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## Session 41PD

### International Valuation Systems: Keeping Up With the Jones/Chens/Muellers/Santos/Mourads

**Track:** Financial Reporting/International

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*Summary: The National Association of Insurance Commissioners Life and Health Actuarial Task Force is crafting next century's valuation law. This has the potential of reshaping how we will do business in the future. To work on the best information available outside of the U.S., the American Academy of Actuaries researched the valuation and insurance environment in 14 countries covering all five continents and close to 70% of the world market share. (The U.S. has a premium market share of about 20%).*

**Ms. Shirley Hwei-Chung Shao:** We're going to talk about the valuation systems in the international environment. The Academy has looked at the valuation systems in 14 countries. This work will be the focus point of our presentation. We also plan to give you an update on the international accounting standards.

First, we will do the valuation piece, take questions, and then discuss the international accounting standards. I will be one of the presenters. I am from Prudential Insurance of America. We also have Dan Kunesh, who's the principal of Tillinghast in the Chicago office. He has been with Tillinghast since 1985. He also has spent the last five or six years working extensively with companies that are interested in coming to the U.S. Much of his experience is from working with Europe, South Africa, and Australia.

I will begin by talking about the Academy work on this report. I will just give you an executive summary of our findings. I don't know how much you know about the valuation task force that the Academy started with the NAIC last year. We found that it's difficult to keep on doing the patch work on our valuation systems when we continue to have new products and new challenges. I'm not going to go into a lot of details on the reasons. When we look at the U.S. systems, does it make sense to look at how our counterparts in other countries seem to be doing in order to see where we are? We may learn from each other. We learned quite a bit actually, and it helped us to benchmark where we are.

The countries we looked at were: Australia, Hong Kong, Singapore, Japan, South Africa, Canada, Mexico, Germany, Italy, Netherlands, Spain, and Brasil. We really tried to cover a wide variety of countries and ended up looking at five continents. One of the reasons we chose these countries is because of their geographic diversification. We also looked at them because they are from the countries that the U.S. has helped either deploy into or vice versa. These 14 countries represent 60% of the insurance market when they are looked at from the premium perspective.

**From the Floor:** What kind of market? Is that all insurance or just life and health?

**Ms. Shao:** Yes, we looked at both. We looked at a lot of statistics. If you look at reports, it shows both on the property and casualty (P&C) as well as life insurance. This report is concentrated on life insurance, but when we gather the statistics, like the premiums and stuff like that, we look at both. If you account for the 20% in the U.S. market, these 15 countries make up over 80% of the market. We also look at valuation systems in these countries. Many of these countries have revisited their valuation systems recently, but some are still evolving and some are more sophisticated and some are still pretty much the old statutory formula. I'm going to talk a little bit more about that. There are really a variety of different types of systems here.

We have a work group set up to look at this work. I'm the chairperson and Dan Kunesh is the vice chairperson. Of course, that's under the great leadership of Bob Wilcox, who's the task force chairperson. We also have about ten members working on this report.

When we started this report we thought it would be overwhelming to try to collect all this information. We needed to decide what type of information would be most helpful for the task force. Since it's the Valuation Task Force, the focal point is really the liability valuation, surplus valuation, and the role of the actuary. To give the right perspective, we felt it was very important for us to provide all the

surrounding information like the statistics, the macroeconomic financial and reporting systems, and some of the products and the investments, so that one can look at this as a whole rather than just a slice of the information. Let's concentrate on the first bullet, the macroeconomic, financial, and insurance statistics.

We tried to put our arms around what kind of environment each country has by attempting to look at some of the summarized statistics. Some of the things we looked at were: interest rates, gross domestic product (GDP), number of insurers, concentration of players, form of ownership, savings, inflation, unemployment, population, and premium. We looked at more information than this, but this helped us in understanding the overall economy and the financial situation of the country. There were some pretty interesting findings. For example, if we were looking at a savings ratio, we'd see that it is highly correlated with the region or the culture differences. The highest savings ratio is definitely in Asia, where about 18–45% of the money is being saved. When you come to South America, the second-highest region, you're talking about a 20% savings ratio. The lowest savings ratio is in North America which is about 5% or less. The same ratio is true of Australia. By the way, the U.S. number is about 3.5%.

**From the Floor:** Does the savings rate relate to the tax brackets there too?

**Ms. Shao:** We didn't do analysis related to that. I don't know if I can answer that question.

**From the Floor:** I've found that wherever there is a tax benefit for the insureds, the savings element is high.

**Ms. Shao:** Do you think it's related to the insurance?

**From the Floor:** South America was, yes.

**Ms. Shao:** I don't think there's a tax savings benefit. I don't know. The highest savings ratio is definitely in Japan. I don't know if there's a relationship to Japan's tax system.

**Ms. Shao:** My knowledge of the Asian countries is that even if there are not insurance tax advantages, people just tend to save more.

**From the Floor:** I know in Korea there is such a total government orientation toward saving. There is something that has sort of popped out.

**Ms. Shao:** Right. I think it's definitely very culturally oriented. The premium per capita is another thing we looked at quite a bit. Again we saw a variety. Japan is on the high end, from about \$4,000 per year per capita, down to less than \$50 in some of the South American countries. You're looking at a variety of different premiums per capita. The equivalent U.S. number is about \$1,000 a year per capita. That's the range we're looking at.

Products were also correlated with the region. If you were to look at South America, you'd see that there are more group products or social insurance related products. When you go to Asia, there are more traditional products with some variable products, but you still see largely traditional, whole life, endowment or term products. In the southern part of Europe, you'll see more traditional products, but in the northern part of Europe, you'll get into more variable products.

Regarding the investments, our group looked at three areas, one is how the assets are valued on the financial books. Some of the countries, like Australia, Mexico, South America and the U.K. use a market valuation on assets. Most of the other countries are still pretty much book-value based. Some have a mixture depending on if it's fixed income or equities. We also look at what kind of investments are eligible in regulations. What are the admitted assets? The practice varies across the different countries. The asset mix in the local countries is really a combination of three things that we saw. One is the availability in the capital markets. The capital markets in some of the countries we investigated were very limited as far as what they can invest. It's also a function of the products. If it's just a more traditional product, they tend to use very fixed-income-oriented investments. It's also a product of what the regulation will allow.

