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Embedded Value/Fair Value–Different Approaches, Same Goal

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Summary: U.K., Australian, and many European companies give much prominence to embedded value in financial statements. Canadian stock companies are now reporting embedded value annually and are looking at it as a performance management tool. Meanwhile, the International Accounting Standards Committee will ultimately produce an accounting standard for insurance incorporating fair value reporting. Separately, the Financial Accounting Standards Board is moving for fair value accounting, including the possibility of determining fair value of insurance contract liabilities. At the conclusion of this session, participants will have an increased knowledge of emerging trends in financial reporting and management.

MR. KENNETH A. LASORELLA: The first speaker is Hubert Mueller. Hubert is a principal of Tillinghast –Towers Perrin, and leader of the firm's financial management practice for North America. He is located in the Hartford office and specializes in product pricing (including variable annuities), actuarial valuations (including embedded values and appraisal values) and in economic value-added reporting, which is really similar to embedded value. He also specializes in design, implementation and review of asset-liability management and enterprise risk management strategies. In addition, he assists companies with mergers and acquisitions (M&A), financial reporting issues and internationalization strategies. He has been with Tillinghast since 1986, when he joined the New York office. From 1993 to 1999 he led the life practice in Cologne, Germany.

Note: The chart(s) referred to in the text can be found at the end of the manuscript.

MR. HUBERT B. MUELLER: I'll start by introducing the concept of embedded value: what it means, how it is used on a global basis, and what companies get out of it when they use it. Ken will talk about similarities between GAAP and embedded value. I'm sure that he has other things in store. Burt will go last and talk about the link to fair value and the status of developments there.

First, let's discuss what embedded value really means. In a simplified way, you can say that embedded value consists of two components: the value of the in force (which is the business you already have on the books) and the adjusted net worth. Adjusted net worth is essentially the excess of assets over liabilities as of the valuation date. I'll get into these elements a little bit more later on.

I want to start, though, by distinguishing what embedded value is not. Embedded value is not the appraisal value. It is a component of the appraisal value, but the appraisal value also includes future new business. Embedded value only includes what's currently on the books, including this year's new business, but not future new business. If you look at some of the companies that have been publishing embedded values, they typically publish the embedded value as of the valuation date and the value of one year's new business. If you compare that value with the current market capitalization, you can estimate the value of future sales. In other words, if you take the difference between the market cap and the embedded value, and divide that by the value of one year's new business, you can figure out at what multiple of one year's new business companies are trading at.

I'll give you an example. ManuLife published embedded values in its 2001 annual statement. The embedded value as of the end of 2001 was $14 billion Canadian. The value of one year's new business was $0.6 billion Canadian. Market cap was approximately $23 billion Canadian at the end of the year. So, what multiple of new business is inherently used in the market capitalization? Fifteen[1]. So that's the difference. Needless to say, the market value may include other elements too, such as the quality of management for example, or takeover speculation. Sometimes you find that there is a range within which companies trade, and if there is some speculation of potential takeovers, companies move toward the upper end of the range. So, companies that may be takeover targets, or those that have higher quality, typically trade at higher multiples of the value of one year's new business than those companies that are not perceived to be of that high quality.

Getting back to the components of embedded value, they are shown here, adjusted net worth and value of in force (Chart 1). As I said before, adjusted net worth is essentially the excess of assets over liabilities at the valuation date, and there are some adjustments. For example, you take capital and surplus at face and you take the asset value reserve (AVR) at face. However, the interest maintenance reserve (IMR), that's something you run off over time. You're not getting dollar for dollar on that one; maybe 80 percent on a typical risk discount rate (RDR).

[1] Calculated as ((23-14)/0.6)

For the value of in force, the concept here is distributable earnings. It's not just after-tax book profits, but it also includes the cost of required capital. Required capital is typically set at the level that the company deems necessary to maintain or to achieve a certain rating. That could be an S&P rating, or it could be a Best's rating or whatever else is relevant for the company. For example, if you had an S&P AA rating, that would equate to about 300 percent of action-level risk-based capital (RBC). Is that about right, Burt?

MR. BURTON D. JAY: Yes.

MR. MUELLER: So the cost of capital, then, is included into the value of in force and new business. Why is there a cost of capital? Because you set up required capital, and then you get the benefit of the runoff of capital over time. But you're discounting at a higher rate than the after-tax investment return on capital. So, your cost of capital stems from the difference between what you're discounting earnings at and what you're earning after-tax on that required capital. For example, if you're discounting at nine percent, and you're earning six percent gross and maybe four percent after-tax on your required capital, there's a five percent margin on your required capital each year that is going to cost you something. Mathematically, if the risk discount rate and the after-tax return on capital would be the same, there would be no cost. But in reality, obviously, that's not the case.

So, how do we value the in force? The value of the in force is really a runoff of future distributable profits from the in force. Typically, you have a situation in which business has been issued a few years ago and you hopefully have this stream of future profits that you're discounting back. That's the value of the in force, in simplified terms.

Now, even though I said future new business is not included in the embedded value (EV), looking at new business profitability is an integral part of the value-added methodology because you are looking at the value of this year's new business. Even though it's not part of the embedded value itself, it's calculated in addition to the embedded value so that you can see how much value you actually added this year from new business. That's where the companies we work with generally get the most value from doing embedded value reporting. It is looking at new business across all lines of business. Add up those components, and add up not only the values for each line of business, but also the expenses, and make sure that the total acquisition and maintenance expenses for the company, including what you have for the in force, match your total actual expenses for the year.

I've seen companies that have had new business models for different lines of business, and if you used all the expense assumptions for acquisition and maintenance and added the maintenance from the in force, you get only half of the expenses for the company. Why is that? Maybe because the expense assumptions were done five years ago and are not up to date any more, and you don't really see that until you aggregate all the pieces. That's where you get a big part of the

value of doing all this work, and you can see trends in and profitability over time and by line of business. From a company perspective, you can see where you want to place your "eggs," your capital. Where are you generating what return on capital? Where are you destroying capital? EV is a shareholder value methodology, but it is also being used by mutuals, where you could call it enterprise value. Maybe Burt will want to expand on that later.

Now, I'm going to discuss the differences between EV and GAAP. This is very simplified, obviously, but if you take a very much black and white look at the three methodologies that we have—and I haven't added fair value yet because Burt will talk about that—statutory is obviously the most conservative. Every time you sell new business, you incur a surplus strain. If you sell a lot of new business, you may actually have statutory losses. It does not tell you if the company is doing good or not so good. For this reason, nobody really likes statutory reporting as a measure of how the company has done financially.

GAAP has a better methodology in that a lot, but not all, of the expenses are actually capitalized and amortized. So GAAP tends to spread the impact of sales over future periods and doesn't give you a clear picture as to what happened this year or what happened this quarter. Just talk to some of the financial analysts, and they will confirm that. EV has the idea that if you have sales and you have a certain value, that value shows up this year, and if you have a negative value, that negative value shows up this year. You have an immediate impact.

Here are just a couple of reasons companies have been doing this. It is used a lot for performance measurement. It does impose financial discipline across regions in all the industry sectors. Not surprisingly, a lot of companies that use EV are multinationals that work in different territories, different regions, and have many different companies. You just can't add up statutory or GAAP results. They're really meaningless, especially because the interpretation of GAAP in many countries is pretty arbitrary, as compared to what we would use for GAAP in the United States. It is also sometimes used for incentive compensation plans. For example, if you're a multinational and you're investing in new markets—let's say you set up an office in Vietnam or in China. You spend quite a bit of money before you see any profits. One way to reward performance is to say, "What value of business have we on the books now, even though it doesn't show up on a statutory basis?" That's why embedded value reporting is used a lot with multi-nationals.

