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MARKET-VALUE ACCOUNTING

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- *FAS 107* and *FAS 115*
 - Historical perspective
 - Overview of statements
 - Implementation issues
- Calculation methods for fair value of liabilities
- Practice in other industries/countries
- Latest developments
 - AAA Task Force
 - Other responses

MR. DOUGLAS C. KOLSRUD: The primary objective of this session is to update you on the status of market-value accounting in the U.S., as there have been many significant developments in the U.S. over the past few years. These include: the issuance in December 1991 of *FASB Statement No. 107 (FAS 107)*; the May 1993 adoption of *FASB Statement No. 115 (FAS 115)*; the discussion over the past year within the actuarial profession and insurance industry in reaction to *FAS 115*; and most recently, the variety of issues that have surfaced as companies begin to implement *FAS 115*.

We have three panelists who have been deeply involved in many of the issues surrounding market value accounting. Our first panelist is Jim Wallace, an audit partner with the Des Moines office of Ernst & Young. Jim has been with Ernst & Young since 1977 and carries both the CPA and FSA designations. Jim will present a brief history and overview of the recent accounting pronouncements as well as provide us with some actual examples of company implementation methods.

Our second panelist is Jim Hohmann, a principal in the Chicago office of Tillinghast. Jim has been very active in the Academy's role in fair-value accounting and currently serves as the chair of the Academy's task force. Jim will update us on the work of the task force, and will also provide us with some of the reaction to *FAS 115* from the SEC and the industry.

Our final panelist is Matt Modisett, an actuarial colleague of mine in the group investment office of Aegon nv in The Netherlands. Matt is an ASA, holds a Ph.D. in mathematics, and has worked on the investment side of insurance companies for a number of years. Matt is also a member of the working group on liabilities of the ACLI task force on market value accounting. In addition to briefing us on the latest events of the working group, Matt will provide us an overview of some of the methodologies that might be used in determining the fair value of liabilities. And now, I'll turn it over to Jim.

MR. JAMES D. WALLACE: I am going to discuss the basics of *FAS 115*, which is the FAS that will require insurance companies to mark most, if not all, of their investment portfolio securities to market. Then I will cover the results of an informal survey on compliance with *FAS 107*, which is the FAS that requires footnote disclosure of the fair market value of many things, such as deferred annuity reserves. Finally, after another panel member describes the emerging issues task force comments on the implementation of *FAS 115*, which result in numerous off-setting adjustments and reductions in what the *FAS 115* impact otherwise would have been on GAAP equity, I am going to describe some actual examples from financial statements of adjustments arising from *FAS 115*, including the offsetting adjustments to the deferred policy acquisition cost (DPAC) and other accounts, to give you a sense of the magnitude of actual numbers.

FAS 115

In June 1993, the FASB issued *FAS 115, Accounting for Certain Investments in Debt and Equity Securities*. That statement has and will significantly change current practice by restricting the debt securities, that is, bonds that can be carried at amortized cost, and by replacing the amortized cost method with a fair-value approach. Accordingly, *FAS 115* will impact all companies that invest in debt; and, of course, the insurance industry is a heavy investor in such securities.

This *FAS 115* project began in 1990 following concerns expressed principally by theoreticians about the accounting for investments in debt securities by financial institutions. Historically, those institutions typically carried investments in debt securities at amortized cost. The criticisms included diversity in practice, greater relevance of fair-value information, accounting based on intent, and gains trading.

The first criticism, diversity in practice, resulted partially from inconsistent accounting literature regarding the criteria applied to carry debt securities at amortized cost. Banks and insurance companies typically followed an "intent-to-hold-for-the-foreseeable-future" approach based on today's facts and circumstances, while savings institutions generally applied an approach more consistent with a positive intent to hold to maturity.

The second criticism, expressed by the SEC and others, was their belief that fair-value information about debt securities is far more relevant than historical cost information.

The third criticism, stated somewhat crudely, was that the accounting for a debt security was based not on the characteristics of the asset, but on management's intent for holding or disposing of the investment.

And finally, some challenged the increasing trend to sell debt securities prior to maturity, particularly when such sales resulted in gains at a time when the portfolio contained other securities with unrealized losses. That practice is frequently referred to as gains trading.

FAS 115 requires all companies, not just financial institutions, to modify their present accounting for debt and marketable equity securities (i.e., stocks). While the statement still permits certain debt securities to be carried at amortized cost, for most insurance companies, it requires far more fair-market-value accounting. However, as

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a compromise to the opponents of this increase in fair value accounting, *FAS 115* permits more unrealized gains and losses to be reported directly in equity, rather than in earnings or merely disclosed in the notes or in a balance sheet caption. But the bad news is that, despite urging from industry representatives, *FAS* decided to leave the accounting for financial liabilities unchanged.

Historically, most insurance companies allocated their investment portfolio between "held-for-investment" and a trading category. In 1992, the SEC began requiring many financial institutions to reevaluate their investment portfolios based on their past trading activity, and to classify their debt securities similar to the guidance included in *FAS 115*. Now all companies, public or nonpublic, have to segregate their investment portfolio into one of three categories: *held-to-maturity*, *trading*, or *available-for-sale*. The classification for any individual security depends to a great extent on management's future intent with respect to that security, and the accounting is different for each category. So which securities are included in each category?

The first category includes *only* those debt securities that a company intends to *hold-to-maturity*. It is no longer easy to have investments that qualify for this category. A company must have both the *positive intent* and *ability* to hold the security to maturity. Securities in this category are carried at amortized cost, not fair value.

Under the provisions of *FAS 115*, a debt security should not be classified as held-to-maturity if the company has the intent to hold the security for only an indefinite period. So if a company considers the security as available to be sold in response to unforeseen events, such as changes in market interest rates, changes in repayment risks, management of the company's tax position, changes in the yield on alternative investments, or general liquidity needs, then the security should not be classified as held-to-maturity.

These new requirements are significantly more stringent than previous requirements for securities carried at amortized cost. Furthermore, sales or transfers of securities from this held-to-maturity category are expected to be rare and difficult to justify under *FAS 115*. In other words, hold-to-maturity means exactly that, hold-to-maturity. *FAS 115* does provide certain limited circumstances or "safe harbors" for the reclassification or sale of a "held-to-maturity" security that would not taint the remaining held-to-maturity portfolio. One such example would be the sale of a held-to-maturity security in response to a significant deterioration in the issuer's credit-worthiness. However, the statement requires potentially onerous disclosures of the events surrounding *any* sales or transfers of these held-for-sale securities, including those within the safe harbor provisions.

The second category is *trading* securities. It includes debt and equity securities acquired to make a profit from short-term movements in market prices, and therefore such securities generally are held only for short periods of time. Accordingly, ongoing buying and selling of securities in this classification would be expected. Securities in this category are carried at fair value and the unrealized gains and losses are reported in income. This accounting is consistent with the present practice for trading portfolios of financial institutions.

The third category is securities *available-for-sale* which is a "catch-all" category that includes those debt and marketable equity securities that are not classified as either held-to-maturity or trading. These securities are carried at fair value, and the unrealized gains and losses are reported in a separate component of equity, net of tax. Accordingly, those unrealized gains and losses are not reported in the income statement until the security is sold. This accounting is a big change for financial institutions, including insurance companies, because securities held for sale historically have been carried at the aggregate lower of cost or market, and the changes in value generally have been reported in income.

Because the accounting under *FAS 115* is based on the security's classification, companies will have to determine, based on the facts and circumstances, which of their investments belong in each of the three categories. That determination will be particularly challenging for financial institutions. With regard to debt securities, many financial institutions may conclude that the held-to-maturity criteria are too restrictive for most, if not all of their portfolio, but that the available-for-sale category allows for the flexibility necessary to react to changing circumstances. Further, it is expected that the elimination or restriction of the use of a held-to-maturity category should subject a company to far less scrutiny from the SEC staff as to management's intent. On the other hand, those financial institutions that can segregate certain securities that will indeed be held to maturity will continue to use amortized cost.

FAS 115 also contains guidance for recognizing impairment losses, for securities classified as held-to-maturity or available-for-sale, if a market decline is determined to be other than temporary. And it expands on the disclosures that were required by *FAS 12* and AICPA Statement of Position 90-11, *Disclosures About Fair Value of Financial Instruments*. So, once again, the financial statement footnotes will get longer.

