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# 2001 Valuation Actuary Symposium

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#### Session 44PD

#### Fair-Value Reporting

**Moderator:** Michael J. Hambro

**Panelists:** Jeffrey Cropsey  
J. Peter Duran

*Summary: Since late 1999, setters of accounting standards have published significant reports that might lead to firms, including insurance companies and financial institutions, reporting on a fair-value basis. Both the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) are currently exploring fair-value reporting for financial instruments, including insurance liabilities.*

*There are several significant controversial issues that must be resolved before fair-value reporting is feasible. Issues include choice of discount rate, inclusion of a company's rating in setting the discount rate, margins to be used in projecting liability cash flows, direct methods versus indirect methods, and allowance of a profit or loss upon the issuance of a block of business. Resolving the issues is challenging.*

*Acknowledging that several important issues are not resolved, this session focuses on describing and illustrating specific methodology that shows the earnings and balance sheets resulting from fair-value reporting versus the corresponding results under current GAAP and statutory reporting. The presentation includes various products. Presenters disclose assumptions and techniques that are still not settled.*



**MR. MICHAEL J. HAMBRO:** I'm the moderator for this session. I'm a consulting actuary at AON Consulting in Avon, Connecticut. Since late 1999, setters of accounting standards have published important reports that might eventually lead to firms, including insurance companies; reporting on a fair-value basis. Two bodies spearhead fair-value reporting developments: the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB), which was formerly the International Accounting Standards Committee (IASC). There are several controversial key issues that must be resolved before fair-value reporting is feasible for insurance companies and the insurance products. Some people believe that fair-value reporting is on a fast track and right around the corner. Other people feel that fair-value reporting is not at all feasible for the insurance industry.

We have two presenters. Jeffrey Cropsey is a project manager at FASB. He's currently involved in insurance-related accounting issues, as well as new basis, fresh-start accounting. Jeffrey was the chief financial officer (CFO) for two publicly traded insurance companies, and he was also a vice president at Equitable. Before coming into the industry, Jeffrey was a partner at KPMG Peat Marwick and Touche Ross & Company. He has also previously served as a practice fellow at FASB. Jeffrey's presentation will cover the recent history and current developments of fair-value reporting at FASB and at the International Accounting Standards Board.

Peter Duran is a partner in Ernst & Young's life insurance consulting practice and heads the firm's New York office. He has over 27 years of life insurance experience, primarily focusing on financial reporting and performance measurements. Peter has been interested in fair-value reporting for many years. In 1999, he presented a paper at the New York Stern School Conference on Fair-Value Reporting. He has also frequently spoken on fair-value reporting. What Peter is going to present is the methodology that might very well be used in calculating the fair-value of insurance liabilities and determining the resulting income statements. His presentation will include specific examples for two types of insurance products. The first speaker will be Jeffrey Cropsey.

**MR. JEFFREY CROPSEY:** First, I'll issue the disclaimer that you'll hear from anybody from the FASB or from similar types of organizations: my comments are my views, not those of the board, which obviously are decided only after extensive deliberations and communications with the public.

Let's first discuss fair value at the FASB. There is a project at the FASB on financial instruments: fair-value reporting for financial instruments. It has been there for quite a while, although it has been a little dormant recently. We did some user research in 1998, and put out a preliminary views document in December of 1999 that asked for people's views on fair-value accounting. This document included insurance contracts, at least in its initial scope. Concepts Statement 7, issued in February of 2000, is just a basic primer on present valuing and discounting, using that as the surrogate for fair value when market values might not be available. The scope of the current project deals with disclosure, but would eventually lead to recognition. There was a public meeting with the board on fair-value reporting on November 29, 2001 at the FASB. That was another milestone of sorts. The FASB has recently had a fair number of turnovers on the board. Two people reached a normal term retirement, and one person left the board to go to work for the IASB in London, which we'll talk about in a little while. We had three new board members out of seven. You need five board members at the FASB to get a decision that will render a document effective. Three board members obviously can carry the day. So we're starting over on a lot of the projects to bring them up to speed.

At the November 29 meeting, the board acknowledged that it was in agreement with full recognition of fair value of financial instruments being the goal; however, we're now going to work on a disclosure document that would replace *Statement 107*, which is currently out there. We hope to develop some tools for the measurement of fair values to go with it. The board said it was in favor of full recognition. That's caveated by the understanding that there are many issues to be worked out first. I don't believe a final document will be coming soon, either here or in the UK, but we'll talk about that later.

Reporting financial performance is another project that's on the board's agenda. It was put out as an agenda prospectus a little while ago. If you ever do integrate fair values in the financial

statements, where you put them in the statement of income is an issue. One of the things that the project on reporting financial performance will look at is how best to display various measurements. You might, for example, separate out value changes from standard income type items as we do now for most of the market values of the investment portfolios of insurance companies in the GAAP statement.

Let's discuss the fair value project at the FASB. As I said, the notion would be to measure all financial assets and liabilities at fair value. As I mentioned, insurance contracts are within the scope of the project. Many things need to be figured out to determine fair value for all the various types of financial instruments that are already out there. How do you fair value those instruments? The original scope of Statement 107 excluded insurance contracts from its fair value requirements. So far they're in the board's current project.

A major issue has been whether or not the company's own creditworthiness or credit rating should impact the valuation of liabilities. It may be clearer in a publicly owned debt situation in which you actually have a market value. You can go out and buy back your outstanding debt at a market value, and it trades at market values. It becomes less clear in an insurance company environment how you would do a market value of your own liabilities and whether you should revert to certain present value or discounting approaches. Also, how would you or should you incorporate a credit worthiness measure?

We reaffirmed the basic goal of the FASB in February of 2001. With three new board members, we also reaffirmed that same decision at the November 29 meeting and reset the intermediate objective to enhance the disclosure qualities, which, as I said, is a replacement of Statement 107. We began work in the third quarter to get ready for the reaffirmation on November 29. The project will go forward now with a fuller head of steam.

You probably know that there was an international project also dealing with financial instruments and fair-valued financial instruments. It was run by a joint working group that also put out a

paper. I will discuss the paper later, but just be aware that there is another fair value paper out there that is going to be considered by the International Accounting Standards Board.

I have a brief comment about Concepts Statement 7. It was the board's or first formal views on discounting and the present value notion. It's a notion that has been around for many people's entire careers, and it has been in the accounting literature for many years. However, its actual application has been relatively narrow in scope. We can see it expanding because of three recent FASB statements: the good will statement, Statements 1 and 2, (which measures impairment of good will), the asset retirement obligation statement (which was Statement 143 issued by the board), and Statement 144, (which is impairment of long life assets). They all have sections of Concepts Statement 7 included in the appendices. So there's some directional notion there of where the board is going, or, at least in those three cases, when it came to measuring various forms of impairment. In one case, the actual measurement of an obligation was what the board addressed.