There are also limitations, and I don't want to just talk about advantages. Clearly, EV is not a full fair-value analysis. We will get into that later. EV is essentially doing deterministic models for your business. However, if you model blocks of business where the impact of the cost of guarantees should be calculated stochastically (for example, if you have a guaranteed minimum death benefit (GMDB) block of business of variable annuities), you can calculate their cost stochastically, figure out what you think the right cost is, and then put that cost back into your deterministic model. So, even though you may be using an eight percent equity return, you

should run 1,000 scenarios for your variable annuity block of business, determine the cost of your GMDB feature, and put that cost back into the EV projection on a deterministic basis. Otherwise, you'd get no cost, right?

There is also the concept of "Embedded Value at Risk", which is increasingly used by companies. Essentially, this implies using a standardized set of sensitivities to determine how volatile the deterministic embedded value is to changes in interest rate or equity market conditions.

There is also some variability of acceptable assumptions. I think in that case, in particular, it's useful from an outside perspective to have an independent party review the work performed and say that assumptions and methodologies applied are reasonable and are according to usual embedded value standards. If you don't have that kind of disclosure, it's up to the company to tell you how aggressive or how reasonable the assumptions are, and that obviously has a subjective component.

Now, I want to make more of a case of why I think stochastic EV will be the next phase and will be coming. For one, you can use it to measure the cost of guarantees on equity-based products. You can also measure revenue volatility because clearly, your actual revenue will not be a static stream of profits; there will be some volatility, and you can measure that sensitivity. Key limitations here have to do with the additional run time needed. If anybody has ever tried to do an embedded value model with 1,000 scenarios with any system that's out there and has done it with one computer in less than a month, let me know, because I don't think it's possible. So that's clearly an issue, but there are ways to get around that. There are scenario-reduction techniques. Mary Hardy has done quite a bit of analysis on scenario-reduction techniques and has published on this. We have done some EV work in which we have used 50 or 100 scenarios on that basis. Maybe that takes a big model all weekend, but it's not unmanageable.

I also think that the development of the new RBC C-3 factors, Phase 2, clearly means that companies need to move to a stochastic platform. You should do stochastic modeling for your various components, list the components, and plug those as costs into your embedded value model. If you haven't done it this year, you will have to do it next year because this RBC C-3 Phase 2 proposal is expected to be effective by next year.

The next block is just a very short look at what's happening worldwide on value-added reporting. First of all, embedded value and what we call value-added reporting originated in the U.K., where it has been used as an accepted accounting standard since the 1970s. Outside parties could not make heads or tails out of statutory results and the U.K. had no GAAP model, so they accepted embedded value instead of GAAP. With the preponderance of U.K. actuaries in Australia and South Africa, it's not surprising to see that it was accepted in those markets as well. Essentially, all of these markets have market value accounting. Increasingly, it

is also being adopted as a performance-measurement tool by the multinationals. Essentially, all larger multinational companies are publishing worldwide EV results at this point, not necessarily in their statutory statement, but in separate presentations to financial analysts. It does allow a consistent evaluation of performance across the whole region and also helps you emphasize the efficient use of capital.

Now, what's happening in North America so far has to be segmented between Canada and the United States. In Canada, the large companies have agreed to publish embedded values and have done so for the last two years. That has not happened in the United States. Why is that? I think in the United States, the key issue has been the dominance of U.S. GAAP. The financial analysts generally rely on U.S. GAAP reporting, and that has worked reasonably well for a long time. However, we see more and more analysts now questioning the validity of U.S. GAAP and questioning the assumptions inherent and some of the unlocking that's going on. It doesn't really tell a lot to the outside audience about exactly what the company has done. So, there are certainly some shortcomings that we see with U.S. GAAP.

If we go back to how EVs are published, essentially what I see are four different levels of publication, and I have listed them all here (Table 1). Some companies, including those I mentioned before—ManuLife, Industrial Alliance —published embedded values in their annual statements. Some companies, including all of the multinationals, basically publish them by discussing them with financial analysts, and then list them on their Web sites. If you go to the Web sites, you'll find some of those presentations. Very often, EVs are used for initial public offerings (IPOs) and M&A situations. Gradually in the United States, financial analysts are starting to estimate embedded values. For example, Fox-Pitt, Kelton Group has done that for a few years in a row.

Table 1

Different levels of embedded value publication

- Publication in annual statement
  - CGNU (U.K.), Zurich FS (CH), Mediolanum (Italy), Industrial Alliance (Canada), Manulife (Canada)
- Presentation to financial analysts
  - Aegon (NL), ING (NL), Allianz (Germany), Skandia (Sweden), SunLife, Swiss Re
- Inclusion in IPO prospectus
  - Pacific Century Insurance (HK), Catalina Occidente (Spain), PZU Insurance (Poland))
- Estimation by financial analysts
  - US life companies

Chart 2 shows market cap to EV ratios for European versus U.S. life insurance companies over the last three years—and it's one I borrowed from Fox-Pitt, Kelton with their permission. If you look at the lines, the European companies are the ones on top, the U.S. companies are the ones on bottom, the lighter blue line. They're actually converging quite nicely. There were huge differences in valuation about a year or two ago, which is one of the reasons more Europeans were active in this market. If you look at the current market valuations, they're roughly at about 1.5 to 1.6 times EV. That has been a long-term observable trend, that over time the market cap to EV ratios trend to about a 1.5 –to 1.6 ratio. Another way you can look at this is if the value of new business is about four to five percent of EV, which comes out in many cases, that would mean that companies are typically trading at about 10, 12, maybe 15 times the value of one year's new business. That's another way to look at it.

I'll keep the last part short. What are some of the practical elements here of doing embedded value? First of all, a lot of companies are saying, "Well, we already do STAT, we already do GAAP, we already do cash-flow testing. Gee, that's one more thing to do." The bottom line is, a lot of what you need to do in EV is already there. You're doing pricing work. You're doing cash-flow testing. You're doing maybe business models to project your expected profits for the next couple of years. If you put all that together, you already have about 85 percent of what you need for an embedded value model. So, you're not starting from scratch.

It really means that you need to introduce some rigor into how you set your assumptions, how they match with reality, and also bring in up-to-date economic

assumptions. You need to have some idea of the risk discount rate, the investment return assumptions that you're using, inflation, and so on. The nice thing is, when you have done this process once, it provides a way to have an instant company model. U.K. companies call them office models and basically, by pushing a button, you can do what-if scenarios. Maybe last year your equity growth expectation was nine percent. What happens to the value of your variable annuity block of business now that you have changed that to eight percent? You can have that immediately, almost at the push of a button, just by running the numbers on a company basis. Those are some of the benefits of calculating EV.

Here's an example of what I think is a key element of the embedded value calculation. You are looking at the year-by-year change in value. It is not so much the absolute number that you're focusing on; it's the change from year to year and the components that have caused those changes. In this example, we're starting off at a value of 3.21. Sometimes, there are some model changes that you do from one year to the next. Maybe you left off one model last year. Now you're modeling it, and that results in a small addition to value. You may have changed some assumptions. You have an expected return on your opening value, which is really just rolling forward embedded value by one year at the risk discount rate, because you're one year closer. But then you have to subtract what have you paid in dividends and other elements also, and you may have some other variances. Last but not least, there's the value of new business. So, it's really important not so much to look at an absolute number for one year, but to look at the change in value over time. The analysts focus on what you're adding as new business. That's a key component.

Again, the framework to do embedded value should already exist. Maybe I should talk a little about how you look at assumptions and when you change assumptions. The key assumptions you want to look at are investment performance, expenses, persistency, mortality, morbidity, inflation—some actuarial and some economic. You're always going to have deviations, right? You're not going to get it exactly; otherwise, you'd be the wizard. There are going to be deviations. You need to determine whether those are fluctuations that you would expect in the course of business or whether those are systematic errors that you've made.

For example, if you underestimate your mortality by 10 percent in one year, my suggestion would be that it's a normal fluctuation that you're going to get from mortality. People don't die by the rules. Some fluctuations are expected in business. However, if for three years in a row you find that you're underestimating your mortality by 10 to 20 percent, then maybe it's time to look at your assumptions and say, "Gee, maybe I've missed something here."