FAS 115 is effective for fiscal years beginning after December 15, 1993. For many calendar-year companies, the initial application of *FAS 115* will be as of January 1, 1994. However, the statement can be adopted at the end of the most recent fiscal year for those companies who elect to adopt early. Accordingly, a calendar-year company may elect to apply the provisions of *FAS 115* as of December 31, 1993, or wait until January 1, 1994. Because the provisions of the statement are primarily determined based on intent, retroactive restatement is not allowed.

In making the determination of the proper classification of debt and marketable equity securities under *FAS 115*, companies probably should consider past activity, investment policies, and previous balance sheet classifications. However, because the *FAS 115* classification is based on management's *current* intent and ability to hold debt securities to maturity, companies should designate each security into one of the three categories as if the security was purchased on the date of initial adoption of *FAS 115*. Incidentally, the SEC has recently announced that it will not challenge the one-time reclassification of securities in connection with the adoption of *FAS 115*. Adjustments arising from this accounting change are to be recognized as a cumulative effect adjustment to net income or directly in equity as appropriate.

Before leaving the discussion of *FAS 115*, I want to revisit the concerns that this *FAS 115* project was intended to address. Although the issuance of *FAS 115* will most

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likely reduce some of the inconsistencies in accounting for debt securities and it moves us even closer to fair value financial statements, it does not resolve two of the troublesome issues, namely, accounting based on intent and gains trading. Because the statement does not address those concerns, or whether liabilities also should be carried at fair value, the FASB likely will have to deliberate again on those issues later in the financial instrument project. In the meantime, the SEC and other regulators can be expected to strictly monitor implementation of *FAS 115* and challenge potential abuses.

FAS 107

Next, I would like to share some observations from the initial year of disclosures by larger companies under the provisions of *FAS 107, Disclosures About Fair Value of Financial Instruments*. Smaller companies still have until 1995 before they have to adopt *FAS 107*, so they have plenty of time. For all companies, the approaches to preparing and presenting the disclosures under the provisions of the statement will continue to evolve.

As many anticipated, the companies most significantly affected by the statement were those operating in the financial services industry, but many commercial companies also struggled to determine the fair value of their financial instruments.

In a relatively short period of time, a wide diversity of disclosure presentations developed for financial instruments. While some companies devoted a separate footnote to present the fair-value disclosures and provided information to assist users in understanding them, other companies included only the minimum required disclosures within various footnotes. Both approaches are acceptable presentations under *FAS 107*.

FAS 107 does provide some protection against having to incur significant costs to estimate fair values. Essentially, companies must disclose fair value information only when it is practicable to make such estimates. To date very few situations have been noted where companies disclosed that estimating the fair value was not practicable. For those that were observed, the most common reason cited was uncertainty about changes in the credit quality of either the financial instrument issuer or of the collateral supporting the financial instrument.

A handful of companies chose to provide a supplemental, fair-value balance sheet to more clearly illustrate their matching of financial assets and liabilities. It's quite likely that even more companies will consider some form of that comprehensive presentation in the future, chiefly because *FAS 115* does not address financial liabilities. The full-balance-sheet, fair-value approach satisfies many of the required disclosures of *FAS 107* and illustrates the interrelationship of a company's assets and liabilities.

Because other panel members are going to address this fair value issue, I don't want to say too much about it, but, based on an informal survey, a wide diversity was considerably noted in the determination of fair value for deferred annuities. For example, some methods produced amounts considerably less than net cash-surrender values, others produced amounts well in excess of full account values, and many more were in between.

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The FASB plans to devote a substantial amount of its time in 1994 addressing the other projects within the financial instrument recognition and measurement phase. To date, the issues have been filled with controversy, and that trend surely will carry over into the upcoming projects. We all should continue to monitor those developments.

MR. JAMES E. HOHMANN: As Jim mentioned, I'm going to discuss *FAS 115* implementation issues. I will talk primarily about the issues that companies are discussing as opposed to actual implementation practice. Then I will discuss the American Academy of Actuaries Fair Valuation of Liabilities Task Force, but that will be after Jim Wallace gives some actual results from *FAS 115* financial statements.

With respect to *FAS 115* implementation issues, the first one is categorization. Companies are now required to categorize assets into held-to-maturity, trading securities, or available-for-sale. So far, available-for-sale has found the most favor. Based upon some ad hoc telephone surveying that I conducted, it seems that available-for-sale is even more prevalent in companies that have large portfolios of deferred annuities. This is not surprising because these companies are striving to preserve flexibility from an asset/liability management perspective. Many of these companies were classifying 90% or more of their securities as available-for-sale. Beyond insurance companies, I also called consulting colleagues. One of them had also done some surveying, and he too found that the overwhelming majority of respondents had chosen available-for-sale.

Again, the reason for this seems to be the punitive nature of the held-to-maturity category and the reluctance of companies to regard assets as "trading securities." Please recall that if one does asset/liability management and chooses to sell a security that's held-to-maturity, so to speak, he or she could potentially taint the entire classification, and have it all marked to fair value at one point. So it's mostly categorized as available-for-sale.

These results are corroborated by a survey from the ACLI. While it hasn't been officially released, let me give you a bit of a preview. The ACLI found that about 55% of respondent assets would be classified as available-for-sale, 36% as held-to-maturity and 9% as trading securities. Overall, they found the majority of the assets in the available-for-sale category. As a result, it's important that we examine the implications of available-for-sale. One aspect is that, contrary to what one might have concluded by just reading *FAS 115*, there will be some mitigating factors to the unrealized gains and losses from that category. They are basically the result of the SEC. The SEC staff has made statements indicating that unrealized gains or losses, in the available-for-sale category, should be treated largely as if they had been realized gains or losses, for balance sheet purposes.

Therefore, what you have is unrealized gains and losses being tax affected and booked into equity. Furthermore, this raises the idea of adjusting other balance sheet items that are related to the performance of assets, such as the DPAC asset. In fact, the SEC has indicated that adjustments to DPAC would be appropriate in the case of unrealized gains or losses. The only limitation would be that DPAC should not be raised above the original level, prior to recognizing these unrealized gains or losses.

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If one begins to think a little more broadly, it's logical to conclude that loss recognition testing would also be affected by these unrealized gains and losses. For example, under *FAS 60*, gross premium valuation techniques are used for loss recognition testing. If one had unrealized gains in the available-for-sale category, a logical assumption is that prospective yields would be reduced, because treating the gains as realized would require reinvestment in what is probably a reduced, interest rate environment. If you discount the gross premium valuation at a lower rate, it raises the gross premium reserve. When the gross premium reserve is raised, the probability of having loss recognition is increased. That's because the gross premium valuation is compared to net GAAP liability. If the net GAAP liability is insufficient, then loss recognition is done on a line of business. Therefore, you can get into all sorts of interesting concepts including the potential for unrealized loss recognition, which sounds like an oxymoron, but is perhaps a reality.

The same thing occurs with *FAS 97*. Even though DPAC is dynamically adjusted under *FAS 97*, loss recognition testing would be similar. Without loss recognition, *FAS 97* DPAC would still be affected. Instead of ignoring unrealized gains and losses, those from available-for-sale assets would be addressed in the estimated gross profit (EGP) stream and used to update DPAC.

Another interesting area that's quite new is participating business. I don't know how many of you have had a chance to go through the new GAAP SOP for participating business, but it builds upon the techniques of *FAS 97* to determine estimated gross margins (EGMs) for amortizing DPAC. Therefore it doesn't take much of a leap to contemplate DPAC adjustments from unrealized gains and losses in the available-for-sale category under mutual company GAAP.

Also spawning discussion is the possibility of establishing a liability for total return crediting strategies. I am referring to statements by, SEC staff regarding policies where credits to policyholders are contractually linked to the total return of underlying assets. The argument is that if you're passing total returns on to policyholders, then you could have cases where unrealized gains could cause you to book a liability for what would you'd expect as policy credits, if those gains were realized.

This same approach could be extended to companies using total return crediting strategies in either interest sensitive or participating business. I am not suggesting that companies actually employ such strategies; however, if one did, unrealized gains or losses in the available-for-sale category could result in liability adjustments.

So again, we're stretching a little bit from the wording of *FAS 115*, but the SEC seems to have expanded peoples' thinking on this issue. As you can see, there is potential for a number of accrual items related to these unrealized gains and losses from available-for-sale assets.

A practical issue of all this is that companies will have to maintain two sets of books. The set based upon total returns in the available-for-sale category will drive the balance sheet, and the set based upon book amortization of these assets will drive income.

There are a significant number of companies that have adopted *FAS 115* early. Jim Wallace has gathered some material from their financial statements. I am returning the podium to him so that he can disclose some actual effects of *FAS 115*.