*Statement 143*, called Asset Retirement Obligations, is interesting. It's something that not many of you will ever face, at least as an owner of an asset subject to retirement obligations. You might do it as an insurer of certain asset-related retirement obligations, but the statements deals with things like a company's responsibility to fill in a strip mine in Arizona and ultimately clean it up. Oil wells can be a similar situation. Nuclear waste is a good one. Nuclear power plants actually have a contractual or legal obligation at the end of a project to put everything back into its original shape. Statement 143 was one of the first deviations we have had from the old Statement 5 approach, which many of you might or might not be aware of. Issued a long time ago, Statement 5 addresses accounting for contingencies. It has been sort of the guiding light for doing accruals ever since it came out. Statement 5 has certain guidance in it about when you would report a contingency, how you would record the contingency, certain measurement issues related to floors and ceilings and midpoints, and perhaps choosing the floor if no other point was considered likely. It has always been the accounting guidance from my viewpoint. In *Statement 143*, we're measuring obligations on a present value basis for the first time. We're establishing liabilities on a present-value basis. There weren't many discounted items on the

liability side of the balance sheet in the past, other than those that were in debt instruments life insurance reserves, and certain property/casualty reserves. Statement is the first statement in which we're actually recognizing liabilities on a fair-value notion. It's a big step in concept, although on a rather narrow subject. Note that concept statements only provide frameworks for determining future standards. Concept statements provide guidance to the board. It sets forth general concepts that the board tends to follow in its own deliberations. Statement 7 does provide the framework for using future cash flows in accounting measurements. It deals specifically with the notion of fair value and how future cash flows can be the surrogate for fair value when you do not have market values.

The objective of Concepts Statement 7 is to measure economic differences among estimated cash flows, a concept you are very familiar with. It also raises the notion of fresh start. When Mike introduced me, he mentioned fresh start, which is something I'm also dealing with in the sense of financial statements as a whole. This is when a company might want to fair value or might be required initially to fair value its entire balance sheet. Joint ventures would be a situation where now the literature is sort of nonexistent for what you do at a joint venture level. We have a lot of carryover where we bring historical costs forward, but you might fresh start. In other words, step up 100% of the assets or move down to a fair-value basis. This concept statement really doesn't address when that might be appropriate, but it addresses how you would go about it.

Let's talk a bit about the IASC, which was formed in March of 2001. It looks an awful lot like the FASB. They basically appear to have used the FASB as a model. They have a board of trustees similar to the FASB, and the chairman is Paul Volcker, whom we probably all have heard of. The charter of the IASB's Standard Advisory Council of this group will be slightly broader than our Financial Accounting Standards Advisory Committee (FASAC). This group will create a lot more impact on the IASB than FASAC on the FASB because we're dealing in the U.S. effectively with one standard setter, the FASB, and one national regulator, which is predominantly the SEC on the GAAP side. The IASB will be dealing with many countries all over the world; it will deal with not only their standard setting groups, but also groups comparable to the SEC's regulators. As the IASB's Standard Advisory Council is set up to provide representation to all those various groups, there will be both technical accounting and

political issues that come up.

The board comprises 14 members, including two part-timers. There are two ex-FASB members on the board. One is Jim Leisenring, a former board member in the U.S., a vice chairman of the U.S. board, and a former director of the staff at the FASB. The other was Tony Cope, who actually cut his term short and resigned to join the FASB. I believe he is originally from the UK, but he lives in Massachusetts and has for many years. The two part-timers are U.S. people. One is a professor at Stanford, Mary Barth, and the other is a partner at PricewaterhouseCoopers, Robert Herz. The rest of the members are all full time members. They have a structure set up of deliberations, public comment, the whole cycle just like the FASB. They're working in the sunshine like the FASB. If you want to find out about their projects, they have a website that gives a fantastic amount of information about their individual projects, including their insurance project. It's a good resource and it's fairly current. They did have a meeting during which they covered certain aspects of accounting for insurance contracts. I don't know what the results of that meeting were, but they will be on that website in the near future.

The IASB has taken on three types of projects that they say provide leadership and promote convergence. Convergence, of course, is the notion of trying to get all the international standards to agree or reconcile. Clearly, that will take a very long time. In the accounting world, we have ARBs, Actuarial Practices Bulletin (APB) opinions and SFASs. So we have three sets of standards that we're dealing with at the GAAP level. They are going to call their standards the International Financial Reporting Standards (IFRS). The first project is to provide for easier initial application of their existing standard (IASs). They'll have a lot of companies that might be adopting for the first time. These are just going to be projects to help first-time adopters do it in an easier fashion than trying to muddle through all the standards individually and apply their separate transition provisions. The second group of projects are projects to improve existing International Accounting Standards (IASs).

When the old International Accounting Committee (IAC) issued its statements (IASs), it often gave different choices of ways to do things. That was done because things were done differently in different parts of the world. Now that they're trying to get back to a higher level of accounting standards on a worldwide basis, the object is really to try to eliminate some of the options and



narrow down the focus of the documents.

The third set of projects, the leadership items, are the ones we're looking hardest at, particularly because accounting for insurance contracts is right at the top of the list. Why is it there? It's a curious item to show up as an initial agenda item for an international accounting standards setter, however, it's there for a couple of reasons. First, the prior committee (IAC) has done a lot of work through a steering committee in developing a paper on insurance accounting. It's an issues paper that was published in 1999. The project had some background and history going into the formation of the IASB that gave it a reason to consider the subject. Second, I understand that when you get outside the United States, there are many foreign insurance companies and very few foreign country GAAP accounting principles that apply to the insurance companies or insurance contracts. Many foreign companies, when reporting in their local country environment, often tend to use U.S. GAAP because it is one of the most complete sets, albeit not terribly coherent. It also covers most of the types of things they might see. The problem is they can choose to adopt or not adopt it because there are no rules. They can sort of pick and choose what they want to do. Because insurance is a worldwide industry, and a fairly big industry in terms of dollars, it was chosen as one of their initial agenda items, and they're doing this one solo. That means the IASB is addressing this by itself, without partners.

Business combinations are also on the initial IASB agenda. The FASB just issued *Statements 141 and 142* that deal with business combinations and the accounting for goodwill. We call that phase one of our business combinations projects. The IASB is going through that phase one drill right now. So far, it is marching almost in lock step with what the U.S. concluded in its standards. The IASB summaries read like *Statements 141 and 142*. The board is marching towards an exposure draft and all its views and determinations it has made to date are preliminary. So far, they look a lot like the U.S. standards. When the U.S. did its standard, it was a joint project with Canada. As a result, we basically have the same standard now in the U.S. and Canada for accounting for business combinations.

There is a phase two to this project on business combinations that the FASB is going to be doing as a joint project with the IASB. That means that we'll have a single staff, and we'll be presenting the same issues to both boards at roughly the same time. The IASB has its own

performance

reporting project, which it is doing as a joint project with the UK. It's like our joint project with the IASB on phase two of the business combinations. It has a joint project on performance reporting with the UK. Finally, they've elected to put accounting-for-share base payments on their agenda. It's a puzzlement of sorts. Again, if you follow accounting standards history, you know that the FASB got pretty bloodied up a few years back when it tried to put the valuation of stock options into the income statements to U.S. companies. The international guys are going to try to do it. They have a broader issue than we have here in the U.S. In other parts of the world, stock is used for more than just compensation; it's also used for normal purchases and payments of obligations. It's a broader subject, but it still includes the stock compensation issue. You can already see the guns at the Financial Executive Institute (FEI) stepping up to try to kill the project before it gets started, but it's there, and we'll see where it goes. It could wind up where we are now and make the stock compensation piece at least primarily a disclosure issue. It's another area where there are very few standards internationally, so they probably need something at least to start from.