We also looked at taxation. We found that it ranged very widely. Tax rates are very different too. They ranged from the lowest, around 15%, to over 53%.

**From the Floor:** Is that taxation of the companies?

**Ms. Shao:** Yes. Italy is the country that was 53%. The other thing we try to figure out, from the valuation perspective, is whether policyholder reserve basis such as GAAP or statutory, are being used for tax purposes. For most countries, our finding was that the tax reserves were either materially the same or exactly the same as statutory reserves.

Liability valuation was the focal point of our study. There are really two large types of systems. One is the net premium type of reserves. We broke it down into two types of net premium reserves. There's one that's more of a statutory formula type

of reserve, and you may not cover all the guaranteed benefits. For example, there is life insurance which is just the mortality decrement, but not necessarily the lapses. Then there's another broader type of net premium valuation system which covers all guaranteed benefits like lapses, declared dividends, and anything else that's in a policy. The second type of liability valuation system is the gross premium valuation. That covers all guaranteed and nonguaranteed elements. The countries that fall into this U.S. formula reserves are Brazil, Chile, Germany, Italy, Japan, Mexico, and Spain. There are quite a few countries in that category. When it comes to gross premium valuations, the actuaries in Australia and Canada can choose the basis as well. In the next category, the one that's still net premium, but covers all guarantee benefits, are countries like Hong Kong, Netherlands, U.K., Singapore, and South Africa. It's typical for actuaries in these countries, with the exception of Africa, to have the flexibility of choosing the assumptions. It's not just the benefits; they can also do the assumptions. None of the countries seemed to have a kind of an explicit asset adequacy analysis like the one we have in the U.S. They may ask you, for example, in Hong Kong, to look at the relationship between assets and liabilities, when nobody really has an elaborate calculation like the asset adequacy analysis we have.

The next one we looked at is the surplus requirement. Here we tried to put the surplus requirement into three different kinds of categories. We look at whether they have a flat dollar kind of requirement, which most countries have. They are small amounts and related to paid-in capital. They may or may not have anything to do with the ongoing business activities. The next one we looked at is whether these countries have solvency requirements, like the framework we have for our risk-based capital. We found out that solvency requirements are becoming the norm. Almost all countries we investigated have some kind of risk-based capital (RBC) framework. Some are more elaborate than the others, but they all have this concern, and most have this type of framework. We also looked at whether these countries have any kind of capital adequacy requirements. Three countries that had these requirements were Australia, Canada, and Singapore. When I say *capital adequacy requirements* I mean, do they look at whether there is enough capital to support future activities, like new business and new initiatives? Dan will talk a lot more about these three countries and capital adequacy requirements in our next segment.

**From the Floor:** Is that like dynamic solvency?

**Ms. Shao:** Yes, this is like the dynamic solvency or dynamic financial condition analysis. The next issue we look at is the reporting systems. We first look at how many reporting systems these countries have. Most countries have just one reporting system; in other words, they have statutory GAAP and tax, which are all

very similar but not always exactly the same. Many of them are the same. In fact, all the countries we looked at have the exact same statutory and GAAP except for the U.K. In the U.S., we have at least three systems, if we don't count state variations. The type and frequencies of reports really depends on valuation requirements. Most of them have the financial statements, and I will talk a little bit about the appointed actuary assignment in different countries. They typically have another report from the appointed actuary; sometimes it is a solvency kind of report or a capital adequacy type of report. The valuation and the solvency requirements are all public information and the capital adequacy requirement is always financial in the countries that we had.

**From the Floor:** Are most valuations annual or every three years?

**Ms. Shao:** The valuation is done at least annually. Some are done more often than annually.

What is the role of the actuary? We looked at several things. First, we looked at how do you become an actuary. About half the countries require some kind of examination system, like that which is used in the U.S., that is additional to the work experience and educational requirement. More than half the countries look at experience; there's no formal examination system. The role and duties of actuaries varies depending on their valuation requirements in each country. Some of the actuaries in the world are just complying with a formula. Others are required to do a little bit more beyond the formula, such as the asset adequacy analysis in the U.S. None of the countries really have that elaborate a system, but some countries are required to look at a little bit more than just compliance. The appointed actuary requirements in some countries are really statutory. All the countries that I mentioned that have the statutory formula kind of requirements, like Japan and Germany, don't have appointed actuary requirements. They don't have this concept yet. Those appointed actuary requirements only apply in countries that are doing the broader type of net premium calculations or the gross premium valuations. In other words, they only apply whenever there's some kind of actuarial judgement used. If there is just a strict formula compliance, then there's no appointed actuary concept.

In the reporting relationships, we looked at two things. One is who appoints these appointed actuaries. In all the countries we looked at, they are all appointed by the board of directors. They all seem to have to report something back to the regulators as well. Depending on the nature of the request, such reports can be confidential or not, but they all have to provide something to the regulators.

**From the Floor:** Do they require independence, or can they all be company employees?

**Ms. Shao:** They are all company employees. Dan, are they required to have an independent in the U.K.?

**Mr. Daniel J. Kunesh:** Yes, there's an independent actuary in the U.K. that reports to the government actuary.

**Ms. Shao:** After we got all that information, we tried to then fit it into the objectives of the task force. There are three objectives of the task force. The first objective is to look at the ability of the company to execute various business alternatives. This can be thought of as a kind of dynamic financial condition analysis, and we must determine whether we have capital to support the alternatives that we have. The second objective is to evaluate the adequacy of resources relative to the obligations. This is pretty much tied with our existing in-force business. Do we have adequate resources to mature all future obligations? The third objective is more related to the income statement. Are we able to measure the changes in resources relative to our obligations. The valuation task force wants to look at a holistic approach. In other words, we wanted to look at all the risks together. First, we want to figure out all the risks and try to cover them, and then we should look at whether they should be set aside in surpluses or in the reserves. When we looked at all of these countries, there seemed to be only three countries that addressed all three of these objectives: Australia, Canada, and Singapore. In addition, Mexico has really fulfilled the valuation task force objectives, which asks for a holistic approach. Mexico is really covering all the risks at the two standard deviations of the expected claims. They try to allocate from the resource in the surplus first and the income statement next. We feel that the order probably should be reversed, but nevertheless, their holistic approach, when you look at both things together, is something our task force is also aiming for. Dan is going to do a full presentation to give you more details on how these countries fulfill all three objectives.