I've mentioned risk discount rate , but I haven't explained it very much. Typically, what we see in the market is that the risk discount rate is set using a spread to the so-called equity risk premium over the risk-free rate. Currently, the risk-free rate is in the five percent range, depending on which index you use. It may be 5.25

percent. The risk premium above that for the risk discount rate is typically in the three to four percent range. Hence, the risk discount rate comes out to about eight to nine percent at the moment. In many cases, the RDR is set equal to the assumed return for equities. Historical differences between equity returns and bond returns are in the 2.5–4 percent range, at least in North America. You can take lots of time intervals and dissect that further, but that's what it comes out to.

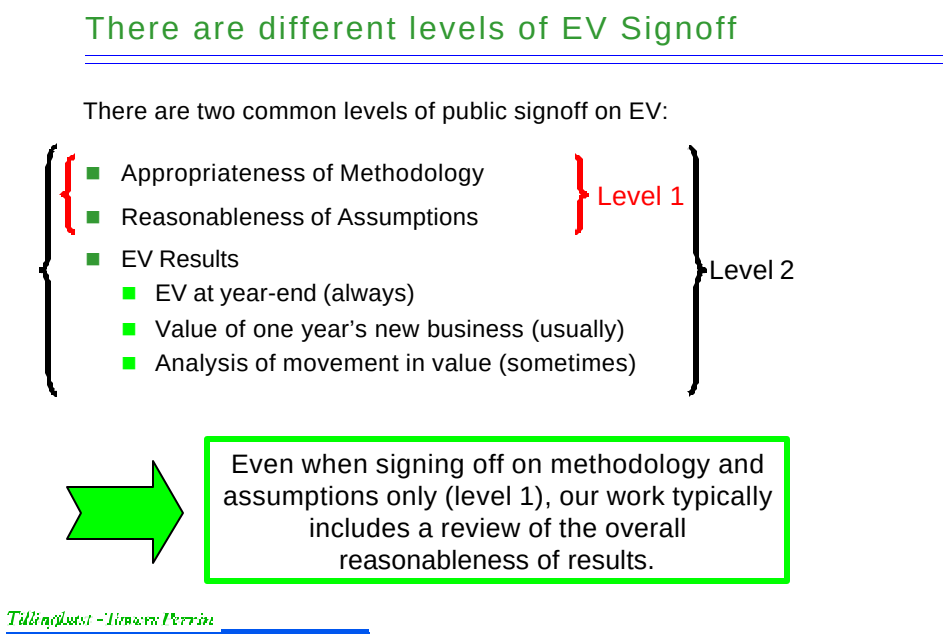
You can also figure in the cost of debt. So, for example, if your surplus is 25 percent debt, you can factor that in your risk discount rate. A different way to say it would be that the risk discount rate should be pretty close to your weighted average cost of capital because you're deploying your capital into the business. Very often, companies simplify it and say risk-free rates plus three to four percent. Currently in the U.S. market, most companies that have been publishing embedded values have used a risk discount rate of eight to nine percent. I think I saw one at 9.5 percent; that was at the high end. The low end was eight percent.

FROM THE FLOOR: Is that a pre-tax or post-tax rate?

MR. MUELLER: The risk discount rate would be a pre-tax number because you're discounting after-tax profits. You don't want to do it twice. Sensitivities are typically performed with risk discount rates of plus or minus one percent. So if you don't agree with this risk discount rate, companies automatically give you what will be the change up and down. Other sensitivities are typically performed for the level of target surplus or required capital, investment returns, mortality/morbidity, lapse rates, and what I referred to earlier as "EV at Risk" (e.g., a one percent shock to the yield curve and maybe a 10- 20 percent shock in the equity markets).

Outside parties can bring much to the table here. There are two different levels of sign-off (Table 2). Level one basically says, "We've looked at methodology and assumptions, and they're reasonable." Level two goes one step further and says, "We've looked at methodology and assumptions, and they're reasonable, and we've looked at results, and they're also reasonable." The second level includes a very detailed check on results, so you have a stronger sign off, but also implies a lot more work to do. Most companies, if they have a sign off—and I think we've done most of them, but not all of them—usually have level one, which says reasonableness of assumptions and methodology. Typically, this includes a check on the overall reasonableness of results, i.e., some checking of models, some checking of spreadsheets, and some parallel calculations, but not a detailed review of every single model.

Table 2



So what's my outlook here? I do think that embedded value is here to stay and will become an accepted methodology in the United States as well. Many of the subsidiaries of multinationals are already doing it. This methodology is commonly applied in M&A situations. It's not a fair value by itself, but it's the first step towards that, and it's used in many cases. For example, take securitization. If you watch the news, more and more companies that have demutualized are using embedded value calculations to determine the securitization value of this block of business to generate capital, because in many cases the closed block business doesn't generate the returns that you need as a quoted company. Calculating the embedded value and liquidating that closed block gives you a way to generate an immediate cash stream that you can then re-invest and re-deploy, hopefully in business that gives you a higher return.

MR. LASORELLA: I'm currently with Sun Life Financial, or Sun Life of Canada as you might know it. I was with them 19 years. I left for seven, most of which was spent with KPMG Peat Marwick, and then I came back to Sun Life in 1993. I'm the vice president of U.S. GAAP and have worldwide responsibility for the actuarial aspects of U.S. GAAP. But because there aren't enough FASBs and enough pronouncements and so on, I spend a lot of time with embedded value, mostly the actuarial aspects. Consequently, I do a lot of training worldwide.

Today, I'm going to go through a plain vanilla case of value of business acquired (VOBA) and keep things simple.

Statements of Financial Accounting Standards (SFAS) 141 and 142 deal with goodwill and intangible assets. Those are very recent FASBs. The problem we have now, if you want to call it a problem, is that goodwill is not amortized. It must be allocated to reporting units, as most of you know, and it must be tested for impairment. But if you pass those tests, you don't amortize goodwill. Intangible assets such as the value of in force business, which is the VOBA, would be amortized. That's a significant difference. The smaller the VOBA, the better off you are because you could keep goodwill intact and not impact future earnings. On the other hand, if your VOBA is large, it will impact future earnings because you have to amortize it into future income as an expense. This is a major change in accounting policy. It might do us some good to compare VOBA to the deferred acquisition cost (DAC) asset. Initial DAC represents an acquisition cost, the cost to acquire new business, usually from your own company's distribution system. Initial VOBA would be more or less the acquisition cost to acquire a block of in-force contracts from another company and most likely sold by another distribution system. But they both represent a type of acquisition expense.

