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Valuation of Assets and Liabilities

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Summary: Early this year, the National Association of Insurance Commissioners (NAIC) initiated a thorough study regarding the current valuation methodologies applicable to life insurance, annuities, and health insurance, as well as the legal and regulatory mechanisms through which they are implemented. The outcome of this study has the potential to reshape how we will do business in the future. This panel provides an update on the progress of this initiative and the fundamental concepts on which any recommendations would be developed.

Ms. Shirley Hwei-Chung Shao: Every year we have a session like this sponsored by the Financial Reporting Section, and we usually try to cover different financial reporting issues from statutory, generally accepted accounting principles (GAAP), and tax. This year we decided to focus on statutory only because, as I'm sure many of you are aware, there's a big project that was started at the beginning of 1997. Tom Foley, the chair from the Life and Health Actuary Task Force (LHATF), and the NAIC, decided to start with a project to look at the valuation of liabilities.

Our first speaker is Bill Weller. He is the senior actuary with Health Insurance Association of America (HIAA), and he's substituting for Bill Bluhm. Our next panelist is Arnold Dicke. He is a venture capitalist.

The most important person on this project is the chair of the Valuation Task Force Project, Bob Wilcox. He's currently with Deloitte and Touche.

First, Bill will talk about the project we're working on and the way we structured the Valuation Task Force into many subgroups because it is so big. One of the subgroups looked at the current systems and tried to understand the advantages and the disadvantages of the current system. Bill's going to talk about that and how there are several disadvantages and very few advantages. Then Bob's going to talk about the objectives and principles. I will touch upon valuation systems in other countries and how we benchmark the valuation system in the U.S. Arnold will talk about the valuation tools and where the regulations will also be impacted by this change. Next, Bob and Bill are going to come back and talk about some of the issues related to health insurance. In particular, Bill has a very strong interest in the health insurance perspective. Finally, we will open the floor for questions and audience input. We'd really like to make this very interactive because we're very interested in your opinion on how we should shape the future of the valuation of liabilities.

Mr. William C. Weller: Steve Preston chaired a group of 13 actuaries who produced The Preston Report. I think we, as actuaries, do tend to have an easy time of seeing problems in areas where things could be improved. We were dealing with both the advantages of the existing system as well as the disadvantages. I think Steve did an excellent job in getting a fair comparison of what's good in the current system as well as what disadvantages that a new system needs to address. If we don't have a good, solid base of what's good, then we don't know what we could be ruining as we make some changes. He also did an excellent job of grouping the results, and that makes my job much easier.

There were a number of assumptions that we went into. One of the things that we had to do was define the existing system. We decided that it wasn't going to address all of the state variations specifically. We recognized that as we listed the items, some people would see the same item as an advantage and others would see it as a disadvantage. So sometimes something appeared in both places. The last thing that we did, in order to keep the report from being too voluminous, we included only the major factors. You can probably think of some things that aren't in here, but we kept it concise and in an outline form.

The advantages were in three different areas. First is the standardization we achieved, which is related to formula reserves. Some of the items that we noted produce consistency and predictable results from year to year. This system allows for a reasonable comparison between companies, controls to a significant extent discretion and manipulation, fits well with tax reserves, and facilitates the

development and an actuarial education within valuation. The core is consistent across states even though there are, obviously, variations. It offers a uniform base for risk-based capital (RBC).

Among the things that we will be talking about is the issue of the border between where reserves are and what should be in surplus, when you have to fit the valuation of new products into it. One of the things that it does is create a base for early discussion between regulators and the industry about how exactly you do fit it in so that you get an early understanding of what the product is supposed to do, what its ramifications are, and what its risks are. The regulators and the industry people who are trying to develop this product can work together to find a way to fit it into the current formula as opposed to presenting an accomplished fact.

The second area where this system offers an advantage is simplicity. The formula reserves are easily determined, relatively easy to audit, and you can automate the process. The minimums are generally independent of much of the actual complexity in various products. Now you'll see that complexity and how to fit them into the formula reserves are also a disadvantage, but it is an advantage to a significant extent. Finally, its simplicity allows small companies to operate at acceptable costs.

For historical conservatism it has worked very well for one-benefit products and we'll get into some of the issues of multi-benefit products. It coordinates well with a fixed cash value floor that works as a minimum from which you can add on various items, such as asset adequacy analysis, solvency standards like asset valuation reserve (AVR), interest maintenance reserve (IMR), and RBC. Finally, the historical conservatism generally has created surplus strains when you add these to acquisition costs and the combination has constrained or controlled growth. So those are the major advantages.

Now we'll address the disadvantages or the areas to focus on for improvement. The first is that there are product designs that aren't addressed in this report. The new designs that we're seeing in the marketplace don't fit all that well within a formula-driven system. Multiple benefit products are clearly one. Asset-value-based benefit streams, which provide a lot of options at various points in time to the policyholder and changes to the cash-value floor, are examples of product designs that may not be adequately addressed in the current system.

Emerging company and industry experience is not always reflected. Mortality, lapse and morbidity experience may not be addressed. Income expectations and how that coordinates with asset/liability matching (ALM) are not at all addressed in the formula reserves, although they are, obviously, in the asset adequacy analysis. With

regard to expenses, the actual acquisition costs versus the allowance, and the maintenance cost, both of those are risks that aren't recognized in the formula reserves per se. Some margins and risks are not always consistent. The investment risk is different from product to product. The valuation interest rates in one case may be a conservative measure and, in another case, may have no conservatism or margin in it at all. There are a number of products for reserving that probably need some type of stochastic approach to try to measure the risk.