Let's discuss the insurance debate. There are four major issues now that they're looking at in the insurance project area. The steering committee decided a long time ago that it was going to focus on contracts rather than enterprises. That means we're going to look at what an insurance contract is, not an insurance company per se. It's natural because there are a lot of things out there that look a bit like insurance contracts, but they might be done by banks or other financial institutions. The focus, unless the IASB decides differently, will be on contracts rather than enterprises. The U.S. literature is primarily focused on enterprises. Given its history and origin, that makes sense for the U.S., at least to date.

The second point is whether insurance contracts are truly financial instruments or service contracts. There are people, and there are models of accounting out there that endorse a service contract mode. The traditional life insurance style accounting we use in the U.S. is in a traditional service contract type model, in which you spread everything out over the life of the contract. Financial instruments tend to use more fair-value reporting, considering how everything is going to happen in the future. It's very different and gives very different answers.

The insurance debate also considers the asset/liability model or the defer-and-match model. U.S. GAAP is a defer-and-match model for insurance accounting, and that's because most of our insurance standards are derived from the older matching concepts. It's not really old because it's still used in a lot of areas. A notion that has been in accounting for a long time is that we try to get the income statement right. We try to match up "current" events on the revenue side with "current" events on the expense side, so everything is matched properly. The notion is whatever should be there is not current and is hung up on the balance sheet as some sort of a liability or some sort of an asset. These assets and liabilities don't fit very well with most conceptual frameworks. It doesn't fit very well with the FASB's conceptual framework, and it tends to put things on the balance sheets that might not qualify under the current conceptual framework as assets or liabilities. The steering committee decided to go with an asset/liability model, which is more conceptually correct in many ways, but would change a lot of things. It would get rid of a lot of these floating credits and floating debits that wind up on balance sheets, including deferred acquisition costs, which is a major asset that would be eliminated under an asset/liability model, because it is a pure matching technique.

The measurement of insurance contract liabilities (or assets) is, of course, a major issue. If you're going to look at all insurance contracts under a single model (which is what the IASB staff is proposing to do whether they're short duration, long duration, property/casualty, life, health, or whatever), you must look at that liability or asset very carefully because that's where all the future cash flows are ultimately reflected. In concept, it makes a lot of sense. You have one insurance contract model for all contract measurements. It's some sort of a present value of all future cash flows. All you have to do is define all the cash flows for the various types of contracts and you're home free. However, there's a lot of work that goes on in the meantime, and there are many decisions to be made by standards setters (the IASB). The FASB is not involved in this project other than what we call a monitoring basis. We're obviously tracking what's going on there, but it's not a project on our agenda. Also it's not a project that anybody in the U.S. really wants to have to address; however, there will be more to come on that also.

Peter is going to talk about the measurement debate and the techniques and technicalities of valuing insurance contracts. Fair value is probably right at the top of the list. That's where most people talk today when they talk of an ideal. It's an ideal theoretical measurement, and it's sort of an ideal system in some people's views. Other measurement approaches are entity specific, which is what the steering committee recommended in the absence of having a true fair-value standard. The IASB is also working on a true fair-value standard (the joint working group paper I talked about) to deal with the fair-value of financial instruments. In the absence of that, the IASB might look at an entity-specific value or value-in-use for insurance contracts. This would be another approach to doing present valuing. In this case, you'd look at the cash flows relating to the specific entity, and in a fair-value approach, you'd actually look at market cash flows, i.e., what a market might expect and market rates. You will get different answers under the two approaches, but the steering committee is recommending an entity-specific value until the IASB gets a comprehensive fair value standard. They probably would recommend switching to a fair-value approach at that time.

The IASB, as I said, met on November 29 to talk about insurance contract accounting for the first time, so we have no idea what their inclinations are or where they might be going. Other measurement notices include deprival value which is not a U.S. concept. It's a replacement cost notion. What would I have to do if I lost my asset? Relief value is similar. Embedded value is an interesting thought. It's not something we do in the U.S., but it's something you might have seen in the past. It's used for disclosure in the UK and in some other parts of the world. Actually, in some situations, it's on the balance sheet, but it's a disclosure item for life insurance companies. I'm told the UK life companies must disclose embedded value, which has to do with their statutory accounting model and a discounting of the net income that would be available for distribution to policyholders and/or shareholders. Embedded value is something that gets mentioned once in a while. It's not currently high on anybody's list of possibilities. The Steering Committee has focused fair value and entity-specific value at this point.

We mentioned that the steering committee put together and issued the issues paper. They issued this paper in December of 1999 and asked for comments. They actually received over 130 comment letters, and not many of them were terribly positive, which is not surprising. There's

not too many industry people on the life side or the property and casualty side that are terribly interested in doing a fair value on the reserves. The joint working group draft standard on financial instruments was issued in December of 2000. The international comment period for standards was the end of September. The U.S. put a FASB special report with cover on that particular draft standard and issued it as a FASB document and also asked for comments. The U.S. comment period ended earlier, so we don't have the full set of comments. It would be premature to talk about the results. That document and comments will be considered by both boards.

The IASB statement of principles will be in an exposure draft to their proposed standard on accounting for insurance contracts. The earliest release date will be the fourth quarter of 2002.

The pressure on the IASB comes from the European commission. It wants all European community-listed companies to prepare consolidated accounts in accordance with the IAS standards by the year 2005. In order to do that, many of the companies want all the standards finalized no later than 2003. That's two years away, so there isn't a lot of time. There is a lot of pressure on the IASB to do many things very quickly. I don't know where insurance accounting will fit in within the push-comes-to-shove environment that they're likely to get to. I think some of those projects to amend the pre-existing IAC standards, as well as the initial adoption rules, will probably take precedent in the end. I think it's unlikely that we will see a final insurance standard by the end of 2003.

Convergence. The IASB's goal is that, ultimately, we'll all be following the same accounting principles worldwide. The international companies want that so they don't have to continue to report their local accounting standards and do a reconciliation to U.S. GAAP if they're traded in the U.S. or listed in the U.S. They'd like to do away with that reconciliation. Some foreign registrants already produce full U.S. GAAP statements, of course.

The notion is to ultimately have all the accounting principles be the same worldwide. I don't think the FASB or the SEC should have any problem with that. The only way it's going to happen is if the standards are high quality. That would mean that they have to do away with the

accounting options that they have in a lot of their preferreds versus their alternative ways of accounting. Ultimately, the role of the European Union (EU) also makes a difference. It's like dealing with the NAIC. Now that you've done an IASB standard, you have to go to every country in which that standard is supposed to apply and get the local standard setters and local regulators to buy in. That could take a long time, if we just base it on the NAIC. In the U.S., we're a lot closer in many of our views than the IASB probably will see on a worldwide basis.

**MR. J. PETER DURAN:** I'm going to talk about some of the more technical issues and elaborate on some of the points that Jeff made. I guess one of the points that ought to be clear from Jeff's presentation is that we don't have all the answers. It's in the process of being developed, and there continue to be very active debates about the proper way to do fair value or whether fair value is even the right way to go. Some favor the so-called entity-specific approach and I'll try to briefly discuss it. There's also the group that favors no change. I don't think that's going to happen on the international side.