In addition, we also have a few more findings. We felt that the assets and liabilities should be valued consistently. This is pretty basic, but we see this imbalance in several countries. For example, South America, where there's high inflation, tried to index both assets and liabilities so they could be immunized from the inflation. We also think that the regulations should provide flexibility to adapt to changes in the market. This might seem very basic, but it's not necessarily done. Japan was one example where the valuation interest rates and the pricing rates happened to be the same. They were set at a pretty high level. With the market coming down it's very, very hard to manage the company without getting into the mismatching issues.

Next, the good working relationship between actuaries and accountants is absolutely essential, and the prime example here is Canada, where we heard that a lot of the reasons for their ability to do dynamic solvency kind of analysis is really related to a good working relationship between actuaries and accountants. The last one (and I hope it's not a surprise) is our system is really cumbersome and complex, especially when we try to benchmark with the rest of the world.

**From the Floor:** In connection with that last claim, did you study how regulation is done in each country? In other words, how much of a bureaucracy is built up and how much do they look at things, who's doing it, is it attorneys or experts, and how does that make a difference on this formula system?

**Mr. Kunesh:** The answer is no, for obvious reasons.

**Ms. Shao:** Do you want to explain the obvious reasons?

**Mr. Kunesh:** We're an actuarial group, and it's a very dangerous position to explore. I think you're right. There are many reasons why political systems are the way they are. The movement in Europe and the continual consolidation, if you will, of accounting standards around the world, is an evolving process. As an actuarial group, I think we are best served not to explore those political reasons.

**From the Floor:** What about companies failing? Did you look at that relationship based on what valuation systems they were using?

**Mr. Kunesh:** We did not look at the relationship, but the material includes a disclosure to the extent that we could find out how many companies have failed. I'm not sure you can come to a conclusion.

**From the Floor:** It isn't just a matter of the number of failures. There is also damage done to policyholders in the process. If there's an orderly failure and all of the policyholder obligations as well as the creditors' obligations are met, then it isn't necessarily viewed as a negative picture.

**From the Floor:** Somebody has to suffer, even in that situation. Some of the companies made a guarantee.

**From the Floor:** Not necessarily. If the company is shut down at a point when all the policyholder obligations can be met and the creditors can be paid, meaning it is an orderly shutdown of the company, then the regulator has performed the function

properly and prevented any damage to policyholders. The regulators intervened soon enough.

**Ms. Shao:** Our guest presenter, Dan, is going to talk about Australia, Canada, and Singapore. Actually I think we all nominated Australia for the most admired valuation system of the three. The other thing I just wanted to mention is that I think it's great to have Dan as a vice-chairperson. He did all the work.

**Mr. Kunesch:** Let me start by repeating the three objectives that Shirley said were the goals of Bob Wilcox's task force. I want you to keep those in mind as we talk about Australia, Canada, and Singapore. Another way to look at the valuation system structure is as follows: objective one relates to capital adequacy and the ability to meet a companies' business plan; objective two involves basic policy liabilities and solvency requirements; and, objective three really involves the presentation of periodic results.

I'm going to compare Australia, Canada, and Singapore (Table 1). In each of the three countries, the primary regulatory authority is a federal authority. In Australia it's the Insurance and Superannuation Commission (ISC). It is responsible for the prudential regulation of insurance and consumer protection matters. In Canada, it's called the Office of the Superintendent of Financial Institutions (OSFI). This organization regulates all financial institutions, not just insurance. It has the same responsibilities as Australia, plus enforcement responsibilities. You might wish to note that there's another group similar to the NAIC in Canada, although with much less power. It's called the Canadian Council of Insurance Regulators (CCIR). They deal with matters like product issues, policyholder privacy, age, and things like that.

TABLE 1  
REGULATIONS

	<b>Australia</b>	<b>Canada</b>	<b>Singapore</b>
Regulator	ISC Federal	OSFI (federal) CCIR (provincial)	MAS (federal)
Key Legislation	1995 Life Insurance Act	1992 Canadian Insurance Companies Act	
Other	LIASB Structure similar to U.K.	CLHIA and Comp. Corp.	Structure similar to U.K.

In Singapore, the main authority is the Monetary Authority of Singapore (MAS). It's the central bank. It is structured very much like the authority in the U.K. The most recent and modern legislation can be found in Australia, which first became effective for reporting years 1996 and later. The Canadian law has been in effect since 1992.

I'd like to mention a couple of other things on regulations. In Australia, there is a group called the Life Insurance Actuarial Standards Board (LIASB). It's appointed by the federal treasury, and all but one member is an actuary. The LIASB's responsibility is to set up standards for determining policy liability, solvency, and capital adequacy. It determines what the minimum surrender and paid-up value should be in the country. It's a very powerful group, and it reports straight to the government.

In Canada, there's another important group called the Canadian Life and Health Insurance Association, which is similar to the ACLI in America. All companies belong to it and work together with the CCIR on many policyholder and product matters. The significant thing to remember is that they have formed a group called the Canadian Life and Health Compensation Corporation, which is designed to protect Canadian consumers if a member company fails. It is similar to the National Organization of Life and Health Guaranty Association (NOLHGA) in the United States.

Table 2 shows market facts. Singapore is the smallest of the three countries that we explored. Canada is the largest in terms of population and amount of insurance. Australia is the second. There's a fairly heavy concentration of the top three companies in both Singapore and Australia. Perhaps that's also because there are fewer life insurance companies in these markets. Another significant thing is that there are many more property and casualty companies than there are life companies in each of these markets. The table also shows the insolvencies that have occurred in those three countries. The Canadian market is changing very rapidly, and

accordingly, those statistics are changing. My statistics reflect as of the end of 1995, for your information.