The companies that do pooling or diversification of risk don't get any credit for it from formula reserves versus companies that are all concentrated in one particular area. It does not address company plans that exceed the minimum guarantees. It's focused solely on the minimum guarantees in the contract. It doesn't deal well with market-value-based risks. It has implicit assumed conservative margins, which may not be as good as putting in explicit margins in various areas. And the effect of product differentials and the interpretations of how they fit into formula reserve may overstate the actual value, in some cases, and understate it in others. The minimum reserves tend to be a focus in product development and perhaps they shouldn't be; you may add some items that appear to create some risk in order to reduce the level of reserves that you would otherwise have to have.

Another disadvantage is the proliferation of additional requirements and state variations. There are problems with the continuous adding of new, complex standards for complex products. One of the answers to that which we've seen over the last several years is to superimpose other standards on top of what is already there. So you're doing duplicate and triplicate work and, frequently, there are additional written opinions which, if Bill Bluhm were up here making this presentation, he would argue is a very positive thing for the consulting industry. As a representative of a health insurance company I would argue that it's probably not a positive for the company's bottom line to pay consultants to do a lot of extra written opinions. Obviously, at this point in time, we ended up with a minimum of three valuation systems as well as state variations.

The last item is one that I think you're going to hear a lot about and we'll come back to as we talk later about the current health issues—the theory that it's really an unclear border between what should be in reserves and what level of surplus a company should have. There's not really a defined basis for various levels of conservatism. There's the issue that formula reserves are focusing very much on a snapshot of your existing business and are not dealing with the viability of the company in meeting the promises that it has made. It's illustrated in terms of non-guaranteed expectations that the policyholders have or with regard to new business and how that affects a lot of your other people—your agent, your employees, as

well as other things. All of that is taken care of in the dynamic financial condition analysis (DFCA), which is not focused on with minimum reserves.

Mr. Robert E. Wilcox: I want to begin by giving you a brief background on how we reached the point we're at now. I will give a quick tour for those who are not familiar with this project. We received a request from the NAIC LHATF. They asked us to undertake a thorough study of valuation methodologies and include life insurance, annuities, and health insurance. It had very broad objectives in mind and was not to be constrained by past practices—that is, the clean sheet of paper that Shirley just referred to. Our study was to consider practicality in the state of actuarial science. The expectation is that we would not run faster than we were capable of in that particular regard. This study was to consider the impact on the overall regulatory framework—once all of the pieces were in place. Arnold will talk about this more.

In terms of our organizational structure, first, the official task force members are really functioning as a steering committee for the project, and the participants in the process include all of the Academy members who wish to participate, but we're not restricting it to members. We're including non-Academy members. We're designating them as interested parties, but they're full participants in the process. There are those who are not Academy members but are very interested, concerned, and contributors to the overall analysis, and we think that's a productive part of what we're doing. It's based on very open participation; in fact, we invite the participation of any or all of you who wish to be involved and are interested in this project.

We have organized with various liaison groups to deal with the various actuarial organizations and trade associations. As Shirley described, we've had a number of work groups, one dealing with the current system advantages and disadvantages and you've just heard a summary of their report. Another group is dealing with tax issues, international valuation systems, valuation tools, reserve-related regulations and standards, and the challenges to change that we're facing.

With regard to challenges to change, and I'll give Arnold credit for this, it is an important one to keep in mind as you undertake any major project involving change. Remember that there is nothing more difficult to arrange, more doubtful of success, and more dangerous to carry through than initiating change. The innovator makes enemies of all who prospered under the old order and only lukewarm support is forthcoming from those who would prosper under the new. Their support is lukewarm partly from fear of their adversaries who have the existing law on their side and partly because men are generally incredulous, never really trusting

new things unless they have tested them by experience. So a change in the magnitude that we're talking about here is of real significance and difficult to do.

We began the process by looking at all of the valuation systems users—those who would use the information. What really are the objectives of a valuation system? What are we trying to accomplish? First, we want to evaluate the ability of a company to execute various business alternatives. If this sounds like viability instead of solvency, that's exactly what it's intended to be. But we still have to deal with the solvency issues, so it's necessary that we evaluate the adequacy of resources relative to obligation on a current basis. We also have to measure the changes in resources relative to obligation.

I want to go through what we've called at some points "principles," and at other times "framework." It is a framework around which we want to build a system. We also gave this system that we're working on a new name to distinguish it from any other valuation systems that carry some baggage, and so we're going to call this the unified valuation system. I want to talk a bit about the framework that's behind that unified valuation system. It provides information to policyholders, regulators, and others to assist them in making informed judgments about an insurer's financial condition. It should support analysis both at points in time and over time. That's a critical part. It should include best-estimate assumptions, and this is a real departure from many of the things that we've looked at before with regard to valuation systems, where we had intentionally built into the system various levels of implied conservatism and margin. The intent with the unified valuation system is that while there is an appropriate role for conservatism and margin, the users of the information should know precisely what margin and conservatism is involved.