I want to talk about the definition of liability fair value, factors influencing liability price, some different possible formulations of liability fair value, and a couple of examples. First off, I think Jeff might have talked about this. The definition in Concepts Statement 7 is basically the same definition at the international level. The fair value of a liability is the amount at which it could be sold (or settled) in a current transaction between willing parties. I think it's a great conceptual definition. I think it's important in all these debates not to lose sight of what the definition of fair value is supposed to be. You can get hung up in all kinds of technical questions, and it helps once in a while to step back and ask whether what we're talking about is consistent with an actual sale. The definition doesn't say anything at all about discounting cash flows, risk-free rates, assumptions or anything else. It's just about the price that you could transfer liability for. How do you get that price? You're going to have to discount cash flows naturally since there's not an active market, but the definition itself doesn't even mention the word cash flow.

Fair value is based on an exit price concept. There was a discussion about exit price versus entry price. Exit price means the cash that the institution needs to transfer to a third party to settle the liability and to exit from the liability. That's different from an entry price approach, which

would say the fair value is connected to the funds or the cash that the enterprise receives in order to enter the liability. If you have a single premium deferred (SPDA) annuity, under an entry price approach, the fair value at issue would, by definition, be the premium. Under an exit price approach, it's not the premium. It's how much you need to transfer to a third party to exit the liability. That's probably not very different from the premium if you're in a competitive market, but conceptually it is different. It's based on an institutional market because you can't transfer your insurance liabilities to anybody but an institution. As we know, there isn't much by way of observed prices. Therefore, present value techniques are going to be required. Some factors are influencing the liability price. Some of these are your typical no brainers, like the expected liability cash flows, the variability, and the risk inherent in those cash flows. For example, if the cash flows are interest sensitive, and if it would make a difference, then you'd need to do scenario testing or stochastic calculations. Another factor influencing the liability price is the profit demanded by the market for the type of the product. The IASB literature is not entirely clear, but in some of the FASB literature, it is clear that that would be something that you do take account of. I'll say a little bit more about that later.

Jeff mentioned company credit standing, which is probably the single most controversial issue. Both the FASB and the IASB believe that you should take that into account. Whether the actual assets backing the liability should be taken into account depends on the liability.

Under the heading of liability cash flows, we have premiums, benefits, and expenses, including overhead expenses. Based on the way the IASB is currently thinking, income taxes would be excluded; however, you'd then have to do something for income taxes on the side that's consistent with fair value.

You would exclude cash flows not arising from current contractual relationships such as future new business. Policy loan cash flows would be included. I'm not talking about interest that accrues on a policy loan. If you pay out cash to do a policy loan or receive cash, that's a liability cash flow; there's no policy loan asset. It's not an asset. You would also include cash flows



arising from valuable options in the contract, such as term insurance conversion options or guaranteed insurability options. You can't avoid taking a guaranteed minimum income benefit on a variable annuity into account if it has a value.

As I mentioned, it's not sufficient to build in only expected liability cash flows. You have to make some adjustment for risk and uncertainty. There's a fair amount of discussion about that in the IASB discussion paper, as well as in FASB Concepts Statement 7. They both say the same thing. You can take account of risk and uncertainty by adjusting the cash flows or the discount rate, but not both. I think what they meant to say is don't double count. So if you take account of some risk and uncertainty through cash flows, you can take account of other risk and uncertainty through the discount rate, but don't double count. I hope that's what they meant to say.

The IASB paper introduces the concept of market value margins, which was a term that was coined by some folks at the International Actuarial Association. The concept is just the amount of additional cash flow that you have to add to your cash flows in order to take account of the risk.

As I said, it's really not reasonable for a third party to assume a liability without some expectation of gain. I like to say you're not going to get somebody to do something for nothing. There has to be something in it for the buyer. The relationship between that and the risk and uncertainty is a very close relationship. The concepts are very closely related. There is a very interesting paper that you can get off the FASB website that is an elaboration of FASB Concepts Statement 7. It talks about why it's appropriate to build in a required profit or a market demand of profit.

As I mentioned, own credit rating is probably the single most controversial issue in the whole debate, and there certainly has been a lot more heat than light. The reason goes to the nonintuitive or counterintuitive results that taking own credit rating into account produces. If the credit rating of the enterprise goes down, does it make sense for the liability values to go down, and to the extent that there would be some improvement in earnings? Most people's reaction is

that it doesn't make sense. Nevertheless, that is exactly what happens if you're carrying public debt. To say that it's not good simply because it has that effect isn't going to carry a lot of weight with the standard setters. You have to come up with a better answer than that. What's interesting on the flip side of this phenomenon of getting a boost to earnings when your credit rating goes down is what happens when your credit rating goes up. You can just picture the discussion between a CFO and the Moody's analyst where the CFO is saying, "Please don't upgrade me, I can't afford it."

It is observable in the case of public debt. I talk to a lot of people that do mergers and acquisitions (M&A). If we're talking about market-based transactions as the model for fair value, I'd have to say I haven't yet met an M&A practitioner who seems to think that the price required to transfer insurance liabilities to a third party has anything at all to do with the credit rating of the company that holds those liabilities. That's a better argument for not taking own credit into account, but it's a very controversial area.

Let's discuss assets backing the liability. You can think of insurance companies' products as falling somewhere on a spectrum. There are nonparticipating products, in which the liability cash flows do not depend on the assets that are actually held. The unusual suspects are there: term insurance, immediate annuities, and deferred annuities with a follow-the-market crediting strategy. If I have a crediting strategy on my deferred annuity, and its used to credit the seven year Treasury plus 100 basis points or something like that, I don't have to know what my investments are. I can still predict my liability cash flows. Of course, you're probably going to predict them stochastically. At the other extreme, there are the so-called fully par products where the liability cash flows do vary directly with the assets. A prime example of that would be your vanilla variable annuity or what is economically a mutual fund. For par life, the dividends depend on the assets that the company holds. There are deferred annuities where the interest credits depend on the asset returns. Many companies manage their deferred annuities and their universal life in such a way as to credit a rate that's equal to the book yield minus a spread. I think there's a large gray area here, depending on how the products are managed. The bottom line is assets held should not affect the fair value of nonparticipating products. It's nonparticipating, but not in the technical sense. They should affect the fair value of participating

contracts.

Let's discuss the discount rate. Both the IASB, the FASB and a lot of academics say that the starting point for the discount rate should always be the risk-free rate, which, in the U.S. would be the Treasuries. However, in order to take account of risk, the rate might be adjusted for risk, such as risk in the liability flows for companies' own credit. The IASB has defined entity-specific value. There are really two differences in practice between it and fair value. According to the IASB, company credit is not taken into account when you do entity-specific value. The other point is sort of the more obvious one that the projection of the cash flows would be based on. If there's a difference between the two, it would be based on the company's own expected cash flows rather than those that would be expected by a market participant. If you happen to have a very high expense company with unit expenses that are higher than market, you'd take those into account in an entity-specific approach, but you wouldn't in a market-value approach. In a lot of cases, for a lot of assumptions, there just isn't a market assumption. What's the market assumption for lapse rates? I don't know. The company is going to default to the company's best estimates in those cases because lapse rates are so tied to the specifics of the company, and the market doesn't know any better than the company.