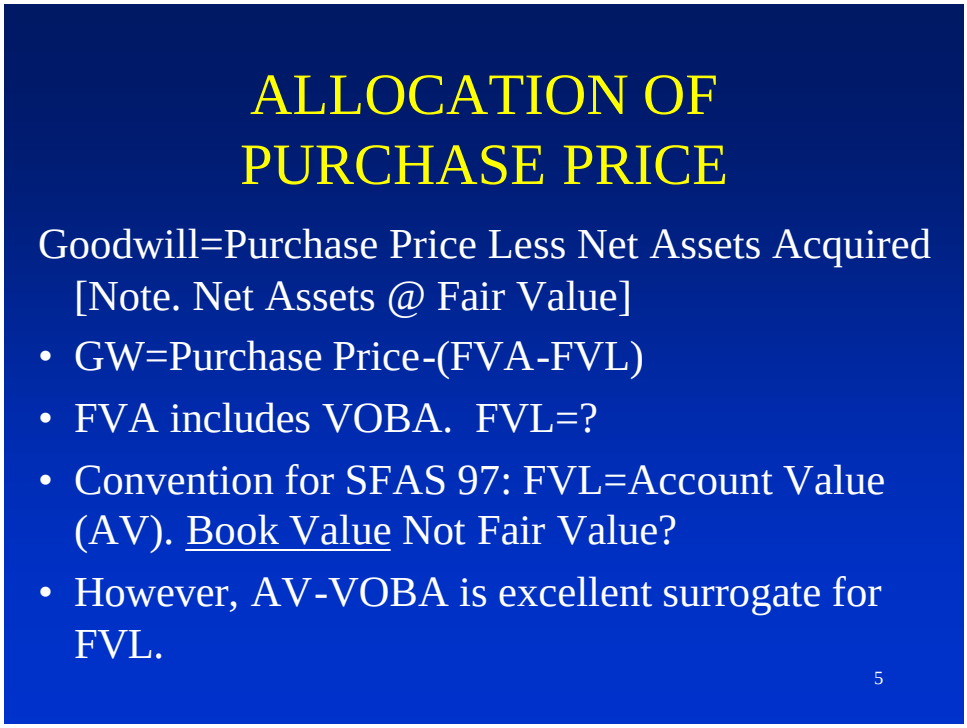
We want to make this link because there's extensive literature and practice regarding DAC and very little regarding VOBA. If we make the connection, it should make things simpler. Take, for example, amortization. The Emerging Issues Task Force (EITF) 92-9 basically said that you should amortize VOBA the same way you would amortize DAC. That means for FAS 97 universal life-type products with account values, you would use gross profits as the amortization base, just like amortizing DAC. If they were FAS 60 traditional products, you'd use a percentage of gross premiums. Now, EITF 92-9 predates FAS 120; nevertheless, by analogy you may as well use the gross margins to amortize VOBA arising from par products, participating contracts under FAS 120, Standard of Practice (SOP) 95-1. The connection to DAC makes it a little bit easier to determine methodology for both amortization and loss recognition testing of VOBA. Use the same methodology for VOBA as for DAC.

Now, let's talk about allocation of purchase price. You may have gathered that because Burt Jay will talk about international GAAP and fair value and Hubert has already talked about embedded value. Somehow we have to bridge the gap—no pun intended. This is why I'm talking about U.S. GAAP and VOBA, because these concepts are extremely similar; they're almost identical. If we allocate a purchase price, some of it will go to adjusted capital and surplus, which is very similar to what Hubert had as adjusted net worth. There's value of in-force contracts, or VOBA, which is the counterpart of insurance business value (IBV) in embedded value terms. There will be other identifiable intangible assets because, remember, there's pressure to find other assets because they get amortized. So, there might be a value of a distribution system, for example, and some deferred tax that would be floating around. What's left, essentially, will be goodwill, and that's what does not get amortized.

We can define goodwill simply as the purchase price less the net assets acquired

(Table 3). Those net assets have to be at fair value, so you can see how there's going to be some linkage here. In formula form, that would be purchase price less fair value of assets (FVA) less fair value of liabilities (FVL). That may seem simple on the surface. If the assets are invested assets, they get marked to market. However, we must include VOBA as well, since we must reflect the fair value of all assets. However, what about the fair value of liabilities? If we were dealing with a SFAS 97 product that has an account value, we might see the account value used for the fair value liability.

Table 3

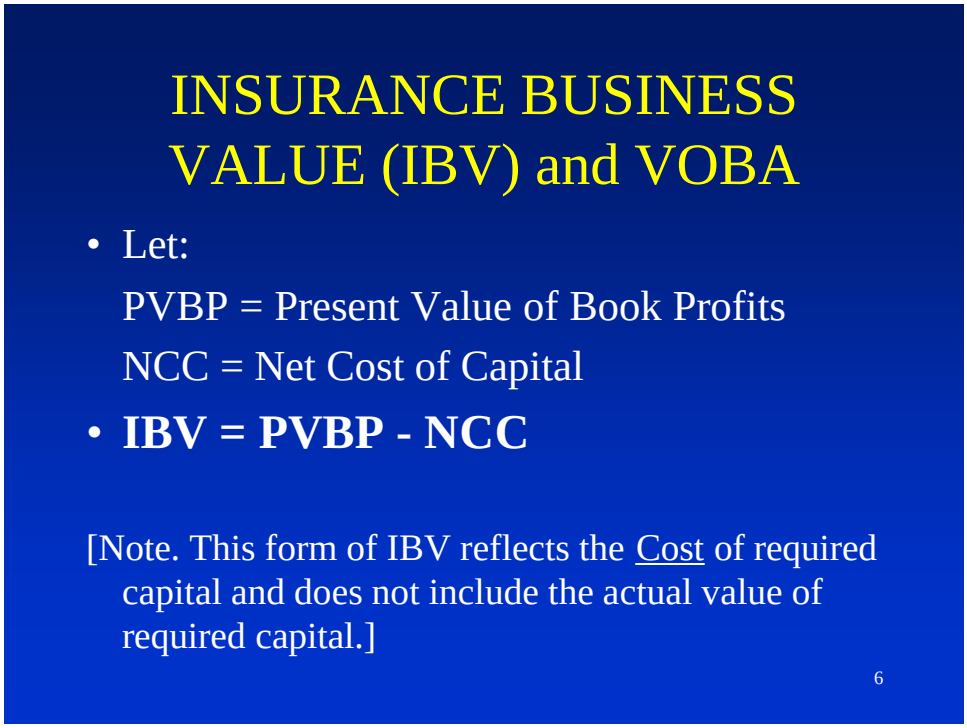


FROM THE FLOOR: How can account value be fair value?

MR. LASORELLA: That is an excellent question. How is it fair value when it really is a book value, the account value? The answer is that the account value really isn't fair value if you examine it in isolation. There's no way you could argue account value is fair value. The account value is not what somebody would pay to acquire the business. So if we had for sale in-force business with an account value of $1,000 and a VOBA, or purchase price, of $100, we would expect only $900 of assets to be transferred to the purchaser. This means the fair value of liabilities should be something close to that $900, not the $1,000. When you take the account value less VOBA, you can call it a net gap liability, it is an excellent surrogate for fair value liability—not perfect, but extremely good. That's how you get around this fair value aspect. So, mark assets to fair value; they're okay. For liabilities, take a book value less VOBA, and you could count that as fair value.

Now, let's go to IBV and VOBA (Table 4). This is insurance business value from Hubert's embedded value presentation. So, the present value of the after-tax statutory book profits less the net cost of capital is the basic formula for this IBV. This is one definition, the main definition. I say one definition because some use the present value of distributable earnings, which I'll get to in a minute or two.

Table 4



Let's start off really simple for the rest of this presentation, until the very end, by making some simplifying assumptions. 1) Market value of assets equals book value equals tax basis value.2) The GAAP reserves, the statutory reserves, and the tax reserves are all equal. For now, we won't clutter our minds with deferred tax liabilities and assets, and proxy DAC. So to obtain a book profit, the assets should be reset to equal the liabilities at every accounting period in the projection. You do not want to include investment income on surplus. I think most of you understand book profits, so I won't get into that.

We want to discount these book profits at the RDR, and it's probably worthwhile to spend some time looking at one definition of RDR (Table 5). One definition could be the equity cost to capital. We can take it from the capital asset pricing model (CAPM), which most of you have studied at one time or another. We have a risk-free rate and an expected market rate of return. You can look at the expected market return less the risk-free rate as an equity risk premium. The beta would be a measure of volatility or risk, the movement of the stock relative to, say, the

market.

Table 5

This looks awfully simple to me, except usually it's tough to get the beta, and nobody's sure about the equity risk premium. But if you could capture those two, I think you'd almost be home free, except I'm not sure what risk-free rate to use. If you go back, some studies might use the equivalent of delta, the instantaneous rate of return. Others, including myself, might suggest that you should look at the duration of the distributable earnings and maybe choose a risk-free rate for the same duration. Because the investor has a choice—either invest in the stock or go buy some risk-free assets—it would make sense that the durations would be similar. So although this looks relatively simple, you have to spend some time with this. At least CAPM gives you a framework or a mechanism for determining RDR. As a numerical example, the Canadian Institute of Actuaries basically recommended for embedded value an equity risk premium between three and four percent. Based on year-end 2001, this would result in an eight percent RDR for a company with a beta of one. I would think that in most appraisals, you're going to see some higher risk discount rates.