MR. WALLACE: Because of the lateness in the year in which the SEC released its comments on the appropriateness, and indeed the need, for the mitigating adjustments Jim just described, many companies who were planning on adopting *FAS 115* on December 31, 1993, decided to back off and adopt it January 1994, taking another full quarter to study the issues. Another effect, while hard to quantify, arising from the mitigating adjustments, was the willingness of some companies to allocate more investments to the available-for-sale category, thereby reducing the scrutiny they otherwise might have gotten from auditors and the SEC and yet avoiding putting the entire unrealized gain in equity. In other words, if the impact of the realized gains on equity could be largely offset by mitigating adjustments, why not mark more bonds to market, and deflect criticism you might otherwise be subject to if you have a large held-to-maturity portfolio? Indeed, surveys of public companies on the matter have disclosed that most companies anticipate marking the majority of their portfolio to market in the available-for-sale category.

We reviewed published public annual reports of some major stock companies to obtain some indication of the magnitude of the adjustment to equity arising from the adoption of *FAS 115*. Two particular companies who adopted *FAS 115* December 31, 1993 had over \$1.5 billion in unrealized gains. Each had bond portfolios in excess of \$25 billion. Each company marked all of the bonds to market in the available-for-sale category. For one of the companies, 22% of the unrealized gains went to accelerate DPAC amortization, 3% went to policyholder liabilities (this is a company with a significant block of par business) and 26% went to deferred taxes, so 49% hit equity. For the other company, 35% of the unrealized gains went to accelerate DAC amortization, 0.25 of 1% went to policyholder liabilities, and 23% went to taxes, leaving 42% to hit equity.

Two smaller, but still large companies, disclosed in their footnotes that they would adopt *FAS 115* on January 1, 1994, and pursuant to *Standard Accounting Bulletin (SAB) 72*, disclosed the anticipated effect. Neither company allocated all of their portfolio to available-for-sale. For one company, 93% was so allocated, for the second, 81%. Each company had a little under \$100 million in related, unrealized gains. The amounts used to accelerate DAC amortization were 25% and 44% respectively, with 18% and 20% to taxes, and none to policyholder liabilities; leaving 57% and 36% net equity impacts. There will be a flurry of activity in the first quarter and much more complete data will become available.

MR. HOHMANN: At this point I'm going to talk about the American Academy of Actuaries fair valuation of liabilities task force. Let me begin by stressing that I am not speaking on behalf of the Academy or the task force. I am simply bringing you up to date on the activities of that task force.

The task force was formed in January 1994 and was established at the direction of David Hartman. The objective of the task force is to research methods for estimating the fair value of liabilities. Our working definition of the objective is to explore the fair value question, without regard to any of the existing GAAP accounting literature. For

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example, we have not tried to retrofit with *FAS 115*. Instead, we've tried to handle the question academically.

Our deliverable is a white paper, and it should include qualitative balance sheets on the methodologies we've examined. We will attempt to address strengths and weaknesses of the various methodologies. It is not expected that we will include any type of a recommendation as to a methodology that should be applied, or even if a methodology should be applied at all.

Upon establishment, we immediately organized into three subgroups: an actuarial appraisal subgroup, an option pricing subgroup, and a secondary markets subgroup.

The actuarial appraisal subgroup has divided methodologies into three types. First is the application of actuarial appraisal methods—a very straightforward idea. Second are current assumption methods, where reserve computations are made with continuously updated assumptions to reflect market conditions. Lastly are mitigation methods, which actually refer to things like DPAC adjustments under *FAS 115* or the implementation of an interest maintenance reserve (IMR)-type of concept. These really fall outside of the pure charge of the task force, but since they have surfaced during our work, we will probably include them in our white paper.

Concerning the application of appraisal methods, we are basically talking about block of business appraisals. In effect, an actuarial appraisal values a bundle of assets and liabilities. Therefore, if we can value the bundle and subtract the fair value of assets, we should have an estimate for the fair value of liabilities.

An important attribute of this methodology is that it does value a bundle. In valuing the bundle it is dependent upon the assets in support of those liabilities. In earlier discussions of fair valuation of liabilities, this attribute was viewed negatively by the accounting profession. An advantage of this method is that it is anchored in actuarial literature, and potentially companies could lever existing models that are used for other purposes such as cash-flow testing.

There are several current assumption methods. First, one can revalue existing book reserves with market interest rates. Alternatively, one can compute a gross premium valuation with market interest rates. The idea is that if one is going to compute a fair value of liabilities, he or she must take into account current market yields in developing those values. Another version levers cash-flow testing. That is, if one completes the exercise of determining which assets are needed to support liabilities, one can fair value those assets and use the relationship between fair value and book value to adjust the book value of liabilities to fair value.

Another methodology involves is mitigation methods. Mitigation methods are those that specifically take into account the existence of *FAS 115*. One way of getting around the equity distortion of marking the assets to fair value is to establish an accrual item similar to statutory IMR. While statutory IMR deals with realized gains and losses, the fair-value mitigating IMR would address unrealized gains and losses. Obviously it could become fairly complicated to track this IMR but, theoretically at least, it is a way of mitigating the effect of booking unrealized gains and losses.

Finally, we address what I call SEC type mitigating adjustments. These were covered previously. Specifically, they include items such as adjusting DPAC, etc. It is possible that these mitigating adjustments may offset enough balance sheet distortion that financial statement users are satisfied. As Jim Wallace indicated, substantial mitigation comes out of these SEC methods.

Another area where we have focused is option pricing. One attribute of option pricing is that it's relatively complex. It also has a number of limiting assumptions—at least in its classical form. For example, one generally uses arbitrage-free-interest scenarios in option pricing models. That is a limiting assumption because there is considerable debate as to whether or not arbitrage free interest scenarios are an appropriate depiction of reality.

Second, market efficiency is usually an assumption in option pricing models. Concerning that assumption, one can make a rather strong argument with respect to insurance liability options that the policyholders are not exercising them in an efficient fashion.

One thing that is possible within an option pricing model is to uncouple the assets and the liabilities. If one uncouples assets and liabilities, one can envision an insurance organization that is run on two separate sides of the balance sheet. For example, one can assume that the management of liabilities is an exercise in minimizing the cost of funds. A balance sheet is no longer assets, liabilities, and equity; it is investments on the asset side, financing on the liability side, and ownership or equity in the typical location.

This is just one view of the world and I am not saying that it is right or wrong, but it is a view that coincides with uncoupling assets from liabilities in the fair valuation exercise.

To accomplish fair valuation in this setting, one must assume an interest crediting strategy that is not directly linked to the underlying assets. Instead, it is related to current credited rates and some outside index.

In the option pricing subgroup, we have organized our efforts into the following five areas: lattice models, scenario-based models, discounting spread, policyholder and company-behavior models, and valuation methodology.

Lattice-based models are quite good for valuing of path-independent cash flows, but when one gets into a situation where path dependency is critical, they tend to break down. If one thinks of a binomial lattice, it spreads out from a single point and you have various ways of getting to the same point. That is why it is so difficult to deal with path-dependent cash flow, because we do not know if we went high and low, or low and high, to get to the next point on the grid.

Option pricing addresses that problem through scenario-based models. For scenario based models, we again impose the arbitrage-free condition on the scenarios. We develop the scenarios so that we can average present values to come up with a single representative present value or fair value. This works well with path dependent cash flows because one can capture the path-dependent behavior throughout the

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projection. Therefore all of the policyholder and company behaviors can be developed consistently with that particular path.

Like lattice-based models, however, scenario based models are very computationally intensive. Discount rates in option pricing usually comprise treasury rates and option spreads. We have several ways of approaching the option-spread question. One is the company's cost of debt. Does it make sense to have option spreads that relate to that? Another is an asset-based option-adjusted spread. For example, if one knows the option-adjusted spread on the assets is 80 basis points, should we then be discounting the liabilities at the same 80 basis points?

Cost of funds is another method. Remember when I mentioned that a company can view itself as an asset shop and a liability shop. In that setting, product managers might want to reduce cost of funds. A typical example is a new issue of a single-premium deferred annuity (SPDA). Basically, the cost of funds spread is that which allows you on an average (across scenarios) present value basis to equate future cash flows to net cash flow at issue.

Another approach to option spread is to impute a quality rating. For example, if the insurance company has an AAA claims-paying ability, perhaps AAA spreads should be used in developing the fair value of the liabilities. Discussion of the pros and cons of all these option-spread definitions are being put together as part of our white paper.