I don't want to spend too much time on the theoretical side. Jeff mentioned the British and other European actuaries and the International Actuarial Association. There was a lot of advocacy for a so-called indirect method, which is derived from an embedded value approach. Embedded value is the discounted distributable earnings, which I think is the most common word. In the UK, they call it shareholder transfers. These are the expected year-by-year distributions to owners that are generated by the business. You have assets equal to the required assets. You then discount those distributable earnings at the hurdle rate and get something called the embedded value. By definition, under this indirect method, that embedded value is the fair value of equity, so that term FVE is the embedded value under this method by definition. FVA is the fair value of these required assets. Those required assets were determined on a statutory basis, but they're allocated to the business, and they support the business. They determine the cash that's available for distribution. In part, you must determine the cash that's available for distribution to the owners.

What's the fair value of the liabilities? Liabilities equal assets minus equity, so fair-value liabilities must be the fair value of the assets minus the fair value of the equity. We can just calculate the fair value of the assets. Fair value of the equity is the embedded value.

When accountants see that, they recoil in horror because it's inherently backward. You can't find an accounting textbook that defines liabilities in terms of assets minus equity. I'd love to see one. In every accounting definition, you define assets, and you define liabilities. Equity is the balancing item, not the reverse. It seems to depend on statutory reserves and investment income, and it also depends on the level of assets associated with the business, the rate earned on those assets, and the hurdle rate. We didn't want to take those things into account when we're determining liability fair value. That's the indirect method. The direct method is really a family of methods where the cash flows are discounted directly. It's similar to what we've been talking about. There's an appropriate adjustment for risk.

There is a landmark paper by Luke Girard in the January 2000 issue of the *North American Actuarial Journal (NAAJ)* that shows that if you make the right assumptions, you can reconcile the two methods. They are equal, provided you make so-called consistent assumptions. One of his direct methods is to discount the liability cash flows and the required profit. You must use best-estimate cash flows, and the required profit is the excess of the hurdle rate over the asset rate times the fair value of equity. The required profit is the additional return needed to achieve a return on equity on a fair-value basis equal to the hurdle rate. The discount rate is the asset rate. In another version of the direct method, you discount the liability cash flows only using best-estimate assumptions, but the discount is at something Luke calls the liability rate. The liability rate is the asset rate minus the required profit divided by the fair value of the liabilities.

Both these methods sound circular because, for example, we're defining this liability rate in terms of required profit and fair-value liability. It sounds circular but, if you go through the proofs in his paper, you'll see that they aren't circular.

As I mentioned, the equivalence of the method depends on the use of consistent assumptions, such as the liability cash flows. Obviously, you have to have them done on a best-estimate basis.

They have to be the same. In the asset allocation, we're sort of thinking of certain assets as backing the liability, even though we're not necessarily supposed to take account of the assets backing the liability. The short rate is on the type of assets held and the hurdle rate. Let me go through a couple of examples. Everybody does this bullet GIC example, so I don't want to spend a lot of time on it. Fair value is the promised cash flow discounted at a rate that depends on the credit of the issuer, which is, by definition, the liability rate. Another way to think of the liability or another possible approach is to define the liability rate directly in terms of the company's credit. It is the risk-free rate adjusted for the company's credit. That's the way I'm thinking of it in this bullet GIC example.

I just wanted to show you how this could play out. The results aren't terribly surprising. Suppose we have a bullet GIC and a five-year contract where we're crediting 5.75%. We're doing that because we anticipate earnings at 6%, and we are going to earn 6% by investing in A-rated assets that yield 6% (1% over a 5% risk-free rate with initial expenses of a quarter percent of the premium).

Let's take a look at the direct method. This is a little bit different version of the direct method in which we're going to allocate capital based on a certain percentage of the liability fair value and total assets equal to the liability fair value plus that allocated capital. We can solve for the liability rate. The answer you get is the formula  $i - c(k-i)$  where  $i$  is the asset rate on the type of asset that is backing the liability,  $k$  is the hurdle rate, and  $k-i$  is the risk premium. You could also think of that as an equity risk premium if you want. If there is an observed market for this bullet GIC, then this liability rate should reconcile to that observed value.

I'd like to put some numbers in a formula. The allocated capital is 4%, the equity risk premium is 5.5%, and if the market rate is 6%, that would give a liability rate of 5.78%. If interest rates stay level, the liability values climb from essentially a number that's almost equal to your initial premium to the maturity value. Chart 1 shows an example of what would happen to income. There would be a little loss at issue in this example. Remember that the contract, just for

simplicity, was issued December 31, so the time zero loss is for a December 31 year-end. The contract has been in force one day. It's a very smooth pattern because we're assuming interest rates don't change. The liability doesn't depend on what assets you invest in.

What happens if interest rates go up 2% after one year (see Chart 2)? Then the liability value is going to go down 2. We're really interested in what happens to income in this case. It does depend on what kind of assets you hold. Once interest rates start changing, your income obviously is related to the type of assets that you're holding. In Chart 3, we have \$50,000 of initial cash. To back this liability, we took in the initial cash that we have, and put \$50,000 into cash, and we invested the rest in a five-year bullet bond. So most of the assets are in a bond maturing in five years. Those asset values are going to go down at the end of the year. What happens is the income looks almost the same. It's a little higher in the first year than it was under the baseline. If the assets and liabilities were perfectly cash-flow matched, you wouldn't expect any impact on income from changing interest rates. They're not quite perfectly cash-flow matched because we have some in cash. So the company wins under this scenario. We got a little game going on here because some money is in cash. Let's say we took in that initial million dollar premium and put half of it in cash, which would be an incredibly risky strategy. If interest rates went up 2%, we'd win big time, because the liability value would go down just like in the previous example, and the assets wouldn't go down anywhere near as much. Of course, the flip side is if interest rates go the other way, we'd lose. Chart 4 shows what happens if they go up and down.

Not many people look at term insurance very carefully. There are actually some very interesting take-aways from looking at a term insurance example. What the example highlighted for us was how important this question of allocating capital can be, and how big a difference it can make to the answer. Let's say we have a block of ten-year level term business. This is real business issued by a company. It is a level premium, nonrenewable, simple product with no convertibility feature. There is a mixture of issue ages and underwriting classes. When most companies price, they look at the internal rate of return on distributable earnings. In the case of term insurance, if you have XXX reserves or deficiency reserves, that has a huge impact on the internal rate of return (IRR).

If you have to hold all those additional assets, you're not earning your hurdle rate on those assets. In this example, the way the numbers worked out, there is a 20% IRR if there are no deficiency reserves. There's an 11% IRR if you have to take into account those deficiency reserves.

So we can adjust for risk through required profit taking the hurdle rate less the asset rate, times the fair value of equity. As I say, a certain level of assets are assumed to be allocated. What is that level of assets? Because of regulatory requirements, we have to hold assets that are equal to the basic reserves, plus the deficiency reserves, plus 200% of RBC on top of that, which is a lot of assets. If we took an economic view, we would have a lot less assets. So we looked at what impact that has. It has a big impact. The hurdle rate we took was 13%, which conveniently is between 11% and 20%. As I mentioned, I'm using the term asset rate. You could interpret that as a rate that corresponds to the company's credit or the asset earnings rate for the typical assets backing the liability. We discount the cash flows at the asset rate.