Now, let's consider net cost of capital (Table 6). Let's suppose required capital is 200 percent of RBC. So, we're going to have an after-tax rate of return on that required capital, and let's suppose it's 5 percent, to keep it simple. Then there's a required capital use charge. Now, the investors have their capital tied up, so they demand to make the risk discount rate. That's what they're entitled to. If they're

only making 5 percent while their capital is tied up, we have to charge the line of business with the difference—RDR less the after-tax rate on invested capital—times the required capital at the beginning of each period. That's the required capital use charge (RCUC). We present-value all the RCUCs back at the RDR, and gives the net cost of capital.

Table 6

NET COST OF CAPITAL (NCC)

IBV = PVBP - **NCC**

Let: RC=Required Capital (e.g. 200% of RBC)

irc=After-tax interest on RC (e.g. 5%)

RCUC=Required Capital Use Charge

- $RCUC_t = RC_{t-1} * (RDR - irc)$

  e.g. $RCUC_t = (8\% - 5\%) * RC_{t-1}$
- NCC=Present Value of RCUCs @RDR

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Now, what about treatment of debt (Table 7)? I previously glossed over it and said, "Well, RDR is the equity cost of capital; apply that to the entire required capital." However, sometimes there's borrowed money. So, let's start off with RDR as the equity cost of capital—and keeping it simple assume that 25 percent of the required capital was funded with debt. We could take that same formula for the required capital use charge and basically say that the RDR minus the after-tax rate that we're earning on required capital gets applied this time to 75 percent of the required capital (top line of first formula). On the second line of the formula, we'll take a look at the after-tax cost of debt, the real cost of debt, less the after-tax rate of return we're making on the required capital. This net rate of debt cost would be multiplied by the balance of the required capital, the amount funded with debt, which in this case is 25 percent of required capital. So that's one way to reflect debt. Everything is after-tax, and we would still present-value all RCUCs back to the valuation date at the RDR.

Table 7

EV TREATMENT OF DEBT

1. RDR=Equity Cost of Capital

   Debt Treated Explicitly, e.g. Debt=25% RC

   $RCUC_t=(RDR-irc)*(RC_{t-1}*\underline{75}\%)$ +

   $(_{AT}Debt.Cost-irc)*(RC_{t-1}*25\%)$ [AT=After Tax]

2. RDR=Wtd Avg Cost of Capital (WACC)

   RDR Is a Blended Cost of Equity and Debt

   $RCUC_t=(RDR-irc)*RC_{t-1}$

   Market WACC or Entity Specific WACC?

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Another way to deal with debt is to start with RDR as the weighted average cost of capital (WACC). So, this RDR is a blend of cost of equity capital and cost of debt. The RDR then can be applied to the entire required capital. However, you may get into some issues, which I'm not going to address today. However, one question is whether we search for a market WACC, what is typical in the marketplace, or do we look specifically at a company's WACC (entity-specific WACC). If your company has more debt than another company, your company might have a lower cost of capital.

Now, I think we can get back to discounted distributable earnings (Table 8). Hubert referred to this. He was talking about the present value of distributable earnings at one point, which includes the releases of required capital. If you look at this basic formula, this is basically what I would say pricing actuaries are always using. They would have book profits defined as normal book profits, for which assets are continually reset equal to the reserves. Then some after-tax investment income on the required capital would be added. Finally, you'd have some releases of the required capital. The sum of these three items would be what could be distributed to shareholders. This is the definition of distributable earnings. Because these distributable earnings are just for the in-force business, there would be no investment income on free surplus.

Table 8

IBV Vs. DISCOUNTED DISTRIBUTABLE EARNINGS (DDE)

- $DE_t = BP_t + irc*RC_{t-1} + (RC_{t-1} - RC_t)$ [For In-force]
- $DE_t = BP_t - (\mathbf{RDR} - irc)*RC_{t-1} + (1+\mathbf{RDR})*RC_{t-1} - RC_t$
- DDE= PV.Distributable Earnings @RDR
- $DDE_{t-1} = IBV_{t-1} + \mathbf{RC_{t-1}}$
- [Note. The proof has been left as an exercise for the student. Hint: expanding PV summation creates a telescoping sum with all terms canceling out except for the first and last, which is zero.]

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Now, I want to subtract and add the risk discount rate times the required capital (note the bolded RDR). I have this on two lines for a purpose here, so in the top line you could see minus RDR times required capital. In the bottom line, you see a positive RDR times required capital. The advantage of this is probably apparent by now. The top line looks an awful lot like IBV because we have a book profit less a required capital use charge. So if we present-value the distributable earnings, the present value of the top line will be the IBV. What's the present value of the bottom line?

It's just the required capital at time t-1. If you think about this, we're allowing the required capital to earn the risk discount rate, right? Yet, we're discounting both the investment incomes, so to speak, and the releases of the required capital at the same risk discount rate. Therefore, we should be back to what we started with. If you wanted to take the time to actually project this out and discount things back, you would find that everything degenerates to just the initial required capital at time t-1, plus the last value for required capital at the very end of the projection, which will be zero. Only two terms emerge; everything else cancels.

So, the discounted distributable earnings would be the sum of IBV from embedded value and the required capital. Now that gives us some insight, because if we want to determine the IBV and we have the present value of distributable earnings, all we have to do is subtract out the required capital at the valuation date.
Let's move to the actuarial appraisal method here and work with discounted

distributable earnings first (Table 9). Now we'll define after-tax VOBA—an initial definition, the starting point, not the final—and we'll make it the discounted distributable earnings less the required capital. That's our IBV. Now, we'll have some adjustments to that. Remember, I made some simplifying assumptions. One was that the book reserves and tax reserves were equal, and the other was that the market value, book value and tax basis value of assets were equal. Let's remove those simplifications and see how VOBA gets adjusted.

Table 9

ACTUARIAL APPRAISAL METHOD (AAM) AND VOBA

Assume: AAM For In-force Business=DDE, So,

- $_{AT}$**VOBA =(DDE-RC) =IBV** [AT=After Tax]
- Required Adjustments:

  +(GAAP.Res-DTA)-Stat.Res

  -(MVA-BVA) [For assets backing In-force]

  [Note. Not Tax Effected If IRC 338(h) Election is made]
- **VOBA**$=_{AT}$**VOBA/(1-TR)** [TR= Tax Rate]
- Additional DTL=VOBA*TR

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In the first one, if the GAAP reserve were bigger than the statutory reserve, you'd expect more profits. So, the present value of the profits should be higher. It is easy to remember that you should add something. However, deferred tax must be considered as well. What I have in Table 9 is a deferred tax asset (DTA). (By the way, on the Web site and the CD from this conference, it probably shows DTL, Deferred Tax Liability, rather than DTA. It really should be DTA.)

Considering an example, let's suppose the statutory reserve is $1,000 and the GAAP reserve is $1,100, so there's a $100 difference. For simplicity, assume that the tax reserve is also equal to the statutory reserve, keeping it at $1,000. The extra $100 would attract a deferred tax asset because the excess of the GAAP book value over the tax basis value becomes the basis for deferred tax. So this extra $100 would be multiplied by the marginal tax rate, say, 35 percent, and that

would create a deferred tax asset of $35. So, what I want to subtract here is that $35 from the GAAP reserve, and that's what I want to work with—$1,100 minus $35. So, the excess is not the whole $100; it's $65. So, you would need to have invested assets not equal to the whole $1,100 GAAP reserve, but the $1,100 GAAP reserve minus the deferred tax asset associated with it. That's the easy way to look at that.

Another simple adjustment pertains to the difference between the market value of the assets and the book value. Think about this. If we did a book value calculation—say in a gain situation in which we have unrealized gains—maybe we were assuming seven percent investment returns, but in the market the interest rates might be down to six percent. So had we supplanted all the book values of the assets with market values of the assets, we would expect lower future book profits; i.e., we would not project as much investment income. So it's intuitive that you should subtract something if the market value exceeds the book value.