Other things that we have had to deal with are policyholder and company behavior functions. For example, as you are all well aware, policyholders have the right to surrender at book value. That is an option. It may not always be exercised efficiently, but it is an option. Other relevant behavior items include premium pattern on certain products and policy loan utilization. The company, on the other hand, is able to control things like the interest crediting strategy. All of these behavior choices affect the fair value of liabilities and must be modelled.

The last, option pricing point is "valuation methodology." We have used a building-block approach to illustrate valuation methods. We started with a stripped down SPDA, comprising a premium consideration and a fixed maturity. We develop an option spread and a fair value. From there, we introduce additional product attributes one at a time. These would include things like commissions, expenses, mortality, dynamic surrenders, and interest crediting strategies. Throughout, we measure the effects in scenario-based models.

We also attempted to study some of the sensitivities in developing fair values. For example, we studied more than one scenario generator, and we studied universal life products as well as SPDAs. We also tested the number of interest rate paths used and the number of projection years. So we're looking at a number of different items to see where the levers are with respect to fair valuation of liabilities.

We also attempted to study secondary markets. We originally thought that we might find some useful information in the reinsurance markets. However, it doesn't appear that there are enough homogeneous transactions to draw market conclusions and to determine a fair valued liabilities. So the markets are, in fact, too thin.

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Several issues remain for resolution, including model validation and incidence of profit. No matter what we come up with, there is no good way to validate our work. The basic problem is the lack of a thick secondary market for comparison. Concerning incidence of profit, that is where all of these option spread questions come in. Other unresolved issues include integration with *FAS 115*. While that is outside the scope of our charge, it would clearly be an issue to any reader of the white paper.

Finally, objectivity will always be an issue in fair valuation. This includes choice of assumptions, methodology, number of paths, numbers of projection years, etc.

MR. MATTHEW C. MODISSETT: I would like to start with a clarification of the term "fair value." When we started working on these committees for the valuation of liabilities, we had a little trouble with the term "market value," so we switched to fair value. We thought that the term "market value" carried an implication that was a little uncomfortable for some people, specifically when we are market valuing liabilities with no real market. So when we talk about fair value, you can substitute market value in whenever you like, if you are comfortable with that.

Before I actually begin the presentation, I would like to make a couple of disclaimers. I've been working on the ACLI task force for market valuation of liabilities, but this presentation is not a presentation by that task force, or any other task force. This presentation must be taken as a personal expression of my opinions. I don't think any of these committees or task forces are ready to make any statement yet as to what they will eventually conclude. These committees are proceeding in an exploratory mode, and looking for different ways to potentially value liabilities. No conclusions have been reached.

This is a personal presentation, yet I am on these committees, which puts me in a difficult position. If any of these ideas here look good, you can assume that I got it from the task force, and that the brilliant idea really came from someone other than me. On the other hand, if something up here looks really stupid, you can assume that this is Matt Modisett's thinking, not that of the committees. That's fine; I will accept the downside risk.

What is it I'm going to try to do here? We have all been prepared by my two colleagues, who gave us an introduction to some different valuation methods. What I'm going to try to do is characterize the different types of valuation methods possible. I will try to create a menu of different choices for developing valuation methodologies. To do this, we start by noticing that there are questions that all valuation methods must answer: Does it employ cash-flow discounting? Does it use market values of assets? Does it use a spread or a yield? How does it treat future premiums? How are cash flows projected? And so on. In many cases, the answers to the questions are independent, and we may make any selection of the independent dimensions to piece together a method of valuation.

The main idea is to produce a way to separate these independent choices into category A issues, category B issues, category C issues, category D issues, and so forth. Then by making a combination of choices, one from each category, we could produce a valuation methodology. The basis of my talk is to create that menu. Some of the possible combinations may produce undesirable features for an

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accounting system. After we learn all the different possible combinations, we will eliminate those combinations that are undesirable. We will save that elimination process for another time, not the current presentation. Right now, we are in an exploratory mode. What are all the different methods? The idea is, first, to get all the issues on the table, and then see how they fit together. Later, we'll see which methods we like under which circumstances.

The structure of this talk is as follows: I will give you a list of the general issues in quick, bullet-point form. Feel free to focus on to your favorite issue and see how it pans out later in the talk. Then I will give a description of four, sample valuation method to display which choices have been made in each. This will serve as a warm up for the final creation of the menu of choices, the characterization. Finally, I will present the characterization of methodologies.

GENERAL ISSUES

We are looking at fair valuation methodologies. The following provides a list of general issues. I present them as questions.

The first thing we want to look at is: Do we discount cash flows? If so, what are the discount rates? What discount rates do you use? What's the length of the projection period? What are the lapse assumptions? What are the mortality and expense assumptions? What are all the basic kind of modeling assumptions? If we don't discount cash flows, how do we set the fair value using market information?

Next, who decides on these assumptions? We can mandate that some central authority tells us to use a certain discount rate, for example. This is similar to the current practice of regulators proscribing valuation rates. Or we could leave it up to an appointed actuary to decide what he believes the best assumption to be. We could employ a mixture of these methods. A valuation methodology could require a scenario analysis and proscribe a minimum set of scenarios to be used, for example. This method is currently used in these days of the valuation actuary.

Do we use a deterministic or stochastic approach? The option-pricing theory is the most popular one that has the stochastic approach. To which liabilities does the methodology apply? The point to gathering many different methodologies together is that we can use one for some products, another for a different set of products. It might even occur that we use one methodology for a product in one company, but a different method for the same product in a different company because that company manages the product differently. To what extent can the fair value fall below the cash-surrender value? Is there a "cash value floor?"

Does the approach require us to value additional assets at market? Some people feel that FAS has done a disservice to our accounting by marking all these assets to market. If we're going to create a methodology that requires us to mark even more assets to market, we will have a little bit of explaining to do.

Do we require segmentation of assets? Actually or notionally? What other accounting practices are affected? Is the methodology mandatory or optional? Can we adopt the new methodology in phases? Is there a way of grading in the effect? Are we going to have another little, nuclear device hit our balance sheets?

Once we have calculated change in fair value, does the change get run through surplus? Do we run it through DAC? Do we run it through income? Do we split it between surplus and income? Do we make a new, financial-line item, like IMR? These are presentation issues: where do the values go on the balance and income statements?

Does the methodology correct perceived or actual abuses in management practices, such as cherry-picking of assets for capital gains?

What is the impact if we took the methodology and used it for statutory accounting? Or tax accounting? Nobody is advocating this right now. However, it would be nice to know that if somebody did try this, how much of a tax liability could we get?

How does the methodology affect portfolio-trading strategies? Asset/liability management strategies? Product mixes? Is the methodology auditable and practical?

And the last issue on my list, does the methodology look like current accounting? This is actually more important than it may sound at first. If we endorse a methodology that's too different, it may be hard to sell it. If it requires a lot of new administrative systems, extensive training of accountants and so forth, there may not be industry-wide support. To reduce such potentially negative impacts, it might be desirable to have the new method look somewhat like current accounting. If the new looks like the old, we might have a chance of actually implementing it. So these are issues to keep in the back of our minds as we talk about new valuation methodologies.

METHODOLOGIES

I would like to start with a quick overview of four different methods. These methods have already been presented in detail by my colleagues, so I'm not going to go into too much detail again. I will only emphasize the choices that have been made to produce the methodology. Remember, the point of my talk is to characterize all methods by making a menu of choices. These examples serve as a warm up to the final characterization.

Methodology One: Appointed Actuary

Someone comes in and says, "We're going to have the market value of liabilities equal the market value of a set of assets sufficient to cover the future benefits." This methodology requires a lot of faith in the valuation actuary, the person doing the sufficiency determination. Whoever that appointed person is, he or she chooses the scenarios (within reason, given general practices), chooses which assets back the liabilities, and how to model each one. He or she chooses it all. This is a type of "passing-the-buck" method from a regulatory or auditing point of view, because, so much is discretionary. However, this fits well, at least conceptually, in the current age of the valuation actuary. It is also worth noting that this system essentially has worked well in Canada and England for years. A practical and interesting methodology.

The main conceptual point to observe is that we set the value of liabilities equal to the market value of another set of assets, namely a sufficient set of assets. This method

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leaves the details of which market values and which assets to the discretion of a trusted authority.