So we begin with the use of best-estimate assumptions and provide a determinable level of conservatism in the outcome. The reason for that is the different purposes for which the information might be used leads to different levels of conservatism and has led us into the system that we have now that's really a multiplicity of systems for different purposes. We want to have a single system that can meet the needs of everyone who uses it, not necessarily with a single number, but with a single system that begins with best-estimate assumptions and then defines the level of conservatism that's included.

It should address overall solvency, not just reserves and, particularly, it addresses both resources and obligations, rather than assets and liabilities. But it should be auditable, and verifiable, and incorporate an actuarial feedback loop in which assumptions and projected results are compared to emerging experience. For those who are familiar with property and casualty language or Schedule H, it's a Schedule P kind of a response that we want to make sure is included.

The unified valuation system should cover all insurer activities. It is holistic rather than merely representing a sum of the independent parts, emphasizing the importance of covariance in the outcome. The valuation system should be cost effective in relation to the value of the information for the audience. There are real concerns any time you embark on something of real significance that will require actuaries to develop new skills; we might end up doing more work to produce equal results and value. We don't want that to happen.

We believe it should be consistent among the various regulatory jurisdictions, and a lot of work has gone into this over the last couple of years. A task force of the Academy, which Shirley chaired, has been looking at state variations in valuation systems. We think it is absolutely imperative that we do all that we can to have a single system that is consistent among the regulatory jurisdictions. It should be flexible; that is, it should be able to accommodate ANY unidentified future needs. We don't know what information may be needed in the future by our various audiences coming from the valuation system, but we want to maintain sufficient flexibility to have a very good chance of meeting those needs without starting over and completely revising our system.

It should utilize actuarial judgment. We don't want to end up with a system that's based on formulaic results, where there is a rote formula and when you make your actuarial certification, more than certifying to the adequacy of the process that you've undertaken, you're certifying to the accuracy of the arithmetic. We think that actuaries should have the responsibility and the authority to set those best-estimate assumptions and determine the appropriate methodology. When we talk about valuation tools, and Arnold will be reviewing those tools with you, we have been cataloging to this point. We don't want the outcome based on specific tools; rather, define for the actuary what the outcomes are supposed to be like and let the actuary choose the best tools and the best assumptions to get there. It should accommodate materiality issues with respect to both the balance sheet and the income statement, so that those issues, generally accounting issues, are adequately addressed.

Ms. Shao: I'm going to talk about the international valuation systems in other countries. Basically our group has worked on this since May of 1997 and our report is about 100 pages. If anybody wants a copy, you can contact the Academy. First, I would like to talk about why we decided to look at the other valuation systems. Obviously, the world is getting much smaller and I don't think I need to say more about that. Just look at the ping-pong effect of the recent stock market changes and you'll understand. It was interesting that when I saw Peter Lynx, he insisted that there's no ping-pong effect. He said that the U.S. is the dog and the rest of the

countries are just part of the tail. So I'm going to talk about the tail. That's what we're going to do and I think it will only make this research more complete.

We know where the U.S. stands in comparison to other countries' state-of-the-art efforts. We felt that we may learn something from all of this, and I'm going to talk about what we learned.

We looked at 14 countries. In order to say that our study covers all continents, we added South Africa to our list. There were several criteria for picking the countries. I mentioned the geographic diversification; we tried to cover all continents. The other is to actually look at the proliferation of insurance in these 14 countries. We did a calculation including the U.S. market. If you add the U.S. as the fifteenth country, we covered about 90% of the premium income in the world. As Bob said, we looked at a fairly exhaustive list of countries.

We also looked at valuation systems. We'd like to look at valuation systems where we can learn something or where we think they're still developing. This allowed us to look at the various business strategies. We identified three countries that allowed the companies to use the valuation system to execute these strategies: Australia, Canada, and Singapore.

The next objective is to allow us to evaluate the adequacy of resources relative to obligations. This is both a reserving system as well as a solvency system—we looked at the standard laws, and the countries seem to fall in three different buckets. Two countries, Australia and Canada, have a gross premium valuation system.

The next group is Hong Kong, Singapore, and the U.K. Those three countries are requiring what I call a broad net premium valuation system. What I mean is the actuaries must include all guaranteed elements, and the actuaries have quite a bit of flexibility in choosing the assumptions. The rest of the countries are closer to the U.S. system. They have statutory formulas and usually just mortality, morbidity, or interest rates are included. As far as the solvency requirements, about 80% of the countries we studied have some kind of RBC systems, so that's the norm right now.

The third objective we had for the Task Force was to look at the measurement of changes in resources relative to obligations. If we look at the accounting system, the U.S. is very unique. We're the only country with three reporting systems, and that doesn't include the state variation. Another thing that's very unique about the U.S. in the valuation system; is we're the only country requiring both statutory reserves as well as asset adequacy testing. There's no other country that requires asset adequacy testing. We are, also, the only country that has the appointed actuary concept, which goes with statutory formula reserves.

It was a huge task to look at the valuation systems and put the report together. What we decided to do is put them in a template kind of format and several of us writing it all out. We listed a whole bunch of things we are interested in. Basically we know the focus is supposed to be on the liability valuation and, also, surplus valuation. We felt that we can't really get there without giving the readers some background about what kind of products, what kind of economic conditions the countries have, what kind of investments the companies are allowed to make, and the taxation and reporting systems in those countries. Most importantly, the role of the actuary is really our focal point.