Now, I'm not tax-effecting this excess of market value over book value of assets for a reason. This is because in the United States, if you made an IRC Section 338(h) election, all the assets are marked to market, a stepped-up basis, at the date of purchase. There really isn't any difference between market and book because the new book value is the market value. Therefore, we wouldn't need to make an adjustment for any unrealized gains, since there wouldn't be any at the date of purchase for our P-GAAP balance sheet.

Now we have an after-tax VOBA kind of adjusted, and we might divide this by 1 minus the tax rate to gross it up to pre-tax basis. The only reason we're doing this is because we assume that the deferred-tax accounting friends of ours are going to run over to the other side of the balance sheet and take the difference between the VOBA and zero and set up the deferred tax liability. For example, if our after-tax VOBA were 65 and we book this as an asset, we would find that 35 percent of 65 would be set up as a deferred tax liability. This would not net to 65. So instead, we beat them to the punch—take the 65, divide it by 1 minus the tax rate of 0.35, and our 65 becomes 100. So, our balance sheet would show pretax VOBA of 100, a deferred tax liability of 35, and we would be right back to 65 net. So it doesn't change the net.

Before performing any gross-up of after-tax VOBA, be sure to communicate with your deferred-tax accountants. So long as the actuaries have delivered the after-tax VOBA, then don't worry too much about the deferred-tax elements. Leave these to the tax experts and just try to understand them.

So what about some VOBA alternatives? Some people have suggested present value of pretax GAAP book profits. That's a bad answer because it doesn't reflect the cost of capital. Remember, FAS 141 and 142 are telling you fair value, fair value, fair value, so how could you say you have fair value if you just present-value book profits and don't subtract anything for cost of capital? Then, the book liability

less the present value of these book profits would not give you anything remotely resembling fair value. It just might be an individual bias on my part, but I don't think you get anywhere near fair value if you present-value book profits. Plus, now you have a larger number to amortize into future income, and you'll have a worse answer for future income.

Also, how about discounted distributable earnings? You hear this a lot. This has the same problem, except it's even worse because part of the discounted distributable earnings would also be the releases of the required capital. So you really have required capital embedded in VOBA. Now, the releases of required capital are fine from an investor point of view. It's legitimate that releases of required capital could be paid out as shareholder dividends. However, they go out, but they don't flow through income—neither GAAP income nor statutory income. If you have a release of required capital, you don't get any benefit through income. So here, you would have amortization hurting your income, but no corresponding benefit recognizing the releases of required capital. I don't think that's a good answer.

Finally, let's discuss required capital. Are we talking about U.S., Canadian, other? If you're a Canadian company, you could make the argument that you have to have the Canadian reserves plus some percentage of minimum continuing capital and surplus requirements (MCCSR), which most times would be more conservative than RBC. Those are assets you need to have. The investors have to put up those assets, and if the GAAP reserve is less than that, you could make a very simple argument that the required capital should be based on that excess. I think we still need to work out some of these required capital issues, and ROE is going to be a prime consideration.

MR. LASORELLA: Our next speaker is Burt Jay, who is now a consultant with Mutual of Omaha. He retired in January, after 40 years of service with Mutual of Omaha. Since 1990 he's been a financial actuary; he was chief actuary of United of Omaha between 1967 and 1990, and he served as a board member and vice president of the SOA and the Society of Actuaries and the American Academy of Actuaries (AAA). He served on and chaired many SOA and Academy committees and task forces. He currently is vice chair of the Academy Financial Reporting Practice Council, member of the Health Practice Council, chair of the State Health Issues Committee, chair of the Accounting Policies and Procedures Task Force, and chair of the Academy's Fair Value Task Force.

MR. JAY: I am going to talk about fair value accounting as it applies to insurance companies and the course of events that have occurred over the last two or three years leading up to some interesting situations that we have now.

The International Accounting Standards Committee was formed several years ago with accounting bodies of the developed countries of the world to explore and develop a unified worldwide general-purpose accounting standard. This was in response to trends that have been going on for some time involving increasing

globalization of the financial markets and business enterprises. The international companies had to maintain several different kinds of books, and they still do. You're all aware of companies buying other companies and conglomerates. There are several different types of financial institutions coming together under one corporate shell.

The Joint Working Group of Standard Setters was formed by the International Accounting Standards Committee to produce a tentative conclusions paper. They did produce a tentative conclusions paper late in 1999. The FASB looked at their tentative conclusions paper and, in general, expressed agreement with it shortly after that. This conclusions paper, in general, endorsed the fair value method of accounting as the proposed international standard for accounting. This is interesting; it's an accounting model that's never been used by any country before, which is both kind of a blessing and a curse. It's a blessing in that no particular company is seen to have their accounting standard imposed on other countries of the world. It's a curse in that we haven't done fair value accounting, and we're not sure what the results will mean. There are some unanswered questions remaining with fair value accounting, and a lot has to be developed yet, so that's kind of the negative.

Many details are being hotly debated today, especially fair value accounting for insurance contracts. However, the International Accounting Standards Committee, which became the International Accounting Standards Board in 2001, had a goal of implementing a new international standard of accounting for the world by 2005. This was driven by a mandate of the European Commission for the European Union to report using international standards by 2005. There are some recent events that I'll talk about a little bit later that may modify that some, but at least that's where they were. In general, the whole world would have an international accounting system that everyone operating in the European Unions would follow.

Fair value accounting focuses primarily on what's called financial instruments. Some of this is just definition, but it's important to understand the definitions of some of the terms that you'll be hearing and that are being used. Financial instruments are either financial assets or financial liabilities. A financial instrument is a contract that gives rise to both the financial asset of one enterprise and a financial liability or an equity instrument of another enterprise. The financial asset can be cash, or it can be a contractual right to receive cash or another financial asset from another enterprise. That can be a contractual right to exchange a financial instrument with an enterprise under conditions that are potentially favorable, that might be in the money, or it could be an equity instrument of another enterprise.

A financial liability is a contractual obligation to deliver cash or another financial asset to another enterprise, or to exchange a financial instrument with another enterprise under conditions that are potentially unfavorable. An equity instrument is any contract that evidences a residual interest in the assets of an enterprise after deducting all of its liabilities.

In general, the IASC, the older organization; the new International Accounting Standards Board; FASB; and all others agreed, at least initially, that insurance contracts are indeed financial instruments and would have to perform according to the rules for financial instruments in general. Specifically, an insurance contract liability is a financial liability. There's a hierarchy for how to determine the fair value of a financial instrument, which would presumably also apply to any insurance liability under this method of accounting. It's a market value, if there is a market value available. If there isn't a market value available for that particular instrument, then you can look at the market value of a similar instrument and adjust in some reasonable way for the difference between the instrument being valued and what you can perceive in the market.

In the case of most insurance liabilities, the third one is the method that comes into account. If there is no market value of a similar instrument, it is the present value of future cash flows, or estimated cash flows, adjusted for risk of timing and amount the same way as the market would adjust for these risks. In effect, it's stating it in another way. It's the expected present value of all the possible cash flows, weighted by their probability of occurrence and then adjusted for risk the way the market adjusts for those same kinds of risk.

How then might we determine the fair value of insurance company liabilities? Ken mentioned that I've been working as the chair of the Fair Value Task Force of the Academy, and these are some concepts that we've talked about at some length. Incidentally, we're within a few weeks, I think, of developing a white paper on fair value accounting and insurance accounting in general, according to new concepts that hopefully will be posted on the Web site. We've been working on it for about a year now. Anyway, it discusses how you might value a GIC by looking at what's called a replicating portfolio. This might be a publicly traded security that has the same cash flows as the instrument that you're intending to value, as long as it's issued by a company with the same credit standing. There are some problems with that, and that doesn't tell you everything you need to know to value a GIC, but that's a place to start.