TABLE 2  
MARKET FACTS

	Australia	Canada	Singapore
Top 3 Market Share	50% (assets)	24% (assets)	79% (premium)
Life Companies (1995)	42	140	14
P&C Companies (1995)	121	281	1376
Recent Insolvencies	1	4	None

Table 3 shows products with a life focus. In Singapore, the products are more traditional in nature, with many participating products. Pensions are extremely limited in Singapore, because a central provident fund mandates employers and employees to contribute substantial amounts to a central fund, so you don't see private pensions. In Australia, products are impacted significantly by the tax structure on policyholders, and you'll see terms like ordinary coverages and superannuation coverages, which are pension-type coverages or accumulation-type coverages. In Canada, products are similar to the United States. Canada has lapse-supported products, and there is a fairly heavy emphasis on retirement savings programs that are both qualified and unqualified. There are the Registered Retirement Savings Plan (RRSPs) and the Retirement Savings Plan (RSPs).

TABLE 3  
PRODUCTS (LIFE FOCUS)

	Australia	Canada	Singapore
Overall Structure	Full range	Similar to U.S.	Full range
Key Products	Superannuation	RRSPs and RSPs	Traditional WL & Endowments
Trends	Mutual funds	Savings	Unit linked

Investments are shown in Table 4. Canada and Australia are similar in nature to the investments in the United States. Canada has more government bonds and common stock than the United States as a general rule, particularly mutual companies, to support dividends. It is entirely different in Singapore: 35% of investments are in equity shares; 20% of investments are in real estate; and 55% of the investments are in equity type products. Another 20% is in foreign currency and overseas assets and 10% goes to unsecured loans. There are very few bonds. Canada has no explicit restrictions, although under law, the board of directors must establish reasonable and prudent investment-in-lending policies. It's interesting to note that in Australia, statutory funds are required, but beyond saying that, you have to have specific statutory funds. There are three I can think of: one is for unit-linked

products, one is for overseas products, and there is an "all other." There are few restrictions beyond that. In Singapore maximum levels of investments are specified in the law. The most interesting thing is that Australia has a fair-market-value accounting system, which is one of the few that we studied. I think it's significant as the United States moves in that direction. Canada and Singapore are still currently book-value based. In Canada, it's noteworthy that under regulation, or under a law called Bill S-3, capital gains and losses on equities and real estate are smoothed out and taken into earnings at a rate of 15% a year for equities and 10% a year for properties.

TABLE 4  
INVESTMENTS

	<b>Australia</b>	<b>Canada</b>	<b>Singapore</b>
Structure	Broadly similar to U.S.	Similar to U.S. (More gov't. bonds and common stock)	Equity shares, cash deposits, real estate and loans
Restrictions	Few; statutory funds	No explicit limitations "reasonable and prudent"	Maximum limitations in law
Valuation	FMV	BV-based plus Bill S-3	BV-based

Shirley mentioned a bit about taxation. Table 5 compares the three countries' taxation. Canada and Singapore, like the United States, have profit-based taxation systems. Australia follows its heritage and has an I minus E system, as it's known. There is investment income minus a certain qualifying expense system for all products except disability income type products in that country. It plays havoc with some of the comparisons. Tax rates are somewhat all over the map. In Australia, the ordinary products, the nontaxable products if you will, are taxed at 39%. That tax filters down to the policyholders: 15% is for superannuation, tax-favored or accumulation type products. Singapore, of the three countries, has the lowest rates: 26% on shareholder profits and 10% on policyholder profits. This country wants to get a 90/10% split on the revenue from these two sources. Canada is very similar to the United States in both structure and rates. Anybody who's from Canada can correct me on that if I'm wrong.

TABLE 5  
TAXATION

	Australia	Canada	Singapore
Structure	"I-E" for all but DI (profits)	Profits, like U.S. except no DAC tax	Profits
Rates	39% "ordinary" 15% "superannuation" No company tax on IAs	Similar to U.S. plus small surplus tax	26% on shareholder profits; 10% on policyholder profits; 90/10% split in 1998

Table 6 shows reporting systems. In all three countries, there's only one reporting system: GAAP equals statutory or statutory equals GAAP, however you want to look at it. The reporting cycle is annual in Australia, and they have to provide certain quarterly statistical returns. In Singapore, there is a limited quarterly statement like there is in the United States. Formats are rigid, and are specified by the main regulatory authority, as we discussed. The interesting thing about Australia and Canada is that the reporting standards are promulgated, and heavily influenced by the actuarial and accounting worlds. In Australia, the Life Insurance Actuarial Standards Board sets the formats and the standards and the reporting structure, with assistance from the accounting body. In Canada it's the opposite. It's promulgated by the Canadian Institute of Certified Accountants (CICA), with a lot of help from the Canadian Institute of Actuaries (CIA).

TABLE 6  
REPORTING SYSTEMS

	Australia	Canada	Singapore
System	GAAP= stat.	GAAP = stat.	GAAP = stat.
Cycle	Annual plus quarterly statistical returns	Annual	Annual and quarterly
Formats	Specified by ISC; reporting standards promulgated by LLASB	Specified by OSFI; reporting standards promulgated by CICA	Specified by MAS
Annual Audits	No	Yes	Yes

When looking at the liability valuation structure in these three countries, we focused on three areas (Table 7). These three areas are basic policy valuations, solvency, and capital adequacy. Note that Australia and Canada are gross premium valuation (GPV) systems for the basic policy and liability. In Australia, PADs stands for Provision for Adverse Deviation. It's measured on a statutory fund basis. In Canada, for all products except certain accumulation products like single premium

deferred annuities, the policy premium method (PPM) is used. This is this gross premium valuation with PADs. We'll talk more about that.

TABLE 7  
LIABILITY VALUATION STRUCTURE

	<b>Australia</b>	<b>Canada</b>	<b>Singapore</b>
Basic policy Liabilities	GPV no PADs (MoS) (by statutory fund)	GPV with PADs (PPM) or Fund Accumulation	Mod. NLP with conservative PADs
Solvency	Measured by GPV with PADs	MCCSR	Specified minimums varying by fund
Capital Adequacy	GPV with PADs and 3-year N.B.	DCAT with 5-year N.B.	DST
CFT	No	Yes, under DCAT	No

In Singapore it's a modified net level premium method, where assumptions are established by the actuary but with conservative PADs and subject to certain limitations in the law. Regarding solvency, Australia is the only one that uses an actuarially based calculation. It's kind of like the Canadian basic liability. It's the gross premium valuation with PADs, and we'll talk more about that. Canada and Singapore have formula-based systems that are similar the United States', although they are quite different in terms of what's contained. Capital adequacy is related to whether you can continue to afford to sell new business in the future and continue your business plan. Australia extends its analysis on a similar gross premium valuation with different levels of PADs. All three introduce new business for a different period of years. Canada has the famous Dynamic Capital Adequacy Testing (DCAT) requirement, which we'll talk about, which indeed also brings into play cash-flow testing to some degree. In Singapore it's called dynamic solvency testing, and it is an interactive or simulation type approach as well. Note that in Australia and Singapore there are no explicit cash-flow testing requirements.