Methodology Two: CARVM

Our second valuation methodology, which is not normally thought of as a fair-valuation method, is a Commissioner's Annuity Reserve Valuation Method (CARVM) reserve. CARVM is a discounted-cash-flow methodology. There are two main points to decide if we are going to discount cash flows. The first is: what are the cash flows? And the second is: what is the discounting rate? In a normal CARVM, we set the discounting rate to be a valuation rate. However, we could also choose it to be the company's current credited rate, either the new money rate or renewal rate, whichever seems appropriate. To determine the actual cash flows, we employ one of the behavior assumptions that Jim Hohmann was talking about, earlier. Usually you assume the worst-case assumption to the company for policyholder lapsation. Meanwhile, the valuation also assumes that the company can take the first opportunity to reset their rates to their lowest level. In this sense, the valuation is best for the company because it uses the most favorable renewal-rate assumption. Most people think of the CARVM reserve as a worst-case reserve because they focus only on the extreme-lapse assumption. But when you word the situation as I just did, we separate the two pieces, lapse and crediting behavior, to see that CARVM is an extreme reserve. In one sense, it's the best; in another sense, it's the worst, or the best crediting renewal assumption combined with the worst lapse assumption. All we have essentially done is assume that each party employs its options to maximal advantage. It is also interesting to note that this method parallels the pricing convention of traditional bonds, which prices to the worst-to-call or maturity or the best-to-put or maturity; the most extreme, favorable behavior is assumed for whomever has the option. When the issuer has the option, in the case of the call, the value is the worst over all option-exercise possibilities. When the holder of the bond has the option, in the case of the put, the value is the best over all option-exercise possibilities. This is another case of extreme behavior assumptions, in which each party utilizes its advantages as favorably as possible. This reasoning provides a tremendous motivation for a modified CARVM reserve as a fair-valuation methodology; it closely mirrors the valuation methodology of the assets.

The main point of this example is to understand the choices we have made to produce this methodology. This is a cash-flow-discounting methodology. Discount rates are company credited rates. Cash flows arise from behavior assumptions, in this case, extreme behavior assumptions.

To foreshadow later results, we could quickly modify this methodology to make new methodologies. One quick change would be to change the discount rate from the company credited rate to a different rate, based on observed yields of assets. Another (not mutually exclusive) change could be to replace the extreme behavior assumption with best estimates of lapses and crediting behavior assumptions.

Methodology Three: Option Pricing

Our third methodology is the option pricing methodology. With this method the liability value is going to be the average value over a number of different scenarios. There is a lot of theory that determines exactly which scenarios to use, and a lot of theory that determines exactly which weights we should use in making the average.

But the general idea is as follows: the fair value is the average, present value from several scenarios. Usually you take the Treasury rates to define the scenario and employ some spread over Treasuries to determine the actual discounting rate. (This spread is the option adjusted spread Jim discussed earlier.)

When we try to calculate the spread, we encounter a problem. I'll go into a bit of detail here because it comes up later. We are calculating a spread over Treasuries to be used for discounting cash flows from liabilities. The problem is: when do we calculate the spread? We can calculate it once at issue, so that the initial value equals some agreed on initial value, such as the initial premium minus acquisition cost on a single premium product. But then later, what spread do you use? If you recalculate the spread, what value do you use? This is a chicken and egg problem; we need the spread to calculate the value, but need the value to calculate the spread. (This problem arises later in the talk when discussing profit margin assumptions on future premiums; how do we reset those?) Usually the thinking is as follows: we are going to determine a spread at issue and then fix this spread, and use it for all subsequent valuations. Alternately, you can determine the spread at issue, and make a schedule from that spread. For example, it could start at 400 basis points at issue, and grade down to 50 basis points over ten years. But the point is that the spread (or the schedule of spreads) is set at issue to insure specific initial value, such as initial premium less acquisition costs. This schedule of spreads is used for later valuations. In this way, we avoid the problem of recalculating the spread each period.

Again, I wish to draw attention to the assumptions of this model. This is a cash-flow-discounting model. It is like the previous example, requiring behavioral assumptions to determine cash flows, and yet another assumption for discounting. The differences are twofold: first, the final fair value is the average value over several scenarios, not just the value from a single (deterministic) scenario. Since the final value is averaged over several scenarios, we call this method stochastic. The second difference is that the discount rate is neither the company's credited rate nor a strict market rate; the discount rate is a market Treasury rate plus a spread determined from the specifics of the liability.

Again, to foreshadow later conclusions, there is no reason that this discounted rate could not be substituted in either of the previous examples to generate a new methodology. For that matter, we could combine the previous methods with the current method's idea of averaging over several scenarios to form still further, new methodologies.

Methodology Four: Modification to FAS 60 Interest Assumption

The fourth methodology approaches the valuation problem differently. It arises when we say let's just try to fix FAS 60. Lets try to somehow unlock the interest rate assumption from FAS 60, like FAS 97 did, in an effort to have the liability value move with assets. In this line of reasoning, the liability value will be fixed at issue, similar to what we just did in the previous example, when we want the initial fair value to be premium minus acquisition cost. At a particular valuation date past issue, we're going to look back to the issue date, see what the cash flows have been in between issue date and the present time. We combine this with our best estimate for future cash flows in an effort to recalculate a level yield *from issue* with those assumptions. Then the value at the valuation date is going to be the new amortized value. Or

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equivalently, using that level yield from issue over the entire length of the policy, we discount the future policy cash flows to determine the current valuation date's fair value.

This method is essentially what FAS is now unofficially proposing. They further propose that the ensuing change in liability value be run through deferred acquisition cost (DAC), or DPAC as Jim called it. This example presents a new twist on methodologies when compared to the other three examples. This one not only proposes how we calculate a fair value, but what to do with it, once it is calculated. Here, we run the change through DAC. This brings up a presentation issue not discussed in any of the previous examples. Presentation issues are important. Once you figure out how we should calculate the fair value, where does the answer go on the financials? Where does it go on the balance sheet and income statement?

Well, this raises more issues. For example, are there limits on the adjustments? If we run the change through DAC, the very next question to ask is, can you write up DAC? That might not seem quite right to some people who favor the old accounting, but it makes tremendous sense in a fair value context. Could you write DAC up past the initial acquisition costs? In a fair market valuation sense, you should be able to do that also.

A related issue is, if we are recalculating something that has future premiums, what should we do about profit margins? We could use a gross premium reserve, essentially using all future profits in the valuation. (If nothing were done to alter the discounting rate, a gross premium reserve may lead to front-ending all profits on a business. This situation can be avoided by adjusting the discount rate, or spread, to fix the initial reserve to a desired level, as in the previous examples.) If we are not using all of the future premiums, meaning we're only using a portion of them, we could recalculate the percentage used. But then there's a chicken-and-egg problem again. What do you use exactly to recalculate that percentage? Which value do you fix? What exactly to do with future premiums is an open issue in this entire theory.

To highlight the main points of this last example, let me say that this method again uses cash flows and discounts them. However, this method makes no effort to use market discounting rates. Instead, it draws the discounting rates from the liability cash flows alone. To further distinguish this methodology, it is not entirely prospective. All the previous methodologies used only *future* projections of assets and liabilities. This method explicitly uses past cash flows to determine a yield *from issue*. A further distinguishing characteristic of this methodology is that it addresses where to place the calculations on the financials. None of the previous methods addressed this presentation issue.

So, these were four examples of methods of fair valuation. In each we answered similar questions in different ways: Is the fair value set to the market value of some assets? Or are liability cash flows discounted? What assumptions are used to project cash flow, such as lapse assumptions or renewal-credited-rate assumptions? Where does the final calculation enter into the financials? Do we use stochastic or deterministic scenarios? And so on. Each of the above methods asked these same questions and provided slightly different answers from the other methods. What I would like to do, more or less, is list all the questions that can be asked and all the possible

answers to each. These form the basic elements of a valuation. Then each combination of answers to the questions will form a valuation methodology. Once we know all the possible answers to each question, we can list all possible combinations of answers. This list of all possible combinations of answers will form the desired characterization of all possible valuation methods.

THE CHARACTERIZATION

I have presented four valuation examples, each relatively different, but all with some similarities. Now comes the difficult part. Can we make a general framework, which includes these four examples, but which also would pick apart the pieces of the valuation so we would be free to mix and match the best parts of the basic elements? What are those basic elements, the building blocks of a valuation methodology?

There are four categories of basic elements, of basic questions, that I will discuss. The first is a general category, in which we decide the basic valuation method. We will see that each of the general methods requires some form of cash-flow projection. Thus, the second category of basic elements consists of the different assumptions necessary for a cash flow projection. The third category lists different presentation methods: does change in value run through DAC or surplus? That sort of question belongs to this third category. The fourth category is a miscellaneous category, consisting of all the elements not fitting into the previous categories. Let's discuss each of these categories in turn.