What have we learned from the process? We tried to look at what we learned and keep that in line with our objectives. I listed several other things, for example, assets/liabilities should be valued consistently and regulations should provide enough flexibility. We even looked at some of the case studies where that's not the case and concluded that this inconsistency is leading the industry into trouble in certain countries.

If we were to look at all of the countries and say which system we're probably most happy with in terms of aligning with our valuation system, I think we have already concluded that we like the Australian system the best. It's really a holistic approach where they look at three pieces. The first piece is the policy reserves or policy liability. That's where they use the gross premium valuation without any provision for adequacy deviation.

The second piece they looked at is the solvency requirement. Instead of having an RBC kind of formula, they allow the actuaries to calculate the solvency requirement using the exact same framework as what has been done in the policy liabilities, except you need to add the impact. Then government has more control over the assumptions being used, but it's calculated under the same model and same methodology as the policy liabilities.

And then the third piece of the valuation is what I call capital adequacy analysis. That's where they were required to do a three-year projection of new business, using the same tools to add new business elements to that piece of calculation. From our perspective, we felt that really is a more consistent framework to use to look at three pieces of information. We strongly believe that valuation should not be looked at just from the reserve side, but rather we should look at the whole picture. We believe that the income statement should be looked at somewhat separately, depending on the purpose of the income statement. For us, we need to look at the whole picture and then, depending on whatever the income statement purpose is, on those surpluses.

Mr. Arnold A. Dicke: I'm going to talk about two different subjects. We have work groups on the Valuation Task Force. I'm not actually on either of the work groups, so I'm reporting the work of these people. The first of these work groups is the Existing Standards Work Group, which used to be called the Impacts Work Group. The idea and the purpose here was to identify and categorize legislation, regulation, standards, and other information or publications that might be affected by the work of the Valuation Task Force. We recognize that just coming up with a framework and a concept and even writing a new valuation law wouldn't end the process. There are going to be many things on the books that are going to be affected, and there might be a handful of these things we need to pay attention to.

The work group first divided the impacts that it found on existing standards, (using the word "standards" in a general sense), into three categories. Category one includes the pronouncements that have the force of law in valuing reserves and obligations. Force of law may be a little strong, but they're the things that you absolutely have to comply with. In category two are publications or literature pertaining to the valuation system. Finally, in category three, there are the many things that may be, at this time, pending that will eventually be in categories one or two.

Looking at category one, we call these NAIC publications or pronouncements. But, obviously, we all recognize there would be model laws and regulations affected. Evidently, actuarial guidelines will be affected because actuarial guidelines are directly involved with reserves. Annual statement instructions or RBC instructions could be affected, because, as Bob said, we're talking about a Unified Valuation System that will involve what we now think of as the valuation reserves. It could also include RBC-type considerations, solvency considerations and, even beyond that, the viability considerations, where you take new business into account. Obviously, AVR, IMR instructions might be affected. The examiner will have to be involved with these new reserves. And the whole codification that has been going on is based on a number of things that will all be affected as well.

Then we turn to looking at the pronouncements that come out under the accounting profession. First, they're the ones that apply to insurance companies: GAAP and other accounting literature that applies to insurance companies. Of course, you have the certainness of the statements of the Financial Accounting Standards Board (FASB), which would be affected if we're successful in getting this to be a unified system, because we'd like to have these taken into account. The interpretations that the FASB made, Actuaries Practice Bulletin (APB) opinions, accounting and research bulletins are also included. There's also many things from the ASCPA as well as from FASB that would be affected by this work.

Finishing up category one, we recognize things from the Government Accounting Standards Board (GASB), which is a related organization, a whole set of accounting standards, their statements of government accounting standards and other similar pronouncements from that organization. Of course, the Academy has Standards of Practice (ASOPs). It's possible that Qualification Standards would be impacted because there may be things that people need to know and we have to be sure as the education requirements for doing this might be affected.

Category one also includes state laws and regulations. We figured out there were 54 jurisdictions when you count places like Guam that are affected by this. In addition, there are federal laws and regulations, such as the Internal Revenue Code (IRC), which Bob will discuss later. Securities laws are an outlier that could be affected by this. The Employee Retirement Income Security Act of 1974 (ERISA) could have some impacts. These are laws in the health and human service areas like the recent Health Insurance Persistency Award (HIPA). It might possibly be impacted by the work of the group.

Actually, the work group believes that this list, as long as it is, might be incomplete because we haven't really covered the property/casualty area. Property/casualty was not an original focus of this task force. It wasn't in the original request made by the NAIC because that came from the LHATF. However, very shortly after that, it became clear that they were interested in seeing what impact this would have on the property/casualty area as well. Looking for a unified system and one that would allow possible coverages that are in more than one area, naturally you have to consider the impact in property and casualty coverages.

Let's discuss category two. The Society of Actuaries (SOA) has several publications that would be affected including: the principles regarding provisions for life risks, the *Dynamic Financial Condition Handbook*, study notes, and textbooks. The Academy has Practice Notes and the *Life and Health Valuation Law Manual*. There's a similar thing for casualty. Casualty reserves would be impacted if we do, in fact, get into the property and casualty area. There are various state requirements like bulletins and circular letters.