Let's move on to valuation in Australia. I believe Shirley was correct when she said that Australia probably has the most modern system that is closest to what our group on the valuation task force is moving towards. In terms of basic policy reserves, they are defined for each statutory fund. There are three components. The first is a best-estimate liability that embodies all feature benefits and expenses using best-estimate assumptions. There are two other components. One is a component for participating business, where they embody all feature policyholder dividends, and where dividends can change in the future depending on how those assumptions estimate what the future's going to look like. Obviously dividends have to follow the assumptions, but it would have to follow your dividend strategy.

The third element is the most interesting, which gives uniqueness to the Australian system, and it also brings into this reserve, a present value of the future after-tax shareholder profits. This latter element is defined in such a way as to permit a uniform release of profits in relation to one or more of what are called profit carriers or profit drivers. A *profit driver* is defined as a financially measurable indicator of expected cost of service to policyholders or the expected income relative to those costs of services. This means that any one of the following might be considered a profit carrier: premium, claims, asset charges, investment income, or expenses. In Australia, this system is called Margin On Services. It is the system that is most similar to the United States GAAP, although it doesn't have much of the baggage, in terms of restrictions, that the United States GAAP has. Best-estimate assumptions are used. It is interesting to note that you can change assumptions more often than yearly if you so desire, but the effect of those assumptions cannot affect the current year's earnings. This means that you must prospectively push it forward. One criticism of the United States GAAP is that this automatic requirement to retroactively reflect changes is a problem. Another observation here is that the actuary must use tremendous discretion. Could it work in the U.S.? You decide.

Let's discuss valuation in minimum capital requirements. There are only two levels in minimum capital requirements—a solvency requirement defined by one of the National Insurance Association Standards Board (NIASB) Standards and a capital adequacy requirement by a second standard. If anybody's interested in those standards, I can send you copies of those. They're quite interesting and quite lengthy too. Both limit shareholder and participating policyholder distributions. Both are subject to an overall floor of 10 million Australian dollars of share capital and five million Australian dollars of assets over statutory fund liabilities. With solvency, the purpose is to provide for security of existing policyholder entitlements under a range of adverse conditions. It sounds like cash-flow testing to me. The interesting thing is that when you make this calculation, it's not a liability; in fact it's not even a direct reflection of equity. It is disclosed, and it is disclosed in the financial statements as to what it is. Everybody knows what it is. The LIASB prescribes the assumptions. Basically you use the best-estimate assumptions, and prescribe the PADs that will be used along with those assumptions.

There are certain other rules within the regulation for which there are several components. There are reserve components for expenses, reduced in Australia by tax relief. There's a resilience reserve, which is designed for disintermediation risk, to measure a fund's ability to survive a shock change in the economic environment. There's an inadmissible asset reserve, which is really designed to address situations where investments are concentrated or where regulatory capital of related or affiliated companies is valued. It includes a component for assets whose value

depends solely on the continuation of the insurance company itself. Of course, there is an element of value for liabilities to other creditors.

The purpose of capital adequacy is to provide assurance that capital is sufficient, to provide longer term confidence in the financial strength of the company, which is how it's defined in Australia. Given new business at the business plan level, three years of new business are required. It's a simulation approach, a number of scenarios are required and the assumptions are controlled within the law. It's very similar in many ways to the solvency reserve I spoke of a moment ago, except that the expense reserve is excluded, and there is an element for new business. What is interesting to note is that the capital adequacy determination is not disclosed in the financial statements at all, but in a separate report to the regulators and to rating agencies.

Let's move on to valuations in Canada. In Canada, as we indicated, PPM is the basic system, and it's a GPV system. PPM is seriatim and uses a single scenario, the cash-flow method, which is for accumulation products, single premium deferred annuities (SPDAs), and so on. These are aggregate and use multiple scenarios. That is something to keep in mind. Profits under the Canadian system can be front-ended. The thing is there could be a lot of playing around with it, because it is a gross premium system and it depends on the level of PADs. It's not that easy. Ask any Canadian. The Canadian valuation actuary takes his role very seriously in establishing reserves and the year-to-year movement is not as discretionary as one might think, although, it is intended to reflect the rules. The rules on the PADs come from the Canadian Institute of Actuaries, which has developed a series of valuation technique papers that give guidance on setting PADs. The PADs are quite heavy compared to United States GAAP standards. If the PPM reserves are negative or less than the cash value, special appropriations of surplus are required; it's kind of like deficiency reserves in the United States. Solvency is determined with a formula-based measurement called minimum continuing capital and surplus requirement (MCCSR). It is like the U.S. formula, except it's more sophisticated and more conservative. It's at least one-and-a-half times the U.S. risk-based capital (RBC) formula. It is intended really to provide for ongoing operations at a company, including new business. It covers a number of things, such as mortality, interest margins, pricing losses, and other losses from asset default. It covers the movements in the interest rate environment and also the value of equities.

The DCAT requirement in Canada is a formal process. Five years of new business is required. It is an actuarial determination and a simulation approach where a number of scenarios have to be tested, such as a base case without PADs and several alternative scenarios with PADs. It is here that cash-flow testing is

embodied in a somewhat back-door approach. It is an annual reporting requirement after the financial statement is released. This is the time of year (June) when the DCAT reports are due in Canada, and rating agencies also get this report.

Let's discuss Singapore very briefly. It has a bit more traditional, modified net-level premium system like the U.K., with assumptions set by the actuary subject to certain constraints within the law. The interest rate is a blend between current new money rates and portfolio rates, with a conservative PAD. It includes dividends if it's participating business, and participating business is still quite common. It must be included at the current present value of all future dividends. It's a current dividend scale.