First Category: General Methodology

In this category, the main question is, what is the general valuation method? Related questions include, will we discount cash flows to arrive at a present value? Or will we set the liability value equal to another set of market values? In either case, what is the choice of comparable market values? Let us start with the last of these questions.

One of the obvious places to obtain comparable market values is in a market of assets. We could pick up market values from there. But which asset market? We could look at the assets backing the particular liabilities and determine their market values. We could simply apply that to the liabilities and call our job "done." As a matter of fact, one of the recommendations was this: "Wait a minute! We have a market value of assets, we have a book value of assets, and we have a book value of liability. Lets just take this ratio, of the assets' market-to-book and multiply that by the liability book value to obtain the liability fair value." This is a methodology. I include it here with no judgment.

Another thing we could do is take a basket of assets that seem appropriate, not necessarily those backing the liabilities. For example, you could look at the company's rating, or the average rating of its bond portfolio. Suppose this was A; you could look at A-rated bonds and take the yield on these to use for a discount rate. In this talk, I am trying not to be judgmental, but I will inject an opinion here. I'm not in favor of either of these methods for determining discount yields. The reason is that if we use the assets in the company's portfolio, an asset portfolio with riskier assets will generally have a higher yield. By using this higher yield as a discounting rate for a liability, the company will have a lower liability value. Thus, the riskier investor will

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look *safer* on the financials. Intuitively, this does not seem right; it seems exactly counterintuitive. The same argument holds if we use the insurance rating of the company; the poorer rated company gets more of a benefit on the liability rating.

Now we could say, "let's use a risk-adjusted yield." I haven't seen an overwhelmingly convincing method for doing that. I know of no unambiguous way of risk adjusting yields that would not be subject to abuse.

Returning to our discussion, what basket of assets should we use to determine comparable market values? For an alternate basket of assets, we could determine a collection of assets sufficient to back the liabilities and employ their market values. That's an interesting option, which leads to the appointed actuary method described above.

Yet another methodology would be to use U.S. Treasuries with no spreads as a discounting rate. That does not sound quite right because the liability value will be quite high. We could add some sort of spread, and then we have to decide on exactly what spread we wish to use. If we use the U.S. Treasury as the base, we could add a spread on top of it. In the asset world, assets are usually priced as a spread over Treasuries. So, valuing liabilities as a spread to Treasuries has a nice feel to it. The asset market provides a forum in which participants haggle over what the spread should exactly be. Unfortunately, there exists no reliable forum for liabilities. We need some other method for determining an appropriate spread. In one method, we could calculate the spread at issue so that the initial value comes out to a specified level, say premium minus acquisition costs, for a single premium product. In this case, we do not need to haggle over the spread; we need no market forum. We just calculate the spread as we write new business. Then we use the issue spread for a block of business at later valuation dates. In this way we would use a fair valuation very similar to that used in established markets, while only modifying the spread assumption to account for there being no market.

Another comparable market is the secondary insurance market. We could attempt to draw market prices from recent assumptive reinsurance transactions through this secondary insurance market. My colleagues have already talked about this idea, and the market appears too thin to be able to extract reliable market values. It appears that we are not able to get reliable market prices this way.

Once we have determined the comparable market, we must decide on the method for using this information to determine a fair value of liabilities. In simplified terms, there are two primary ways to determine the fair value; you can set the liability value equal to some comparable assets, a ratings basket, a sufficient collection of assets, etc., or you can pull information such as yields or spreads from the comparable assets and use this information to perform a valuation. The former is similar to the appointed actuary method, while the latter is similar to a discounted cash-flow method.

The next obstacle is to determine the date at which some value is fixed. This is a rather difficult concept to describe. The question to ask is whether the valuation is a totally prospective fair valuation, or somehow retrospective. If we're fixing the initial value and doing actual cash flows from issue to valuation date, while using the best

estimate of the future cash flows, then the history since issue is creeping into our valuation. That's what we refer to as retrospective. Retrospective methods generally do not allow you to offset all changes in market value witnessed on the assets. As the two Jims pointed out in their presentations, we can calculate ahead of time how much of a market asset movement will be offset with a retrospective method. They did this for a number of methods currently being discussed.

The best situation I heard them mention still left the company with 36% of the asset value fluctuation running through surplus. Since insurance is a highly leveraged business, that kind of fluctuation could be dangerous. If we really wish to remove volatility from our financials, it seems we must move to entirely prospective methods.

You see, if we are not going to be using any of the past information, we are not going to be doing any averaging with past information at all. In this case, it seems that there is a higher chance of being able to offset all market values. This is true because market values are set entirely prospectively. To eliminate volatility in our financials, the fair value of liabilities should probably be entirely prospective.

To summarize the decisions of the first category, we must decide the overall method for valuation. Will cash flows be discounted? If so, what market rates for discounting will be used? If not, we will set the fair value equal to that of other market values. In either case, we must determine an appropriate market from which to draw prices or other valuation assumptions.

Second Category: Cash-Flow Assumptions

Lets move on to the second category of basic elements for valuation. If you examine all of the serious contenders above, they all require a cash flow projection. Therefore, the second category of choices for a valuation methodology describes the assumptions needed for a cash flow projection. First, we need an interest assumption. How do we calculate it? Do we lock the assumption at issue of the liability? There is obviously more to this question than locked or unlocked, but that's a big part of it. We will have the same lock-unlock question with mortality, and also with expenses.

Optionality—I talked a bit before about this topic. How are we going to handle the optionality of the contract, such as policyholder lapsation or company crediting strategies? We could use best estimates, worst case, best case, or some sort of conservative best estimates. One of the big questions is, will there be a single scenario or a number of scenarios over which we average values?

Another cash-flow assumption is, what do we do about future premiums? Do we use a gross-premium reserve? If we don't use a gross premium reserve, the question arises as to how to calculate the profit margins. Do we unlock future profit margins? Do future premiums get discounted back with the same rate as future benefits? The second category is where we specify all the cash-flow assumptions.

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Third Category: Presentation

Moving to the third category, after we figure out the fair value, how do we actually go about presenting it on the balance sheet and income statement? Should we have DAC or not? There's no particular reason we need to have the DAC. We could have net reserves. The foregoing presentation implicitly gives what the net reserve should be. What is the net liability that should be on the balance sheet? However, we could have a gross reserve with some sort of DPAC or DAC, just as long as the net result was the fair value. Whether or not we included DAC doesn't matter when we perform the actual calculations of the net fair value. This category is where the presentation does matter. What is the presentation?

Where should we report the change in fair value? Do we run it through income? Do we write it through a change-in-surplus account, or use some kind of combination? Do you run into an IMR-type account?

There is considerable attractiveness to dividing the change in fair value into two segments, one to be run through income and the other through surplus. Remember the available-for-sale assets will have a predetermined income piece run through income. The remaining change of market value for these assets is going to run through surplus. The liabilities backed by these assets should do the same thing. Otherwise certain market movements may impact the financials in a way that do not reflect the economics of the situation. This can happen for or against the company. It would be very nice if our presentation will allow us to put the income portion of the liability, so to speak, through the income line, and then the remaining change of market value, however we calculate it, through change in surplus. In this manner, the market-induced changes in value of our assets and liabilities will offset each other in our financials in a way to reflect the economic impact to the company. Of course, if the assets backing the liability are not available-for-sale, we may wish to treat the change in liability fair value in a different way to reflect what is happening on the assets side. The third category is where we decide all of these presentation issues.

Fourth Category: Miscellaneous

The last category is a miscellaneous category. The first issue in this category is the issue of transition from current accounting to the new accounting. When we adopted *FAS 115*, generally everybody's assets went up. Interest rates had come down and we all got a benefit from implementing the new standard, so nobody complained. If we implement a new standard affecting the liabilities, our liabilities are probably going to increase. It would be nice if we could bring that in over a few years. Or we could have the change adopted immediately. We may be able to grade in assumptions piecemeal. Some assumptions could all hit immediately, while others could gradually take effect. So the first miscellaneous issue is in the transition from old to new accounting is, how do we get from here to there?

By the way, even the hardest type of accounting methods could be implemented with a transition. We could simply do both the old and the new calculations and average them, grading the weighing of the average over the transition period. So we can always grade in.