Finally, in category three there are many pending laws, model laws, regulations, and pending guidelines of various works in progress from the LHATF and the task forces that work on assets and RBC, the separate Account Working Group, and Blank's Committee. Actuarial standards, various other reports, and Practice Notes would also all be affected.

Let's see what this all totals up to be. Table 1 shows the count by organization of standards and processes that must be checked. This doesn't mean that we filtered

these to see whether they actually have references to valuation in them. Because we're going to have to look at all the things that come under these categories, this is the list that the group came up with as to the ones I think that should be checked for impact. There is a total of 323, without counting the states. One sample state (New York) adds 150 to the list. This shows you that once this project is done it doesn't end. There's going to be a huge amount of follow-up work to be done with the existing standards to bring them into line if we, in fact, are successful in getting a revised approach to valuation. It's a pervasive concept in insurance regulation and will impact many things.

TABLE 1
COUNT BY ORGANIZATION OF STANDARDS AND PRONOUNCEMENTS THAT MUST BE CHECKED (NOT FILTERED FOR VALUATION REFERENCES)

Organization	Standards and Processes
AAA/ASB	38
AICPA	24
FASB	36
GASB	34
NAIC	188
SEC	3
TOTAL	323
Sample State (NY)	150

What are the possibilities for things we can try to come up with? What are the new approaches that satisfy the objectives that Bob talked about in the framework that Bob described in his first remarks? We call the things that we're looking for valuation tools. The definition of a valuation tool is a method or process that assigns a value or a measure, correlated with value, to some cash flows into or out of an insurance system. The cash flows may be associated with items accounted for under a given accounting system such as assets, liabilities, or surplus (equity). We're trying to be very general in the notion of a valuation tool. We're not trying to say it's a method that necessarily assigns an appropriate value for reserves. We're just trying to describe anything that comes up with some kind of measure of value to the cash flows, whether it's applied on the asset or liability side. We're going to count that as a valuation tool, and we want to see how many of them we can find and what their characteristics are.

Again, this group did a comprehensive job and came up with a fairly long list of existing valuation tools, which might not even be complete, but I think it gives you an idea of the kinds of things that we're going to be considering as possible approaches (Table 2). There are the ones that the group labeled as Liability Reserve Methods, Preliminary Term Methods, Commissioner's Annuity Reserve Valuation

Method (CARVM), the Policy Premium Method that's used in Canada, the various methods that are used in the GAAP account, and the reserve aspects of those. The second one, which is another one that many people mentioned, is gross premium valuation as an approach.

TABLE 2
LIST OF EXISTING VALUATION TOOLS

1. Liability Reserve Methods (Preliminary Term, CARVM, Policy Premium Method, SFAS 60, 97, & 120)
2. Gross Premium Valuation
3. NAIC RBC & AVR
4. Asset Adequacy Analysis
5. Dynamic Financial Condition Analysis
6. Present Value Techniques
7. Aggregate Methods (e.g., health and P/C claim reserves)
8. Case Reserves (Health)
9. Sensitivity Testing
10. Risk Adjusted Return
11. Pension or Employee Benefit Tools
12. Fund Accumulation Methods
13. Amortized Cost Methods
14. Embedded Value

Part of this system, as we've said, involves solvency and not results reporting, so the formulas for RBC and for the AVR could be of interest as an approach. They're tools that are currently being used in the broad area of valuation that we've chosen to look at as is for adequacy analysis, which you're all familiar with. The Society has been instrumental in developing DFCA in the life area and the Casualty Society has done very good work on that in the property and casualty area. Of the various present value techniques I think they're probably referring to some of the concept papers that FASB had there as well as other things that may be in the literature. Aggregate methods, such as the health and personal computer (PC) claim reserves, are case reserves that are used in health insurance. The concept of sensitivity testing is considered a tool because it gives measurements that relate to cash flows and so forth and that's an example of one that doesn't actually give you something to put in the statement, but it's an important tool to be aware of.

Another one along those lines is risk-adjusted return, commonly used on Wall Street, but not commonly used in our current valuation system. It's something that we could look at. Pension or employee benefit tools are the various types of valuation approaches that are used in pension plans to put on normal costs and all those sorts of things, like fund accumulation methods, amortized cost methods, and the embedded value or value-added approach, which some companies already do use, particularly some international companies that want to give a common standard for various accounting systems.

Table 3 should give you an idea of what a broad range of things this group is looking at. These are the tool characteristics that they want to evaluate and with each one of those tools they plan to go through this entire list. It's probably not worth going through the entire list, but the kinds of things that you can see from here are static or dynamic. Does it give a unique result? Is it easy to audit? Is it easy to implement? What degree of subjectivity is involved? Does it give a measure of adequacy? What degree of complexity does it have relative to the other tools? What type of business now uses this type of tool? What degree of aggregation is involved? To what degree are assets incorporated? There are many of these things here and some of them are more important than others without a doubt, but these are the 25 characteristics that the group thought it would be worthwhile judging each of the methods by.