You might think of a term insurance reserve, discounting the stochastic cash flows, probability rating by the possible future cash flows of people dying or not dying over the years and then adjusting those by risk, of timing, and amount. In general, this would tend to increase the cash flows. There are three ways that we see that you can adjust these. One is by affecting the discount rate to develop a risk-adjusted discount rate with respect to the risk-free discount rate, or you can actually adjust the cash flows. In the case of an insurance liability, you might expect, because there's some uncertainty, that if the reporting company were to transfer these liabilities to a reinsurance company, the more uncertain they were, the more cash they'd have to give the reinsurers to accept those liabilities. So, the adjustment to the cash flows would be an increase to the expected cash flows of a term insurance contract.

Then we could get into a whole discussion on diversification. It may be possible, by bundling a lot of risks together to in effect eliminate the risk. Then you wouldn't need to take it into account. The type of thing that gives us the most problem is, (the casualty members of our task force talk about the asbestos liability as an example) how in the world could you apply any of these techniques to something that has such a long tail way out into the future and that has amounts that become hugely larger many years later? No one has put together a stochastic model that could help out very much there. They argue that using a technique similar to that used by property and casualty (P&C) actuaries to value claim liabilities now might be the best way to start.

Anyway, there are major challenges in fair value accounting as it is to be applied comprehensively to insurance contracts. A group called the Joint Working Group was appointed a couple of years ago by the International Accounting Standards Committee to produce a draft standard for accounting for financial instruments and to present it to the IASB. They presented their work to the IASB in the middle of last year. The Joint Working Group called for fair value accounting of all financial instruments, but excluded insurance contracts. Another group was addressing insurance contracts, and it was assumed that the same concepts that applied to other financial instruments would apply to insurance contracts. The focus was on insurance contracts because of the diversity around the world of the accounting methods for life insurance companies. It is far greater than the diversity for other types of institutions. When this came out, though, there was major opposition to fair value accounting for financial instruments in general from banks and insurance organizations and other financial institutions throughout the world, including those in the United States.

In the meantime, the Insurance Steering Committee (ISC) was appointed by the IASC and has been working on a draft statement of principles for accounting for insurance standards. As they performed their work over the last year or so, they could tell that fair value accounting for all financial instruments might not happen as soon as expected. They developed draft principles of insurance contracts that they thought were consistent with existing international standards. These draft principles haven't been exposed to the public yet, but they're readily accessible by anybody. They're on their Web site now, and the International Actuarial Association and the industry associations have been reading these and commenting on them regularly.

The ISC is proposing what they call the entity-specific method for insurance contracts and that this method should be used until or when the IASB adopts fair value accounting in general for all financial instruments. This is their definition for the entity-specific method for valuing insurance contract liabilities: the expected present value of the liability cash flows, assuming the orderly maturing of the insurance contract by payments to the contract holders or beneficiaries. The value is also to be adjusted for the risk of timing, and amount of cash flows as the market would.

In this scheme, the individual characteristics of the reporting company are taken

into account. If you have better claims management processes for health insurance products, for instance, that would be taken into account, and it would have an impact on the value of the liability. If you're more efficient expense-wise, that may have an impact, or if you can improve persistency by instituting better conservation programs than other insurance enterprises.

Specifically, they have deemed that the reporting entity's credit standing will not affect the liability value in this method.

Fair value is defined as the amount that would be required to pay a third party to assume the liabilities as of the reporting date, assuming a wide, deep market at an arm's length transaction. The value does not depend on the characteristics of any particular company, but the characteristics of the buying community in general, if there were such a buying community, and here the credit standing of the reporting entity would affect the liability value. A downgrade would result in reduction in liability value and a positive component in the operating gain. This, as you may know, is by far the most controversial attribute of fair value accounting. An example of how this might work is that a company is less likely to pay off a maturing GIC if that company becomes insolvent. Therefore, a GIC asset is worth less to the contract holder because his chances of getting paid are affected, because the insurance company might go broke and therefore, the liability of that insurance company holding the GIC is correspondingly less.

A couple of months ago, I put together my predictions of what would happen in the future with regard to an international accounting standard. I predicted that the international accounting standard for insurance contracts would be the entity-specific value, as defined by the ISC. Many details and many actuarial techniques and standards, will be developed for the statistical models for insurance risks to produce more reliable methods for evaluating all of the risks as the market would price those for those risks. The International Actuarial Association is currently developing international actuarial standards to support the DSOP, the Draft Statement of Principles, for accounting for insurance contracts. Later, they'll become the draft standards for insurance contracts, which are more formal and more concrete.

I said that the international accounting standards for insurance contracts would be implemented by 2006, maybe a year later than the European Union (EU) dictate at the present time. The FASB for the United States will embrace the same principles. They have a principle of convergence. In general, they would like the United States to have the same standards as other countries of the world. Hopefully they can influence enough of what's happening on the international scene that they can also embrace the system that they end up with. I said that FASB would embrace the system by 2007 and then the movement for insurance contracts, entity-specific or full fair value accounting, will continue to be implemented and by 2010 would be in place.

Since then, there have been some disruptions. The American Council of Life Insurers (ACLI) in the United States and similar industry organizations in both Japan and Germany have written a letter to the IASB in which they essentially said, "Hey, we need more time. This is something that you're springing on us. It's way more complex and different than anything that we have now." And they're even saying, "Don't cast doubt on the idea of a GAAP-like system that we have now, in which instead of revaluing the liabilities every reporting period or every reporting date, you use a deferral and amortization process, much the way GAAP does now." They're saying that the current recommendations are too subjective and may produce "unreliable and volatile results." I think that because these organizations are likely to have some influence on the international scene, this could impact the timing of the international standards for insurance contracts in general.

If I could take back to my predictions, I would now move everything back a little bit. Right now, they're saying that companies that are now operating in the European Union and are reporting on a GAAP basis should be given until 2007 instead of 2005. The IASB, as far as I know, hasn't agreed to that yet, but they're listening to it, and that's possibly going to move out adoption another two years. I also think that the problems with the banks and other institutions on full fair value accounting could produce some additional delays. So, if we have an international standard by 2007 even, for insurance contracts—it may take a couple of years after that, maybe 2009, for FASB to adopt that standard. Then there's the movement to full fair value maybe by 2010. I also think it possibly could be a lot later than that, or maybe things will move more quickly. Other countries, the United Kingdom, I believe Australia, and Canada really like fair value accounting, and they're pushing in that direction really quickly. So, whose interests or intentions are going to end up having more influence remains to be seen. Those are all of my comments. I hope we have some good discussion and questions starting soon.

MR. LASORELLA: I would like to ask the first question. Burt, on which Web site is the white paper going to be published?

MR. JAY: It will be on the Academy's Web site. I don't know the sub-site within that, but we'll send out some kind of notice in the Update or some other Academy publication to make it known where that can be found.

MR. ABRAHAM WEISHOUS: In the last discussion, you discussed the international standards and how FASB will eventually adopt them. These standards seem to be in conflict with the traditional GAAP standards, under which we tried to match revenues to expenses and match both of them to the time services are rendered. Of course, using fair value, you're realizing the entire profit on a book of business as soon as you sell it. Is FASB requiring any other industry to use a similar technique, and if not, wouldn't it be very strange that insurance would use different techniques than other industries use for reporting their earnings?

MR. JAY: As I said, the fair value accounting in general would apply eventually to

financial instruments of any kind of institution. The concept that all of the profit under fair value or entity-specific would be up front is a common misconception. I didn't talk about the market value margin, which is the margin in the liabilities to account for the uncertainty. In a way, you can view them like the margins in the FAS 60, where they are released as time goes by. When actual mortality is better than the assumed mortality in a year, that margin comes into profit, and to the extent that market value margins are loaded into expected cash flows in the future years, that part of the margin would come into profit during those future years. It wouldn't all be up-fronted. In fact, there's one pronouncement in the DSOP right now on entity-specific and that says if the actuary isn't able to estimate what the market value margin should be, because there's nothing traded in the public market, then market value margins should be set to produce zero profit at issue. In fact, all of the profit then would be recognized over time as these margins are released.