Another question to ask is about arbitrary limits on the choices that we've made. Do arbitrary limits to changes in value exist? The main example here is running the

change through DAC. Some people may have difficulty writing up DAC. Even more people may have difficulty writing it up past the initial value. There seems to be an upward limit. I call this limitation arbitrary because it doesn't really fit with market value thinking. Not allowing DAC to write up past the initial value is like disallowing a bond to trade above its initial offering price. Or more accurately, to disallow our financials from carrying a bond above its initial offering price even though it may be trading there. These arbitrary limits could hurt a company greatly if the liabilities had an arbitrary limit that the assets did not, or vice versa.

The last issue for the miscellaneous category is one which I touched upon before: who decides on each of these assumptions? All these choices that we have been discussing can be mandated so that everybody uses a certain method. Alternately, we could allow certain aspects of a valuation to be discretionary. An extreme version of the discretionary approach is to allow an appointed actuary to decide the level of the reserves. In this extreme case, all assumptions are chosen by one person and can vary from company to company, or product to product. Alternatively, we could have some assumptions that are mandated, while others could be discretionary and left up to the appointed actuary or the company. For example, expenses could be company specific. However, the overall interest rates could be mandated. For another example, we could decide to use Treasury rates. That's a verifiable, unambiguous statistic. We could mandate that everybody use that, possibly with a spread. In general, a methodology need not decide all details of the valuation.

However, any unmandated details must be delegated to an appropriate authority. A methodology must either specify the detail or delegate the specification of the details.

SUMMARY

That is the characterization so far. The four basic categories are: general category, a cash flow category, a presentation category, and a miscellaneous category. Let me just run through the categories in bullet-point form.

General

- What is the comparable market value you want to use?
- What is the exact valuation methodology?
- What is fixed at which date?

Cash Flows

- Interest assumption
- Mortality assumption
- Expenses assumption
- Optionality or behavior assumptions
- Stochastic versus deterministic scenarios
- Best estimate versus best or worst case
- Future premiums
- DAC or DPAC
- Changes through income, surplus, split or new line item

Miscellaneous

- How do we transition into the new accounting standard?
- What arbitrary limits might be placed on it?

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- Cash value floors, DPAC limitations, others
- Who decides the assumption?

Again, with the above list, we may select items from each category and create a new valuation methodology. Not all possible combinations will have desirable features for an accounting system. In fact, probably only a few do. But deciding which selections to make is an issue for a later time. Right now, we wish to see if we have all of the options represented. If so, we can get to the next step of deciding the correct selections for different products and situations. Suggestions are welcome. Are there any possible variations that can be made from the above to create new classes of methods?

To finish the presentation, I want to come back to my original disclaimer. This presentation is not a declaration by any official committee. These are my personal thoughts on the matter, although they have been influenced by my work on these committees. If you do have a point that you feel has been overlooked or needs emphasizing, please inform me or an appropriate committee. We will try to consider all suggestions.

MR. STEVEN H. MAHAN: I have a *FAS 115* question. On the DPAC offset, back when *FAS 97* first came about, they introduced a concept of an investment contract. They drove the criteria on whether a contract was like a UL-type contract or an investment contract that focused around the presence or absence of mortality risk, or mortality charges. Nobody was crazy about that, but they went to some accounting body and put out a question-and-answer paper that seemed to be given some authority. That shifted the focus somewhat to the significance of surrender charges, or significance of any sources of income beyond interest, whether from mortality or surrender charges.

Most companies really didn't have to spilt hairs or put a microscope on the decision, as to whether they're a UL type contract, or an investment contract. For the most part it didn't make any difference, as far as earnings emergence. Mostly any difference became more important if you were in a loss recognition, because the treatment is different. Everybody seemed to agree: investment contracts were accounted for under *FAS 97*. I had a lot of clients that we never really focused on what it was, because it didn't make a difference. Now under *FAS 115*, with this DAC offset, I'm wondering if this an investment contract or a UL type? If it is investment, it seems there is no DAC offset. There's no requirement under *FAS 97* for an investment contract to reevaluate gross profits and to run actuals through. I just wanted to get your reaction to that.

MR. HOHMANN: My reaction is that you're correct in what you said—there would be no requirement. Also, an attribute of *FAS 97* business is, at least in theory, that there's no loss recognition requirement either, but I believe in practice there's some diversity. Some companies will have loss recognition to the extent that they've taken the net liability that's being computed in accordance with *FAS 97* and artificially separated it into an insurance liability and a DPAC. They've done loss recognition to the extent that a DPAC exists. So, I guess I agree with your comment. There is probably no need to adjust the DPAC per se through revisitation of assumptions. However, from a loss-recognition standpoint, it seems to me to the extent that

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companies have addressed loss recognition on *FAS 91* contracts in the past, it would seem inconsistent for them not to do so in the future.

MR. WALLACE: I would agree with that as well. The only thing I might add is, I'm aware of at least two, large companies faced with that very dilemma because of realized gains. Big, realized gains occurred and people were looking for ways to not recognize realized gains. They revisited the original accounting model used for *FAS 91* products, and said, "We really could have used a universal life accounting model when we adopted our *FAS 91* type of model for investment contracts." They simply changed, then prospectively would unlock for realized gains, and now pursuant to 115, unrealized gains.

MR. ROBERT J. LOMBARDI: A question for Jim Wallace. We mentioned the heavy use of the available for sale, and the *FAS 115*, and it sounds like many companies are reporting gains in equity. I guess you should question whether companies will perhaps make less use of that and more into the hold, and whether there are any constraints in terms of prospectively purchasing assets, or whether you have complete freedom. Even if you may have sold a certain class of assets, and in essence repurchased a comparable set with say higher or lower par values, because you have complete freedom to reclassify the future assets as you buy them.

MR. WALLACE: It's a terrific question, to which I don't have a great answer. I would say that prospectively any time you acquire a new investment, it's an investment-by-investment decision that you make; and so you would be entitled to view each new acquisition, and determine whether or not that belongs in available for sale, or held to maturity, or whatever, and you're not constrained by prior decisions. On the other hand, if it is a class of investment that you already have, that is allocated obviously to a particular class. You do have that to overcome, but it may have to do with what particular liability that the new asset acquisition backs.

I do think you're right, that with rates going up, and unrealized gains evaporating, that may cause people to revisit exactly which category the assets go into. We're really on the leading edge of this, and time will tell.

MR. PRADEEP KUMAR: My question relates to the market value of liabilities. As far as assets are concerned, the difference between the amortized value and the market value comes mostly from change in interest rates; but when we're trying to set a market value for liabilities, it could be coming from several sources, besides the interest rates—not a changing index, but expectation for mortality, morbidity, or persistency, or any other thing. So when we're talking about marking to market for the liabilities, are we also thinking in terms of making the best estimates for all these assumptions at the same time, or is it just interest rates?

MR. HOHMANN: I'll give the first response. We've been viewing it from the perspective of having best estimates on all assumptions. From the standpoint of the group that I've been discussing it with, we think their best estimate is consistent with a fair market valuation, as opposed to building anything else that would differ. I do know that those who have a charge or who have approached the question more from the standpoint of retrofitting with a current accounting model or from the standpoint of a true accounting model, as opposed to the academic question of what

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is the fair value of liabilities, had been more concerned with, for example, grading questions, assumption setting, and revisitation. In our context, we would anticipate that any time a fair value was cast, it would be on the current, best-estimate set of assumptions.

MR. MODISETT: I would agree with that in general. I think the theory is to try to make the best estimate of everything. At the same time, I don't know if that's the major concern right now. If we could get the interest rates into the denominator, that would do a lot. We could save the best estimates for other things later, if that's going to be a hold up. I think the eventual attempt, you know, long-range goal, whatever that is again, is to have best estimate of everything.

MR. B. JOHN MANISTRE: I'd like to make one comment about your market values or fair values. I'd like to suggest a third name. What you're really talking about here is the manufacturing cost of a liability. In particular, when you're doing option pricing, let's say a spread of an option, just a spread of zero, you want to know what it is going to cost to manufacture the cash-flow pattern with Treasuries.

That leads to a second comment on the issue. What spread should you use? I think the option-adjusted spread in our option-pricing model is really the leftovers. That's where all the other issues that you weren't able to deal with are all thrown in. In a certain sense, that's analogous to the way we treated interest rates before. There was some sort of time value. I think our concept just sort of formulated a century ago, at a time when interest rates were relatively low and relatively stable, so we weren't too careful when we formulated that concept. We got the gist of it, but now we're left with this other little thing which is today just as inaccurate as interest rates were before. We've already developed sort of a GAAP concept for that. We say, set your spread equal to the one issue, and then you can develop sort of a loss-recognition concept. Keep it at that point, unless someday you wake up and find your assets just can't support it anymore.