TABLE 3
LIST OF TOOL CHARACTERISTICS

1. Static or dynamic
2. Unique result?
3. Ease of auditing
4. Ease of implementing
5. Degree of subjectivity
6. Measure of adequacy?
7. Degree of complexity
8. Type of business that employs tool
9. Degree of aggregation or granularity
10. Degree to which assets are incorporated
11. Earnings or balance sheet orientation
12. Secondary results to help assess quality of primary result
13. Margins explicitly quantified or defined?
14. Options explicitly quantified or defined?
15. Prospective vs. Retrospective
16. Assumes open or closed book of business
17. Market prices available to validate or calibrate results?
18. Timing and process for refreshing assumptions
19. Manner in which feedback is generated and incorporated
20. Includes non-guaranteed elements or dividends?
21. Treatment of elective benefits (is 100% election assumed?)
22. Theoretical approximations made
23. Time period over which adequacy is measured
24. Degree of consistency between companies
25. Based on reference to literature?

Matrix Based on Tools vs. Characteristics

Source: Babbel and Merrill, "Economic Valuation Models for Insurers", to be published in NAAJ, Vol. 2, #3, July 1998.

One that might be of particular interest is number 13 as was mentioned by Bob—whether margins are explicitly quantified and defined or not. Number

fourteen is whether options are explicitly quantified or defined. Number 21 is the treatment of elected benefits, a big issue in the recent work on annuity reserving and that type of thing. All of these things have to be considered and to be cataloged for us, so that when we go to look for tools we'll know what their characteristics are.

In addition to this general work of categorizing things, the Valuation Tools Work Group has been working closely with Professor David Babbel of the Wharton School. An approach that Professor Babbel and his colleague, Professor Craig Merrill, have been working on is economic valuation models. I thought it might be of interest to go into detail on this, because we spent some time listening to the reports from Professor Babbel on his work. The interesting thing is this is an approach where Professor Babbel's focus is really on financial economics and he has done work on Wall Street on these types of models. I think the group wanted to see to what extent these kinds of models would be a viable approach.

So I'm going to give you a brief review of a paper that Professors Babbel and Merrill are preparing to submit to *The North American Actuarial Journal*. The first thing that they discussed is the sources of uncertainty underlying insurance liabilities. They know three sources of uncertainty: the actuarial risk, market risk, and non-market systematic risk.

I would like to talk about how you can control these risks. The interesting thing is the way that financial economists look at it. Actuarial risks can be reduced to an arbitrarily small level through diversification by writing large numbers of similar policies. Now what they mean is relative risk. Their view of everything is from the point of view of investors investing in companies. They're basically saying an investor gets no reward for choosing a company that has a higher or lower level of actuarial risk. It's assumed the investor will diversify away that risk by buying a portfolio of companies and thus not be subject to that risk. It's not a relevant factor in the kind of analysis that's done. I think that's important to note, because it's a very relevant factor to us and a very relevant factor to the individual companies. We have to decide if the fact that this is an assumption is an important restriction on what's going on.

The second part is market risk. That's things like interest rate risk, inflation, and exchange rate risk. Again, these things are assumed to be risks that can be hedged away using treasuries and their derivatives and, consequently, it's not important to the analysis of the product. How you do that is what's important and you'll see that's what they basically deal with.

Nonmarket systematic risks such as legal, regulatory, and tax changes can't be hedged away, but the point that Babbel and Merrill make is that they're mostly discounted, because people can't predict them and they have no real idea about what's going on with them, so they tend to be ignored in the market.

Here's a quote from Babbel and Merrill about valuing liabilities and this shows you what some thoughtful academics have to say about the problem that we're dealing with. "In our opinion, the focus of insurance valuation models should center on the present value of liabilities, including their market risk sensitivities." And in terms of present value, they define that as, "How much money an insurer would need today to satisfy, in a probabilistic basis across various economic states of the world, the obligations imposed on it through the insurance policies as it's written." Interesting, this definition of present value is actually very consistent with the definition that we used in developing the SOA SOP of Actuarial Science. It's really the same definition. Professor Babbel points out that this is equivalent to the cost of a portfolio of treasuries and derivatives that would hedge away the market risk, so that's another way to look at this. Again, he's taking into account the idea that, basically, the risk and the uncertainty in the actuarial part of the formula has been somehow diversified away so that you effectively know the cash flows that are going to be happening. That's one of the things that probably needs to be thought about in applying these models.

Professor Babbel added a footnote. He says, "It's important to keep in mind that our estimate of the economic value of liabilities must not be misconstrued as a estimate of policy reserve. Were reserves to be set at the level of the liabilities' economic value, they would prove inadequate over the short run half of the time and inadequate over the long run with certainty." Basically, this is where we've pointed out to Professor Babbel that Ruin Theory has some strong implications and he started thinking about the implications for his model. He recognized that what he's talking about is a very strict down kind of value. Actually he has said, "It's probably less than the market value." That is, probably nobody would actually buy the liability for the economic value that he stated there. There's some ambiguity in the paper, and I need to pin him down on that a little more in the future.

He then goes on to the next part of the paper to develop taxonomy evaluation models, which they do put out in two dimensions, deterministic versus stochastic cash flows and deterministic versus stochastic interest rates. He labels each of the areas A, B, C, and D, depending on where they are. I point out dependence of cash flows on interest rates, which is also an important dimension.

The types of things that fall into each category shown in Table 4 are deterministic interest rates. Cash flows are various types of models that are used in economics

that are really pretty straightforward. Also, we have models that are based on our current reserve models that are in that category A (deterministic interest rates/deterministic cash flows) in the upper-left corner. The one that has stochastic cash flows but deterministic interest rates includes the same thing as the Black-Scholes model and other models that are related to that. So you can have fairly sophisticated models with respect to the stochastic cash flows and self-deterministic interest rates.