The surplus requirement is specified by the fund. In Singapore, the primary fund is called the Singapore Insurance Fund, as opposed to a second fund, which is the Offshore Insurance Fund. These are split between direct and reinsurance. The life insurance fund, is quite simplistic in terms of its formula requirements and is subject to an overall company requirement, that is, combining all funds.

Dynamic solvency testing goes a bit further. Again, it's a simulation-type approach where several scenarios are tested, base case, (i.e., without PADs), along with a series of scenarios with varying experience at the actuary's discretion and, of course, the company's discretion. Five years of new business are required, and 30 years of projections are required, but only five years need to be shown to the regulators. An actuarial report with recommendations from the actuary is required. The actuary's requirements are probably the strictest of the three countries.

I'd like to address the role of the actuary in these three countries. Whether you use the term appointed actuary or valuation actuary, as in the United States, it requires appointment by the board of directors and there is nothing new there. Qualifications, are again, very similar to the United States. There are certain specific requirements. In Australia, you must be a member of the Institute of Actuaries of Australia and in Canada you have to be a Fellow of the Canadian Institute of Actuaries (FCIA), plus you must have a letter of recommendation that you are indeed qualified to assume the role of appointed actuary. In Singapore, the requirements are a bit less, but valuation actuaries are often Fellows of the Institute of Actuaries. Responsibilities in the financial reporting area are somewhat beyond what they are in the United States. In Australia, the actuary is responsible for reporting on the financial condition, and of course, the annual report on reserves with opinion, solvency, and capital adequacy testing that they have performed. Canada has a similar, very massive report prepared every year on reserves with an opinion. They report on the MCCR and DCAT as I indicated. In Singapore, in

addition to the annual report, they report on financial condition under the dynamic solvency testing (DST) or capital adequacy requirements.

We welcome your feedback. If there are any errors or inconsistencies or if there is some outdated information, please tell us about it so we can update it. In summary, first, there's greater recognition in these three countries in solvency and capital adequacy. Second, there's greater discretion given to the actuary, and I mean this mainly in terms of the way he or she approaches his or her responsibility in the selection of assumptions. As a result there's greater involvement of the actuary in the role of financial condition or the role of due diligence of life insurance companies in these countries. Can it happen in the United States? Yes, it can happen. Will it happen? It will depend on what happens with the committee work in the next few years.

**Mr. Stephen A. J. Sedlak:** Dan, you said that in Australia there is fair market value for the assets. You have gross premium value for the liabilities, and it sounds like either there's not much optionality in the liabilities or there's something else going on. You would think you'd have a lot of fluctuation in your surplus otherwise. The question is, what prevents that or does anything prevent that?

**Mr. Kunesh:** That's a very good point because the market valuation of assets can move continuously from one year to the next. Combine that with the concept that errors in judgement (because you don't have a crystal ball) must be pushed forward. I think that's the saving grace. The best-estimate assumptions must be keyed to a market valuation of assets concept. The problem is this system was planted in an economy where there are many traditional participating products, much like the United States. Many of your observations are indeed correct, but it's too early to tell the final outcome. It has been reported for only two years. When I talk with Australian actuaries, I hear about some problems, but revisions are being made. I think the greatest linkage is in the area of investment returns. They attempt to reflect the market valuation of the assets.

**Mr. Sedlak:** The problem I'd see with that is, under gross premium valuation, they're going to use your best earnings. To the extent that the market has moved away from that, you may get a totally disparate result between your assets and your liabilities.

**Mr. Kunesh:** Earnings are going to flow according to your profit driver, however defined, and once defined, it cannot change after issuance of the policy. I'm not sure I'm hitting on an answer to your questions. Is there earnings manipulation capabilities?

**Mr. Sedlak:** I'm not even going after that. I'm just looking at what happened in the United States, which is essentially a formula of reserve. You're not going to have less flexibility, but your GAAP reserves are more or less related to a gross premium valuation. There is *Financial Accounting Standard (FAS) No. 115*, and if you look at that balance sheet it just fluctuates all over the place, which is probably ignored by everyone because it's meaningless. Liabilities are apples, the assets are oranges.

**Mr. Kunesh:** Keep in mind that you would probably adjust the third element of the basic reserve, which is the after-tax shareholder profits, in accordance with the current best-estimate assumptions. I think you would be prohibited and, in essence, forced to reflect prospectively, any changes or revisions in your estimates against that one single driver that you have. In other words, the reserve will go up and down, not the equity.

**From the Floor:** Okay. There's the element that brings you through.

**Mr. Kunesh:** Yes.

**Mr. Jeffrey T. Robinson:** Along with greater discretion in involvement, are there greater punishments for the actuary for not performing due diligence? What is his responsibility if he doesn't do things properly?

**Mr. Kunesh:** Shirley, do you have any thoughts on that? I think OSFI has restrictive requirements similar to the United States. In Australia, on the regulatory side, the LIASB can bring an actuary before the board. I don't know what that action would be, since the LIASB itself does not have disciplinary responsibilities. I think they passed that on to the actuarial board. I believe that in Canada OSFI, not the CIA, has the ability to enforce that responsibility. I don't know about Singapore.

I'd like to say a few words about what's happening in the world of GAAP accounting in the capital markets and the international accounting standards. Our profession is getting involved. Certainly by now you have heard or read about a movement taking place in accounting circles to develop a set of standards that could be applied everywhere. Some Americans and many people overseas believe that such standards will eventually replace the United States GAAP as the icon of accounting standards when listing on the American exchanges.

Why all the excitement, and why is this happening now? The answer can be found in financial news around the world. Hardly a day goes by today when you don't hear about another merger, and each one is getting bigger and bigger. Most of these transactions are across the border. We are indeed in an era of rapid change and consolidation, and in fact, we are living it. Worldwide consolidation continues

at a torrid pace, and it seems that each transaction is getting bigger and bigger. As companies prepare to join others in this mad rush to acquire or to be acquired, a search for global capital (capital that can be used to expand operations or make acquisitions anywhere) also continues at a very torrid pace.