Chart 5 simply shows the level of assumed assets allocated to the product under different approaches to required capital. The squared line is statutory with deficiency reserves. Of course, there's a huge initial asset allocation. If there are no deficiency reserves and just basic reserves, there are a lot fewer assets. If you made some kind of economic allocation, there would be fewer still.

What happens when you go through these various alternate approaches? What happens to the liability values (see Chart 6)? You start with the economic allocation and the statutory with no deficiency reserves being negative. The liability is negative; it becomes positive, and then ends up at zero. If you allocate the assets based on statutory requirements with deficiency reserves, you get positive liability values and very high liability values. So the economic adjustment results in much lower liability values and regulatory asset allocation. I'm using asset allocation to mean reserves plus capital. In the case of this product, it covers economic risk and an additional amount that's there because it was put there by the regulators. I don't think most companies would hold all that capital if they didn't have to, but market transactions do take account of regulatory capital.



Let's take a look at Chart 7. As I mentioned, the rate on distributable earnings is 11% if there are no deficiency reserves. We're using a 13% hurdle rate in the pricing of this block of business. Because the hurdle rate is greater than the rate on distributable earnings, we would expect a loss at issue and that is what shows up. Let's look at the fair-value income produced every year under two different ways of calculating the liability. In one case, we're adjusting for risk based on a purely economic approach. In another case, we're adjusting for not only the economic risk, but the capital that we need to hold on a regulatory basis. Of course, it makes a dramatic difference. The income that's produced by the allocation on an economic basis is what you'd expect in this case. When actual equals expected, fair-value income statements are smooth. The economic basis line is fairly smooth; it goes down as the business runs off. The regulatory basis line starts off with a big loss at issue, and that's due to this high asset allocation.

**MR EDWARD C. JARRETT:** I have two questions. In looking at fair-value treatments, I assume there has been some initial thoughts and discussions on issues in terms of supporting statements, income statements, cash-flow statements, and statements that deal with the variations in actual results to predicted results underlying the previous period's fair-value estimates. That's my first question. Where are we going if we just look at the balance sheet. We must carry that forward to income statements, cash-flow statements, and so on.

**MR. DURAN:** There certainly has been thought given to that issue. I think the suggested income statement approach creates a very important question because the income statements will be very volatile, and you want to present earnings in the most meaningful way possible. I don't think it's public yet, but there is some work that the IASB has done in this draft that has been circulating around. They would take the income statement and break it into underwriting profits from new business, from old business, and from what they call financing, which is a change in discount rate or economic conditions. I think a lot of companies will take the approach that most UK companies take when they disclose their embedded value and achieved profits. You have earnings on new business, earnings on in-force business, expected earnings on in-force business, differences due to actual versus expected, differences in the current year, and then differences due to changes in assumptions. I think it's a very important question, and I think it's related to this

whole issue of performance reporting. Jeff was talking about performance reporting as being one of the top projects at the IASB. They want to have as meaningful an income statement and balance sheet as possible. They put that high on their agenda.

**MR. JARRETT:** Those companies with enough resources to do better experience analysis and to do a better job of predicting cash flow should get some sort of benefit in terms of the analysts looking at whether their numbers can be a better predictor of what's going to happen next rather than companies just pulling assumptions out of the air. That was my first question. The next question deals with the discount rate chosen on some of the stuff that Peter was talking about. I think that the Girard paper deals with the concept of having or not having deficiency reserves and with and without required surplus. The present value of an earnings approach versus a straight asset/liability approach elicits the same number. Basically, if you're allocating some more assets that are risk-free bonds or Treasuries to a particular set of liabilities, it doesn't actually change the liability cash flows. You should be splitting the discount rate between those cash flows that are risky and those cash flows that are not risky. Just keeping your hurdle rate at say 13% and doing it with and without a required surplus approach or using deficiency reserves isn't consistent. You have to change the hurdle rate depending on the riskiness of those cash flows.

**MR. DURAN:** I could also argue that it is consistent because the hurdle rate is the company's cost of capital.

**MR. JAMES G. BRIDGEMAN:** I have a trivial question for Peter, and a conceptual one for Jeffrey. Your cash flows are supposed to include overhead expenses. Obviously, a third party doesn't care what my overhead expenses are when it's going to buy. Are we going to need sort of tables of industry average overhead expenses?

**MR. DURAN:** That's a good question. They do include overhead expenses. Conceptually, I think industry average overhead expenses are what you'd be talking about in a fair-value model. I don't know whether anybody is ever going to produce such tables. I kind of doubt it.

**MR. BRIDGEMAN:** For Jeffrey, I'd like to go back to the concept of a willing transfer or settlement or a transfer or settlement among willing parties. Say we determine it has to be a third party institution, and I suddenly went into the business of offering to buy policyholders out of their contracts, even though there is an enforceable early settlement provision. Assuming I had evidence that my policyholders are willing to settle on certain terms, could I use that evidence to do a fair value on a basis like that. This is purely conceptual.

**MR. CROPSEY:** Could you repeat all that?

**MR. BRIDGEMAN:** Suppose I say I don't want to do all this. Would some other insurance company buy a book of business from me. What would it take for me to go right back to my contractholders and settle with them? Even though I don't have a contract settlement provision, I could write a letter to them and say, "I'll give you 110% of the cash value if you'll let me out of the contract right now." If I had some evidence along those lines, would that count under the conceptual framework for setting fair value? Obviously, I wouldn't want to generalize that into a cash-flow model of some kind that's very different from what an investment banker might do. I've got all these customers who are willing to pay a \$1,000 premium for cash values that start at nothing and build up. I could theoretically make a model that says the same person who would buy that contract might be willing to settle it for a certain amount. Now my hypothetical model would come in.

**MR. CROPSEY:** I think the concepts would tend to send you towards the secondary market. To the extent that there was a market or that you could support the notion of a market with that kind of a concept, you might be able to do that. The whole notion of having a market, of course, is a difficult one. Many people have looked at reinsurance as a surrogate for a market. You folks know very well that you're valuing reserves all the time in purchase sale transactions and in acquisitions. So the notion of coming up with a willing price for a willing buyer is not certainly foreign to the actuaries at this point. It would probably have to be a little bit broader than just policyholders. Have we ever looked at markets developing in some of these areas? It's hard to imagine at this point that that would realistically happen, but conceptually it could.

**FROM THE FLOOR:** The process doesn't take much effort.

**MR. CROUSEY:** You just need a buyer and seller.

**MR. FRANK E. KNORR:** I have a comment on the relationship of credit rating and value. To me, it makes sense that the impact on the credit rating would have to be considered. I'm specifically referring to how exiting the business changes the credit rating. It sounds like you're talking about just the credit rating level rather than whether it increases or decreases. It seems like if the credit rating doesn't change, there should be no impact on the value.