TABLE 4
 EXAMPLES OF MODELS IN EACH CELL OF THE MATRIX
 OF VALUATION MODEL COMPLEXITY

Interest Rates	Deterministic Cash Flows	Stochastic Cash Flows
<p>Deterministic</p>	<p>CATEGORY A Gordon Growth Model (Gordon and Shapiro, 1956)</p> <p>APV—Adjusted Present Value (Myers, 1974)</p> <p>Weighted Average Cost of Capital (Miles and Ezzell, 1980)</p>	<p>CATEGORY B Black Model (Black, 1976)</p> <p>Black-Scholes Model (Black and Scholes, 1973)</p> <p>Merton Model (Merton, 1973)</p> <p>Quantos Model (Babbel and Eisenberg, 1993)</p> <p>Binominal Option Pricing (Cox, Ross, and Rubinstein, 1979)</p> <p>Mean-Variance, CAPM (Markowitz, 1959, Sharpe, 1964)</p> <p>Arbitrage Pricing Theory (Ross, 1976)</p> <p>Stulz Model (Stulz, 1982)</p> <p>Margrabe Model (Margrabe, 1978)</p>

TABLE 4—CONTINUED
 EXAMPLES OF MODELS IN EACH CELL OF THE MATRIX
 OF VALUATION MODEL COMPLEXITY

Stochastic Interest Rates	CATEGORY C CIR Model (Cox, Ingersoll and Ross, 1985) Vasicek Model (Vasicek, 1977) Longstaff-Schwartz Model (Longstaff and Schwartz, 1992) Random Volatility Model (Fong and Vasicek, 1991)	CATEGORY D CIR Model Extension Vasicek Model Extension Longstaff-Schwartz Model Extension Random Volatility Model Extension GAT Model (Ho and Lee, 1986) Derivatives Solutions Model-BDT (Black, Derman, and Toy, 1990) Tillinghast Model (1979) SS & C Model (Beaglehole and Tenney, 1991) BMW CFS Valuation Engine (Babbel and Merrill, 1997)
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There are others. Most of them are ones we're not really familiar with. But some of the ones that we use, particularly, the ones that are marketed to us by actuarial firms tend to fall in category B (stochastic cash flows/deterministic interest rates). Babbel and Merrill come to the conclusion that category B is probably where we need to look for most of the models we're interested in.

There's a general formula for type D (stochastic cash flows/stochastic interest rates). This says that the value of V_0 is equal to a couple of expectations with respect to a risk-free measure that they defined. And R has to do with interest rates. R is an interest rate and X is a cash flow. So X is a function of a vector of interest rates. The R that's boldfaced there at the end, S_t of R , R_t and Y_t . Basically, the R is all the interest rates that occurred from the beginning, whatever that is, up to the time you're interested in time(t), and Y is all the external conditions. So he said the first thing you do is look at the expected value of the cash flows, and then you take an expectation with respect to interest rates. So it's actually a very simple present value formula with a fancy notation. The interesting thing here is that the cash flows are within the boundaries of the expectation for interest rates. So that means that cash flows are dependent on interest rates; it's important in that type of formula. I think that's the more important thing here rather than some of the fancy stuff they do with the stochastic interest models.

Another important thing that's in the paper that you may find of interest is that he went through the various choices that we'd need to go through in choosing one of the class D models and there are many, many choices that need to be made between continuous time and discrete time models and other things.

Let's go to the very last one of my comments. When you're trying to apply financial economic models to insurance there's some important things to remember. There's no secondary markets, so that invalidates some of the assumptions that financial models are based on. It's also true that some of the analysis they did won't work as well because pieces of an insurance contract can't be sold separately. You can't, for example, sell the eleventh-year premium separately from the rest of the insurance contract, so there's a problem with some of the analysis that is typically done here.

Actually, I think the typical modern actuarial model is a type C model, but the cash flows are dependent on interest rates. An important fact is they're not stochastic cash flows, but they are dependent on interest rates. If some surplus is required to avoid ruin, the market price will undoubtedly reflect the cost of holding that surplus. It would exceed this economic value that Babbel has produced.

Nevertheless, I think that any reasonable estimate of market value will have to take into account market risk in the same way these models do. I think their taxonomy is fully valid and useful. Type C models no doubt will be required in the end. We're going to have to go to the full complexity of that fancy integral eventually, and this table of choices that he gives us will tell us a lot about the work that we're going to have to do to find the right one.

Mr. Wilcox: First, with regard to taxes, we have a working group that is headed up by Ed Robbins, who is helping us with the analysis of the tax impact of what we're talking about. I know that many people who work in the tax environment get very nervous when you simply start talking about these things. A presentation was made by a tax professional to our working group where that very issue was discussed. Many tax practitioners would prefer that we never release a report at all about changing the valuation system. Even talking about it raises the question of how insurance companies are taxed, and raising that question puts in jeopardy the current methods and approaches toward taxing insurance companies. Whenever you raise the issue with the Internal Revenue Service (IRS), you don't win; they always win. The concern is that even by suggesting that we might talk about it we lose. Yet we don't think that's an approach that completely makes sense. If there's a reason why we need to make some changes in a system that has been around for 150 years, the tax collectors shouldn't totally drive that issue.