I also would agree with you Matt, that retrospective methods don't really seem to make a whole lot of sense in a market-value world. Finally, I would like to say that, looking at this sort of situation from a Canadian perspective, you've placed yourselves into a bizarre situation here. You've got one foot in the market-value world and one foot in the book value. I hope that you're on the path to having both feet in the market-value world. This is just a temporary transition, but I'll say right now, it looks very bizarre.

MR. MODISETT: I'm working towards it just being a transition.

MR. STEPHEN A. J. SEDLAK: What seems implicit in many of the methods that I've heard is the fact that you're really going to have to revise *FAS 115*. That's because it sounds like in order to do the liabilities on a holistic basis, you're going to have to recognize market value as more than just an arbitrary, or semiarbitrary class of available-for-sale assets. Would you care to comment on that?

MR. HOHMANN: I think the observation is correct. If one did implement a procedure, fair valuing all liabilities, then you would have inconsistencies going the other way, because you would have held-to-maturity, for example, being valued at book.

In my group we had the luxury of divorcing ourselves from all accounting models and treating it as an academic question; but I do think if, in fact, fair valuation of liabilities does move forward as an accounting standard, yes, it will be necessary to explore that consistency question.

MR. MODISETT: It's somewhat of a tangential issue. I believe the insurance community is a bit alone on this one. There is not a push from the banking community, or anybody else for that matter, for wanting to mark the liabilities to market. So we're in a bit of an awkward position. Although I believe our liabilities are fundamentally different than the other ones, a much longer dating variety, still the onus is upon us to explain ourselves.

MR. SEDLAK: Yes, this is really the thrust of my question. We seem to be somewhat unique, or at least, are considered to be somewhat unique. Additionally, we have to reckon with the fact that they've come out with this thing. There may be a vested interest in one way or another for altering it. We may actually trade one monster for another in that we have interjected through this liability-valuation process much more volatility in our balance sheet, or income statement, or both, than we can reckon with, or would want.

MR. HOHMANN: I think you're correct. No one knows where this thing would end. At this point, it's merely an item for further study. Of the group that I'm working with, we obviously have no control over how, if at all, anything like this would ever become implemented. We're seeking to address the issue as we were asked. We're hopeful that our end product is one that, at the very least, will advance people's understanding of some of these methodologies. It could be a good learning device. I know my own personal participation on the committee has been very positive from that standpoint.

MR. MODISETT: That goes for my committee also. I think the onus is upon us to show why we're different. I mean, the initial comment an observer could make is, if nobody outside the insurance community is complaining, what right do they have to complain about their liabilities? The point is I think there is a very clear argument that we do have characteristically different liabilities, and therefore they should be affected. We're just trying to come up with the best argument.

MR. JAMES F. REISKYTL: I think that part of the comment was made that this is a bizarre system. I would suggest that market value of assets and liabilities would be even more bizarre. I suspect that the good news/bad news is kind of like the man who said the sky is falling on 115. I'm not sure the sky is falling, but I suspect we could make it fall if we work hard enough at it. Clearly an explanation is highly desirable from an actuarial perspective. I like the thrust of that whole approach. Obviously I'm an actuary, not an accountant.

The accounting model that FAS is following is also broken. They don't know whether they're in income, they don't know whether they're in equity, and it is because they have this mixed bag of stuff. You try to put these things together. I think arguably you'd have to go back to FAS and you ought to develop an equity model, and you ought to develop an income model. Try and decide if you're trying to drive earnings, or trying to drive equity, and you'll come up with different solutions.

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Now you've got kind of a mismatch of different things, and you aren't quite sure what it is.

Then you're trying to go at one piece of it and trying to make some sense out of it. It's like they had a real book on the shelf, and they lost it. It got dusty. You're trying to put sense to an accounting model. I, for one, submit you have to go back to basics if you ever want to pursue this; decide what it is you're going after. As my boss often asks me, what value is added in this process?

If all we're doing is making it work, we'll make a lot of work for actuaries and accountants. I'm not sure that the world will be any brighter when we get done. That is my real concern. And I'm saying FAS 115 looked like the sky was falling. You look at it today, it doesn't look like it's a big deal. The more we look at it, the more it looks like we can live with it. So let's not say, there's good news and bad news, and when we say it's bad news, we will create the idea. Why does the rest of the world not care? The accountants have a basic difficulty, as we all know, when combining assets and liabilities. You try to even talk about a valuation actuary concept with them and they get lost, because they want something for assets only and for liabilities only, and they don't want the twain to meet.

Well, lurking in many of the things you're talking about, of course, is some combination of assets and liabilities. You may disguise it through option pricing or something else, but the bottom line is, it hasn't changed reality. So I leave with the basic question, is there any value added by this process? Will we manage our companies better if we go through this process? Or perhaps we should just live with FAS 115. We will have to live with it shortly.

MR. MODISETT: That's an interesting set of comments. There are a couple of comments I wanted to make. One was the consensus; a large number of people feel that FAS 115 has presented a problem. There is an outstanding risk exposure. If interest rates rise, our assets will get pummeled. When we work on the committee, what we think of as a goal is to try to beat interest rates rising. We have surveyed the insurance community. The ACLI has sent out a survey on this issue saying, do you think this is a problem? It's an easy survey to fill out. I encourage you to figure out if your company has filled it out or not. If so, send it in because that's one of the major issues. Do we have a problem?

From what we read the answer is yes, but if the answer is no, we don't want to create a lot of work for people. At the same time, one way we could proceed is to make an entirely new accounting model. It's not clear that if we go in with that approach that we're going to get much support from anybody. In trying to catalog the different methodologies for doing it, which will suffice? There's a tremendous tendency in history to take what you have and band-aid it. There's a reason for that. We have other things to do with our lives than just reinvent accounting.

However, if after looking at all the band-aids the answer is, we need a new accounting methodology, we would like to be able to present that this is something we have to go to. I think in the back of our minds, as we are trying to avoid excess work for people, is it going to be a better world? If you have an opinion on that, please fill out the survey.

MR. HOHMANN: A quick response from the Academy side. Our specific charge is along the lines of the exploration of knowledge. I think that one of the reasons that the charge came to us to do something in this particular area is as a result of the *Committee on Life Insurance Financial Reporting* testifying before the FAS at the time that FAS 115 was exposure draft 119A. At that point we felt that one side of accounting was a bad answer. The Academy effectively has done that.

So I think given that, probably undertaking this type of an exploration of knowledge exercise is just consistent with saying, we feel it's a bad answer. At least, if anyone were to ever revisit it, the group that should be involved would be the actuaries, and that it shouldn't be imposed by some other group.

MR. GERALD A. LOCKWOOD: I always thought that one of the basic purposes of accounting was to provide some useful management information, not to create work for actuaries or accountants, but rather information that could be used by management for making good intelligent decisions about their economic lives. Increasingly, it seems to me that FAS accounting does not provide that kind of information at all. I'm a little concerned about some of the comments and the direction this is headed here.

Further observation I have is that around the world, and increasingly in the U.S. and across the industries, there's been more and more emphasis on economic value-added analysis and accounting approaches. I'd suggest that this approach be looked at. Perhaps we're getting into a whole new accounting approach. In a sense it seems to me that really does get at market valuing assets and liabilities. From period to period, looking at what value is added, to the organization, which is what management really wants to know, and why it's being added which is what they need to know also to make good decisions. Going down that kind of a path also ties right back to the way I think most of us try to price and manage our businesses. Any comments?

MR. HOHMANN: I definitely agree that economic value-added is a very good management tool and support it 100%. I believe in the context of what we talked about, probably the methodology that's been discussed is the true actuarial-appraisal-type method. I would submit that any form of actuarial appraisal used for fair valuation of liabilities could then be levered into something that would be useful management information, particularly if some form of variance analysis were to accompany it.

FROM THE FLOOR: I agree. I think right now we're in a transition phase. We're in an awkward, one-leg-up, one-leg-down kind of accounting system. I think the goal that everybody would like out of this is to have an accounting system that is meaningful.

MR. MICHAEL KAVANAGH: I presume that you are aware of the fact that the Canadian Institute of Actuaries has mandated for Canadian GAAP the use of a bundled value of assets and annuity liabilities, effective January 1, 1994. Sometime later this year we're supposed to try and get together to find out the experience of companies in implementing this approach to valuation.