractholder directly to the asset marketplace or we can design the contract to meet the asset risks we've assumed. Asset and liability management is a process of transferring risk. Therefore, is there a conflict in the exemption for an experience-rated contract versus the treatment of asset and liability management? That's my first question. My second question is, what happens if a company who is marketing GICs gets downgraded. Will they be able to reduce the market value of their liabilities also?

MR. UPTON: With regard to the question of asset and liability management and whether or not it in effect transfers risk, it seems to me that the most perfect measurement of risk transfer or any hedge used for risk transfer is found in market value. If you have transferred risk, then the market values will reflect that. Attempting to artificially layer your particular asset/liability strategy on top, something the marketplace doesn't care about in valuing financial instruments, seems to be a departure from the notion of market value. I recognize the importance of matching. There's no question about that. It's inherent to good management, but it's not an element in terms of defining market value. My comment about an experience-rated product in which the returns on the portfolio might be shared is that has to enter into the cash-flow assumption. To the extent that a particular basket of assets is going to be generating cash flows to support a liability, you then have to take it into account in determining the market value of the liability.

MR. ROUTHENSTEIN: On the second question with regard to the downgrading of the insurance company, I agree with you. The liability downgrade itself would increase the surplus of the company disclosed. Usually rating agencies will downgrade an insurer after learning about a similar downgrade of asset quality, such that the two will tend to be made in tandem. An appropriate way to reflect that in a model office would be to also take into account expected profits from future new

SOLVENCY ISSUES AND THE INVESTMENT ACTUARY

business, because clearly if you're downgraded, the value of your goodwill or profits from future sales might drop tremendously more than the market value drops in disclosed liabilities. For publicly traded companies, the stock market value would reflect both the market-value surplus and the market value of goodwill.

If a company that is made up almost entirely of financial instruments chooses to disclose that in the footnotes in the form of a proforma balance sheet, they're more than welcome to do so. However, they are not required to do so. They can make a disclosure similar to what is now done for a bond portfolio, that is, tabular presentation. Disclosure is completely at the company's discretion.

FROM THE FLOOR: My third question is directed to anyone on the panel that cares to comment. A defense that is commonly used by those of us in the industry that object to the need for market-value accounting or disclosures thereof, is that insurance company liabilities tend to be significantly longer term in nature than for other financial institutions and that market-value accounting may present short-term fluctuations in the market value of a company's surplus. This may suggest, in some cases, that a company is either insolvent or close to insolvency, and can, in fact, precipitate a run on the bank which ultimately causes the insolvency of the company.

MR. UPTON: I could flippantly suggest that was the same argument made by the savings and loan industry – if you tell people what your financial position really is, they won't want to put money in your institutions. I say that half flippantly and as a strictly personal observation. Market-value information isn't perfect. It doesn't tell you everything you need to know about risk. It doesn't necessarily tell you anything about duration mismatch, interest rate exposure or any number of other things. It's just one more piece.

MR. ROUTHENSTEIN: One point I want to make on that, is that the zero-duration surplus strategy is a way to immunize your liabilities such that your market-value surplus is not volatile. I think that fair value disclosure will lead to much more careful duration matching and convexity matching at insurance companies.

FROM THE FLOOR: My question relates to both risk-based capital and the area of market-value adjustments. Both appear to be significant thorns in the valuation of subsidiaries and affiliates. For example, if you've got an affiliate that has less than \$150 million in assets, what would you do?

MR. SWEENEY: Well, if you are a mutual company, you don't report on GAAP anyway. But in the financial statements, there will be an exclusion for any consolidated subsidiary. We don't disclose market-value information for consolidated subsidiaries. Also, in exclusion for any investment carried on the equity basis, an investment in which you hold over 20% but less than 50%, you would report normally on the equity basis and that would also be excluded. It would only be the situation in which you hold 20% or less that you would have to disclose market values for an affiliated group.

MR. UPTON: If market value slips over into statutory and into risk-based capital considerations, obviously, it's going to have to be reconsidered. So far the formulas have expressed consideration of affiliates, generally at some percentage of the

PANEL DISCUSSION

statutory book value or carrying value of the subsidiary or the risk-based capital of that subsidiary itself.

MR. SWEENEY: I think one of the things we need to consider is that next year we don't have a panel on corporate structure strategy. In other words, to manipulate your corporate structures to either leverage yourself or get much more or avoid the public appearance of problems, I think both this and risk-based capital need to address that.