I'd like for us to focus our attention only on the capital markets and accounting standards in these markets. There are active international security exchanges in over 120 countries. To ensure discipline over the accounting standards that are applied on all of these exchanges, an independent organization called the International Organization of Securities Commissions (IOSCO) has taken on the initiative to create intermarket discipline and consistency in reporting and disclosure. Their hope is to facilitate market entry by foreign registrants and, more importantly, to give investors a fair chance to evaluate investment alternatives on a consistent and informed basis. This is a very important concept.

A few years back, IOSCO commissioned the International Accounting Standards commission to develop a set of accounting standards that can be applied worldwide in all of the capital markets. In fact, IOSCO's objective was to gain agreement among all member exchanges to accept financial statements that comply with the new International Accounting Standards Committee (IASC) rules in all future filings. This would include the New York Stock Exchange, National Association of Securities Automatic Quotation System, and the American Stock Exchange. It's interesting to note that about a year ago, the New York Stock Exchange was already making comments that it would go along with such standards if FASB and the SEC would also go along with them. Keep in mind that these new standards would initially be designed solely for the capital markets, and not local reporting. It is hoped that greater parity can eventually be gained from this project to improve the consistency in financial reporting in all countries of the world. In other words, we hope to have a consistent set of standards on a local basis as well.

Accompanying this merger mania is a rush from companies worldwide to list on a major American exchange. The reason really can be given in a single word, and that is capital. Capital is what's needed to qualify for major acquisitions while maintaining or enhancing ratings, and it is the access to capital and the cost of capital that has suddenly become extremely critical in this process. Some critics proclaim that a major problem with the Federal Commerce Commission's (FCC's) and FASB's accounting standards, is that they are too demanding, and accordingly, they impair the access to capital and they increase the cost to capital. They point to a need for new standards that can be applied in all markets—standards that are simpler and that enhance the listing process and not impair it. They call upon the

IASC to simplify it in new worldwide standards and leave room for corporate discretion in certain situations.

Do demanding accounting standards actually impair a company's access to capital markets? Do they increase the cost of capital? In my opinion, definitely not. Part of the problem, according to Neil Foster, a member of the Financial Accounting Standards Board, is information. It's well known that both the FCC and FASB promote a lot of disclosure. "More is better," they say. Take for example the recent derivatives and hedging project. FASB pushed more complete disclosure. The FASB believes that disclosure leads to less uncertainty, helping the market to price correctly. They believe uncertainty is caused by a lack of information, which in turn affects the cost of capital negatively.

Take another example, Asia, during the recent currency crisis. If you read today's newspapers, you'd know that it's still going on. Suspicion arose in the Asian markets that there were unhedged dollar loans on the books of many public and private Indonesian companies. If this fact were known, claims the FASB, the risk of default on foreign currency losses could have been priced, and the market could have turned the situation into an equilibrium a lot sooner. Hence, better disclosure can reduce the cost of capital.

Let's return to the IASC project. Is it really needed? Will the world really be simpler with a common set of rules in the capital markets? Will the United States ever agree to these standards and adopt them on the U.S. security exchanges? If you read many of the standards issued to date, you'd find that it is clear that the IASC is definitely trying to simplify and to accommodate differences in accounting practices in the world today. However, the FASB and the FCC, at the same time, believe that the IASC needs to develop standards that promote disclosure requirements similar to those found in the United States today.

Why did they take this position? Let's look at some facts. First, there are three major markets that do not currently accept IASC standards in their capital markets—the United States, Canada, and Japan. Second, IOSCO knows that to be successful in their efforts, they need the United States markets to join hands.

Why is the United States so important in this effort? In the words of a famous old bank robber, Willie Sutton, "Because that's where the money is." How about another soon-to-be-famous quote? "The United States accounting standards are the toughest in the world, yet the United States enjoys the highest trust factor among investors anywhere." Aside from being the most expensive to produce, U.S. GAAP financial statements, with their extensive disclosures, are more reliable, more relevant, more consistent, and more comparable than any others. This enables

investors to effectively evaluate investment opportunities. In part, this is why markets in the United States are the largest and the most active, and this has contributed to the U.S. markets being among those with the lowest cost of capital.

Economic theory states that low cost to capital provides for an efficient allocation of resources, lowering costs elsewhere. Timing is another issue. It's no small fact that timely reporting is indeed important. Keep in mind that, on average, on financial statements, United States companies come out well in advance of their counterparts in Europe and Asia, where delays of six months or more are not that uncommon. As Arthur Levitt, the former chairman of the SEC said, "Good accounting standards produce financial statements that report events in the period in which they occur—not before; not after." There are no rainy day reserves, there is no deferral of loss recognition, and actual volatility is not smoothed away to create an artificial picture of steady and consistent growth. To this I say, "Amen!" Countries like Germany have a black forest of special reserves that exist to shelter earnings from policyholder distributions because of outdated local regulations that prevent a timely and equitable allocation to shareholders.

The purpose of accounting standards is to assure the financial information is presented in a way that enables decision makers to make informed judgements when needed. I think this underscores a lot of the work that is being done by the valuation task force today as well. We don't believe it's simply left for the thrift industry, back in the 1970s and 1980s, when the federal government efforts to preserve an industry by withholding certain critical information actually brought it to its knees. Look at Japan where government sanctioned banks covered up loan and security losses, a situation which really turned on the government during the recent and ongoing financial crisis in that country. The United States is indeed the preeminent financial market in the world because of the level of timeliness and credibility of the financial information and disclosure required of public companies. Good accounting standards require information to be reported that helps investors decide among the alternative investments. This contributes to our free and efficient market system which is universally acknowledged to be the driving force of our entire U.S. economy.

Let's return to the IASC. It appears that it is on a fast track to deliver on their promise to IOSCO by the years 2000 and 2001. No one can really promise whether or not they will heed the words of the FASB about disclosure and timely reporting, but the committee's efforts certainly have been producing a lot of activity. Over the past two years we have seen a new pension standard. We have seen a final proposal for a standard on financial instruments, and now, since 1997, work has begun on a new insurance standard.