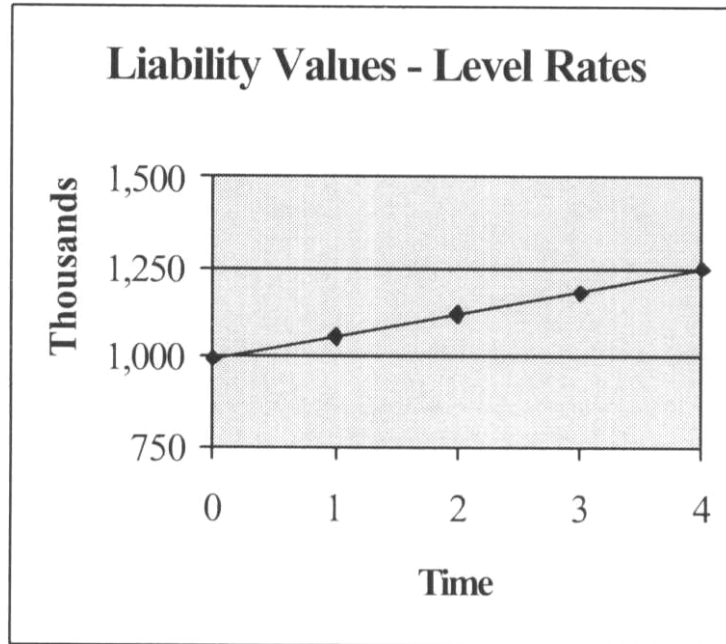
**MR. CROUSEY:** Let me just say a couple things on this notion of a credit risk or the credit rating being part of the calculation. First, if your credit rating is going down, chances are there are issues other than your reserve valuation. There might be other losses involved in this situation. You can't really look at the reserve number in isolation. You can't assume a credit rating going down and reserves going down are terrific. It takes it out of context. The other thing is that, in the insurance context, we must have a certain amount of assets. We have to have a certain amount of equity. In many cases, we have state pools that support certain lines of business. There's a lot of back up there that supports the notion that maybe our reserves don't react one on one as they might with the public debt issue. There might be less impact on an insurance company's reserves due to a credit rating change than there might be in a pure commercial situation.

**MR. DURAN:** I agree with that, but then it leaves open another issue, which I don't think is the right answer because of what Jeff said. If we're simply not going to discount at the rate that would correspond normally to the company's credit rating, then how do we actually figure out what this adjustment for a credit rating should be. I haven't seen any guidance on that.

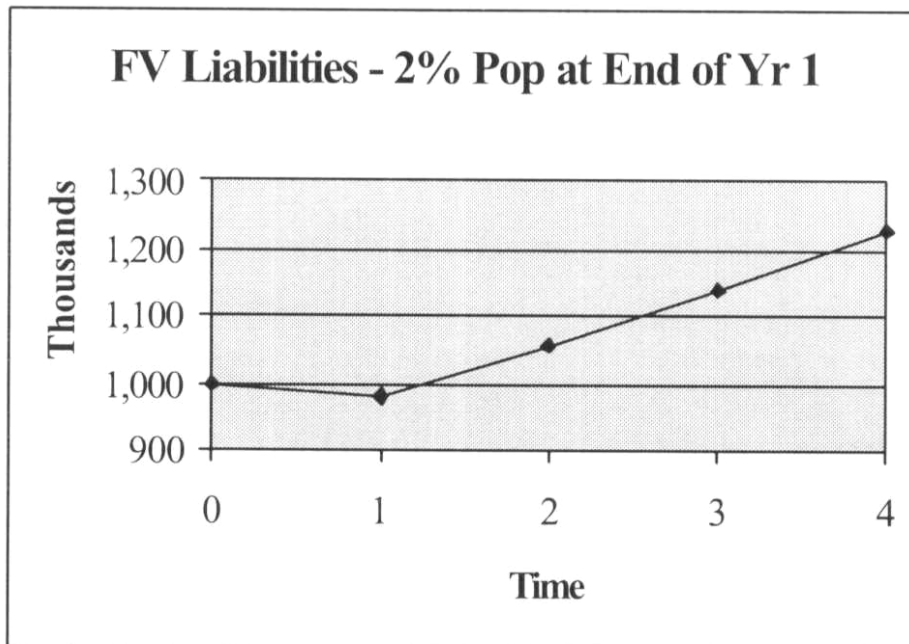
**MR. JOSEPH KOLTISKO:** The question is, as far as interest rates and the risk-free rate, does IAS have some standard about what the risk-free rate is worldwide? Is LIBOR the worldwide standard for interest rates or is it government rates? There might be government rates among different countries that have worse credit than other corporate rates.

**MR. DURAN:** It varies by country, and it is the rate on the instruments of highest credit quality that are actively traded. It is the Treasury rate in the U.S., but in other countries, it's not necessarily the Treasury rate. I'm not an expert in this, but I think highly rated corporate bonds have a liquid market in South Africa. They have better rating than the government bonds.