MR. LASORELLA: I just want to add one thing to that. Luke Gerard did a paper that most of you are probably familiar with, and he compared the actuarial appraisal method with the option pricing method. In that paper he basically said there's an indirect method and a direct method. The indirect method is what I was illustrating and so was Hubert for IBV. The direct method has you value liability cash flows, while one element of the liability cash flows is a required profit, which can be derived actually by taking the risk discount rates into account. I thought Peter Duran did a phenomenal job expanding on that. He shows that there are three direct methods that exactly reconcile to the indirect method, and you could value liability cash flows with required profit.

FROM THE FLOOR: For those of you who have not seen the paper, I think it was published in *North American Actuarial Journal*. I believe it was in 2001, maybe the first or second issue.

FROM THE FLOOR: That was probably the second paper.

MR. ALI ZAKER-SHAHRAK: I heard a few comments, and I have a few questions. First of all, I take it that in order to have fair value accounting, we have to do fair value of all the liabilities—not like what happened a couple of years ago when the standards would have fair value for assets or market value for assets, but the liability would be left at book value. I take it that will be the basis. It goes without saying that we must have fair value of all the liability items. We cannot have a case when you have the market value of old assets, you have the market value or the fair value of some of the liabilities, because it can be done, and for the rest, because it cannot be done, you use book value and then add the book value and the fair value. Then, we will have a case of apples and oranges.

Now, I want to get to my specific question about fair value of liabilities, because that is really the crucial point. In some cases, the problem is that when a liability is an asset to somebody else, then it's clear. If I write an option, a call option, then

it's clear that it is an asset for somebody, there's a widely traded market for it. Then there would be no problem. Whenever a liabilities market is fairly neutral, there will be no problem. Also, at the time that a block of business is bought or sold, in a sense, there will be no problem. If a block of annuities has a book value of $1 billion or an asset that is going to drop the $1 billion, that we pay $100 million consideration to assume those liabilities with assets. Then it seems obvious or clear to me that at that point, the fair value of the liability should be $900 million. We get the $1 billion asset, we pay $100 million in consideration, so the liability is $900 million. As you know, in the case of insurance companies, most of the liabilities are not traded very often; they are traded very irregularly, and they cannot duplicate the liability, and so beyond the simple case, you have to come up with a fair value without the existence of a market and without existence of a trade. Now, two other methods remain.

MR. LASORELLA: I think your observations are very valid. Could you phrase it into a question that one of the speakers could attempt to address?

MR. ZAKER-SHAHRAK: My question is this: At the time that the block of business is sold, how would you value the liability? Specifically, there are two ways of doing it, and I would like your comments. One is the month that they sell a block of liability business, say for $1 billion and you pay five percent commission. The specific question, some people would argue that the fair value of the liability at the time is $1 billion. Some people would say that the fair value of the liability is $950 million.

MR. JAY: In general, I think some of the problems that you talked about at the beginning, we'd all agree with. In this country, selling blocks of business is generally not possible because assumption reinsurance is just about all gone in the United States. In some other countries it does exist, and we may look there for some guidance. I don't know what you call the commission or how that would be figured, but in general, for a block of liabilities, the amount of cash that would have to be transferred with those liabilities, or the value of other assets that had to be passed to the assuming company, would generally be real good guidance for the fair value of those liabilities.

One of the problematic things with the DSOP is that it would cause insurance liabilities to be valued on an industry-specific basis. Other insurance company liabilities would be valued differently. A GIC doesn't meet the definition of an insurance contract, for instance, so a GIC's liabilities would be the amortized value, as long as IAS 39 remains in force. We then would have a dichotomy where some liabilities would be based on historic value, while insurance liabilities would be based on entity-specific value, and assets would be based on book or market value, depending on if they're trading assets or available for trading or held to maturity. We have some real big problems with mixed attributes of that accounting system. That has to be worked out.

MR. WEISHOUS: I'd like to ask a second question, this time on the first two presentations. I think I was a little bit confused by them. Is it true that Mr. Mueller's presentation was based on discounting statutory profits, and Mr. LaSorella's presentation was based on discounting GAAP profits? The reason I ask the question is because toward the end of your presentation, you mentioned that you add to the VOBA the difference between the GAAP reserve minus the DTA and the statutory reserve. The only way I could understand it is if you were using GAAP profits.

MR. LASORELLA: Yes, that's correct. However, you could get there by starting off by present-valuing just statutory book profits and then adjusting for reserve differences and at the very end. So, that last stroke of the pen adjustment actually does get you to the same number that you'd have if you did GAAP profits to begin with. If GAAP reserves are higher than statutory, the present value of excess book profits at the risk discount rate won't exactly be equal to that excess (of initial GAAP reserves over statutory). However, the cost of capital will be different because, although you're going to have the same required assets, statutory reserves plus the required capital, you're going to be subtracting from this the GAAP reserve, which is higher than the statutory reserve. So, you have a smaller cost of capital. When you put the things together, you have a higher present value of book profits less a lower cost of capital. You actually get the same answer, mathematically, which is kind of nice.

MR. DWIGHT COONEY: This isn't really well thought out, but this occurred to me when Mr. Jay was talking about margins. It sounds to me that they're kind of like margins for adverse deviation in Canadian reporting, and if that's the case, I'm wondering, in a very loose sense, is fair value kind of like what you'd get with Canadian accounting if your asset value was at market?

FROM THE FLOOR: I want to respond to the question on the commissions. I just want to say that in the fair value work, I think the answer to your question on commissions and whether they're part of fair value is, if you haven't paid them yet, they are a part of fair value of your liabilities; if you have paid them, then they're not because they are until you pay them and then they're no longer a liability and so they're not. Maybe you can see if you agree with that.

MR. LASORELLA: Yes, that makes sense. That's a good summation of the problem.

FROM THE FLOOR: I assume that you have paid the commission. You have only $950 for a $1,000 liability. There are two ways of looking at this. One is that's how much money we have, so that's the market value at the time of issue. The other one is that we expect to recover that five percent commission fully; therefore, at that point if we were to sell it to somebody else, the other person more than willingly would compensate us for $950 and the $50 commission that we are paid.

MR. LASORELLA: That's right. So in that regard, you wouldn't have to count the commission because you're looking at things prospectively. If there are no future commissions, that's exactly right.

FROM THE FLOOR: Or you recover.

MR. LASORELLA: Variable acquisition costs—it's the same with that type of thing as well.

Chart 1

The embedded value is a component of the market value of a life insurance company

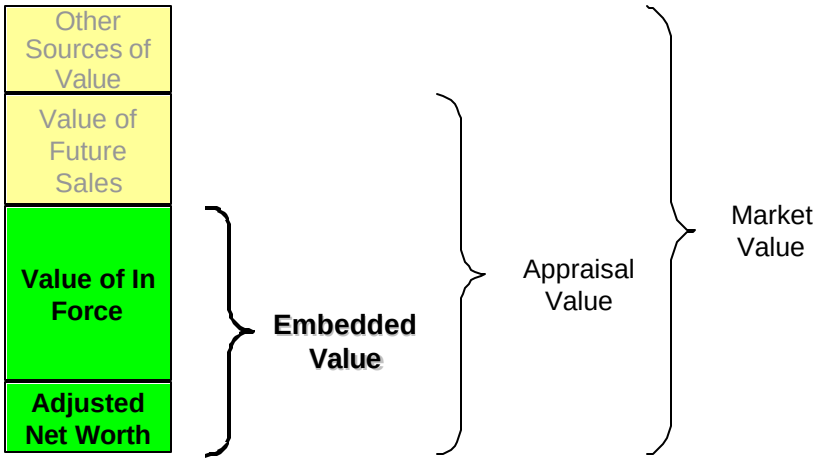

Chart 2

European and US life valuations are converging towards the long-term average of 1.50*EV