Let's take a look at that standard. The standard was fleshed out at the IASC Insurance Steering Committee's first meeting in late 1997. Their next meeting will be held on June 23–25, 1998. The committee hopes to release an issues paper in the third quarter of 1998. The focus is going to be on insurance contracts, not insurance companies, which fits well with the growing number of financial conglomerates selling bank, insurance, and brokerage products in today's markets. The committee hopes to develop a more precise definition of what insurance is than the definition included in Standard 32. Of interest to actuaries is the IASC's desire to define the relationship between external reporting and solvency in capital adequacy needs of the industry. There's a great parallel between the work of the IASC and what we're doing in our committee.

If you recall, I compared the three objectives. While it's hard to really know what is meant by equity for external reporting, the intent to present earnings on an unbiased, neutral best-estimate basis certainly parallels one of the valuation task force's objectives for a realistic income statement based on U.S. GAAP or a similar basis.

The definition of solvency in the capital adequacy equity calculation are somewhat different than in what I showed earlier for Australia, Canada, and Singapore. However, note the desire to recognize measurement of the amount needed to write new business, and to provide for shareholder dividends.

Here are some interesting observations at this point, before I go into what the actuarial profession is doing. One market-value basis is intended to be used and is a favorite for the valuation of assets. Second, there's an acknowledgment that the valuation of insurance liability should be consistent with that of investments; in other words, it is a market valuation type approach. Third, insurance contracts are to be a subset of the entire world of financial instruments. Fourth, the committee is inquiring about the level of reliance to be based upon actuaries, presumably in matters involving valuation reserves and, of course, solvency. Fifth, an issue has been raised as to whether policyholder dividends should be treated as an expense or as an allocation of profits. This is a brand new concept. Sixth, the old issue of deferred taxes remains on the table, should they be discounted. Finally, at this point, an agreement has been reached that all insurance products, not just life and health products, should be covered.

What about actuarial involvement to date? Most of the efforts have come from the International Forum of Actuarial Associations (IFAA), and its subcommittee on the IASC's insurance accounting standards. Under the guidance of Sam Gutterman, who is the chairperson, they have prepared a draft of the issues paper, which is 39 pages and provided responses to a list of issues that were raised by the IASC last fall.

This paper was discussed at the recent June 5th IFAA meeting in Coventry, England. Another group that's following this effort is the American Academy of Actuaries Working Group on International Accounting Standards, of which I'm a member. The group is headed by Bruce Moore and has taken on the task of helping the IFAA subcommittee in doing research in providing input for the IFAA issues paper. We came up with a 21-page effort to the committee before their June 5th meeting. The goal is really to provide active input to the IASC over the next year or so as the new standard is developed, especially in the areas of valuation and in other areas that actuaries are normally involved.

What are some of the issues that have been explored? Two issues are of interest to actuaries. The first relates to whether the new standards should apply to insurance enterprises or to insurance products. Second, should the standards deal with all other financial instruments held by insurance companies? The first question is over the definition of insurance itself. The IFAA subcommittee is in agreement that insurance should be defined at the product level, not the enterprise level, because it is the product level that gives rise to risk assumption. More important to this issue is how to best account for near insurance products, like accumulation products or annuities, reinsurance, or self insurance. The subcommittee calls for a fundamental principal that would require consistent accounting treatment of products in similar situations, whether or not the product is deemed to be an insurance contract at all. On the issue of other financial instruments sold by insurance companies, there is similar parallel thinking. The subcommittee believes that appropriate reference should be made to the guidance provided in other statements and that such treatment should be similar for all financial instruments.

On objectives, the subcommittee believes that accounting for insurance contracts should have a sound framework based on a series of principals such as fair value, historical cost, or a combination thereof. The IFAA subcommittee is not taking a position for one or the other. Other key principals include the matching of costs of revenue, transparency, consistency, and decision neutrality. While a single set of financial statements is favored, the IFAA group recognizes that statutory and other restrictions probably will keep this from happening. Regarding recognition and measurement, the key issues relate to how measurements should be done and to the setting of assumptions for use in measuring insurance liabilities.

This whole topic is broad and complex. In fact, the subcommittee devoted over eight pages of its entire text to the discussion alone, addressing things like: fair value accounting of liabilities; the explicit recognition of asset/liability mismatched risk on the balance sheet; the use of actuarial judgement in setting reserves; the use of indirect methods, such as embedded values, versus direct methods which measure cash flows generated by insurance exposures; and recognizing legal and

other constraints when distributing funds among policyholders and shareholders. The subcommittee recognizes that the fair valuation of liabilities is complicated by the fact that normal characteristics of an efficient market simply do not exist with insurance obligations.

Regarding assumptions, issues include whether to use best-estimate assumptions or the assumptions that were in place at the time the policies were issued. Issues include the level of PADs, if any, and the reflection of future changes in prices and other factors in setting claim reserves. The subcommittee believes that use of PADs is justified unless stochastic testing is used to calculate actuarial values. It further believes that current best-estimate assumptions are needed if we're going to move towards a fair-value reporting system.

One of the questions explored is, should acquisition costs be recognized immediately or deferred over the term of the contract? If deferred, should they be recognized as a separate asset or a liability adjustment? How should they be amortized, and should changes in amortization revenue be applied prospectively or retrospectively? When should impairment losses be recognized? There are a whole slew of questions in this area and more than I'm bringing up here. Another interesting issue relates to shareholder value. Should shareholder value appear as an asset on the balance sheet? Currently, in the United States, this can only occur in cases of a business combination. It's interesting to note that prior to the FASB agreeing to taking on the current project (which entails looking at good will, purchase accounting, and what the purchase is), there was some discussion that was tabled about opening up intangible assets on the balance sheet in all situations, and not just purchase situations. It's my understanding that they may revisit this. I have to say may because nothing is certain; it appears that there's a tremendous interest at the IASC level in looking at embedded values as a possible method to replace deferred acquisition costs as a possible method in a fair-value accounting system. There's one basic reason which is that you can, under an embedded value system, use the accounting methodology, and you can reflect restrictions on the payment of dividends to shareholders on a local basis. Depending on which country you're in, you would simply reflect those dividend restrictions in your embedded value calculations.

What is important is that we stay actively involved with this project. I would encourage each and every one of you that has an interest in working with these two groups to provide your comments and try to collect copies.