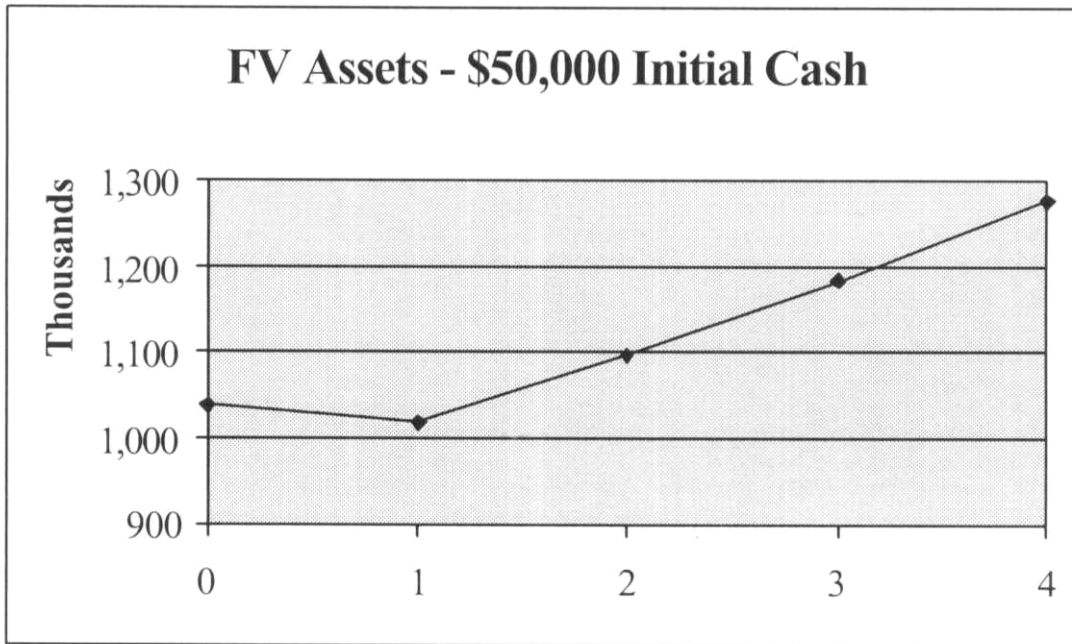
**CHART 1**  
**Bullet GIC Baseline**



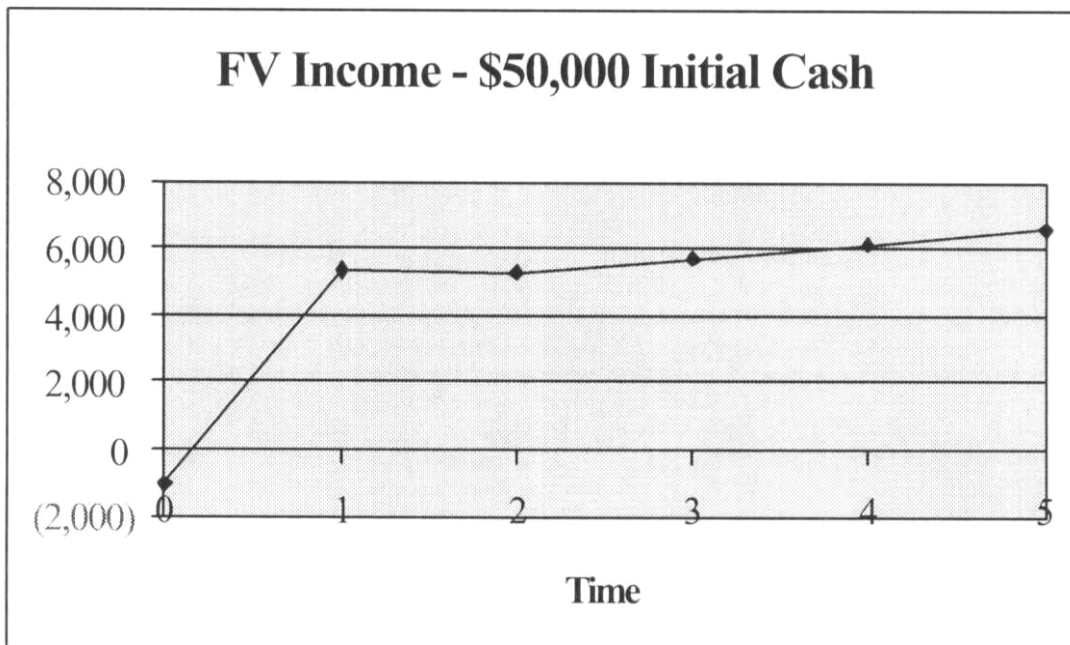
**CHART 2**  
**Bullet GIC—2% Pop at End of Year 1**



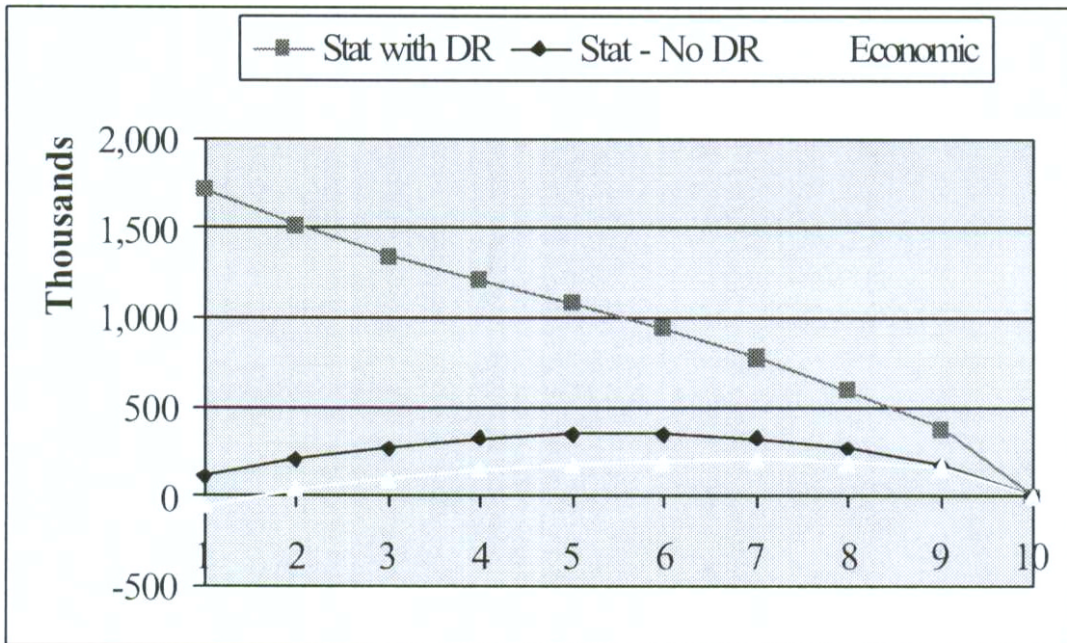
**CHART 3**  
**Bullet GIC—2% Pop at End of Year 1**



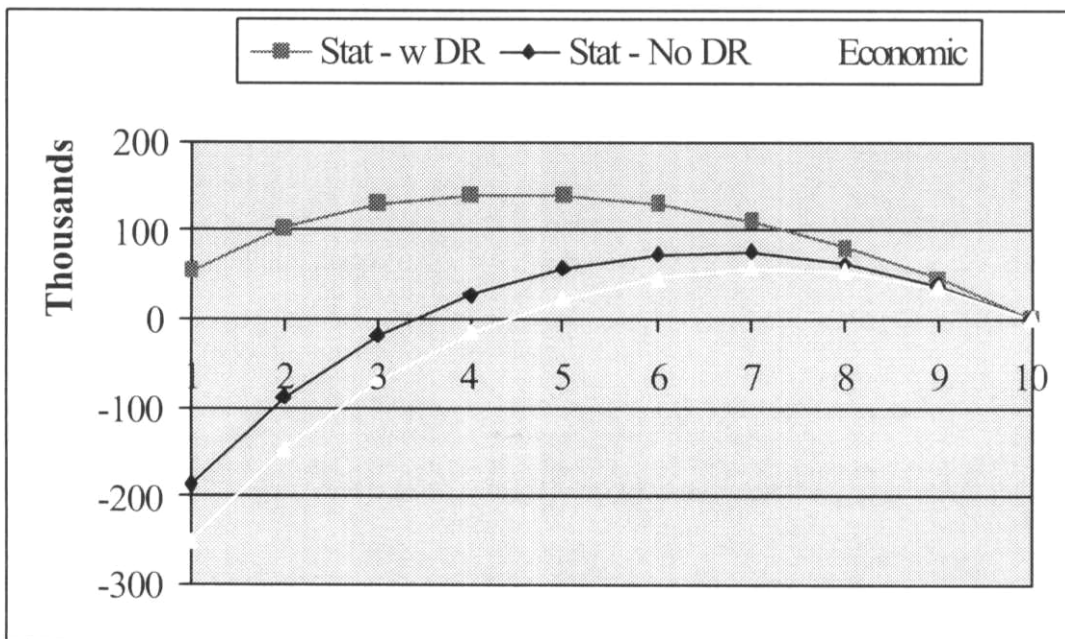
**CHART 4**  
**Bullet GIC—2% Pop at End of Year 1**



**CHART 5**  
Alternative Asset Allocations



**CHART 6**  
Alternate Liability Valuations





**CHART 7**  
**Fair Value Income Example**  
Based on Alternate Liability Valuation Approaches