The working group divided up the assignment in variety of ways. The group wanted to represent the tax impact on a wide range of companies, so they've

developed some methods, approaches, and templates that can rather quickly analyze the results of whatever kinds of approaches we develop. We are prepared to do that as we move forward. They're also now working on a proactive approach, so that when we're finally at a point where we have something to talk to the taxing authorities about, we will have a proactive representation of our work that we can take to the taxing authorities and try to convince them that it is time to make a change and that, overall, we can make this change in a net revenue approach. So that will be a significant issue as we go forward.

Let's talk about where we are now and where we are going forward. The Task Force will present an interim report to the NAIC at the December 1997 meeting in Seattle. It will include the concepts that we have developed and the framework as to where we think that valuation process should go. We are in the process of trying to put together that report and we'll be doing so over the next 30 days.

On the presumption that the NAIC likes what we have done and says that we should continue on, then we'll have to look at the next steps. Certainly, the next steps involve an evaluation of all of these tools that we have talked about. The evaluation of tools is not an easy process. The exposure that we've had thus far tells us that, in many ways, we fall short in being able to analyze the tools and evaluate them. So that is going to be a challenge to us, but the Society has indicated a willingness to assist in that process and there are some who are well down the road in being able to do that.

We're also aware that along with those tasks that are obvious, like developing a new model law and subjecting that to all of the criticism and analysis, that it's possible to make sure that it will hold up. But there's a lot that we need to do as a profession. When you looked at that list of valuation tools, I suspect that there was no one who had more than a nodding acquaintance with everything that was on the list. Most of us probably didn't even have a nodding acquaintance with several of them. There are some areas where we're going to have to prepare ourselves as a profession to be able to do some things that we haven't done before. DFCA, as an example, is one of those things that, undoubtedly, will play a significant role in a new valuation system.

There is a seminar on DFCA that is scheduled for November 1997 in Albuquerque sponsored by the SOA. According to Jim Reiskytl, we lack sufficient enrollees to hold the seminar. We need another 10 or 15 people to sign up for the seminar to even be able to hold it. So I guess that tells me that there's a whole wide range of things that we're going to have to do prepare ourselves as a profession to do the work that this might call on us to do. That's going to take some time and so we don't expect this to move forward rapidly, but we hope that we can make significant

and deliberate progress over the next year and beyond to introduce this concept of a unified valuation system. It will take us into the next millennia and be a reasonable next step for the system that we have worked with, as I say, for the last century and a half.

Ms. Sheryl L. Kalman: I wanted to commend the committee on what they've done so far. It seems like you're responding directly to the NAIC, yet you have a charge from the Academy to try to change the valuation system for several different organizations, including the FASB. Have we begun to interface with those other organizations, and do we have any plans to try to do so, so it doesn't catch them by surprise?

Mr. Dicke: Yes. To give a little background on that, the Task Force was organized specifically to reply to the NAIC requests. We recognize that there are many other audiences who are concerned about and interested in this, including those currently interested in the valuation of insurance companies on an international basis. The FASB asked the Academy to present tutorials on market value of insurance companies. The first of those tutorials that dealt with property and casualty insurers took place last week. The session that will involve life insurance carriers is scheduled for November 24, 1997, so we have an opportunity to go before the board and talk about some of these issues. And they have also now asked for us some time after December to come and make a presentation to them on the work of this task force. So we're trying to stay cognizant of all of various audiences that will use the information, even though the catalyst that began the task force was the request from the NAIC.

Ms. Shao: Maybe Bill can talk a little from the health perspective.

Mr. Weller: There are a number of things that are going on in the health area. They are what I call work-in-progress items that clearly affect reserves. Also, we've been talking about in terms of the border between what are reserves and what is solvency. Let me give you a couple of them and there are some questions we can discuss. One is what was noted about the Codification Project. They did not try to address many of the issues relating to health-only organizations and, particularly, health care delivery assets within the work to date, but they recognize they have to complete this by either late 1997 or early 1998. They will be adopting a managed care organization RBC formula and an expansion of the formulas for life and property and casualty companies. They're looking at potential changes to the C-2 factors in life.

There's a task force that's looking at liquidity and it is aiming to have something on liquidity tests within the structure of RBC capital for health in 1999. There are also

liquidity testing task forces for life and for property and casualty. There is an extensive review of the fairly limited amount of factors with regard to business risks within the RBC formula and a group is looking at that and especially things like the litigation risk, which is recognized to have a significant potential now in the life area. With changes like the recent law in Texas, where you can now sue the health maintenance organization (HMOs), there is significant litigation risk.

Last, there's a recognition that the experience adjustments allowed in the RBC formula were trying to recognize that there's a transfer of risk through dividend scales, through experience rating, through managed care credits. We need to do a better job of that. If we continue to wait ten years for a unified valuation system, I believe that the NAIC is going to continue to say, "If you don't address it as actuaries, we're going to address it within the RBC." So I think that you ought to recognize that the RBC is setting some formulas that say, in excess of reserves here's a minimum level of capital and surplus, the solvency aspect of this border. And they are applying the factors. Now they're using a lot of input from the Academy, but they're still defining the factors and they're defining various steps and adding on steps. As we noted in the advantages and disadvantages, one of the things that we see is that all of these are add-ons. It's not simply saying, let's replace this one with this other one.

While we can joke about the fact that this is a huge project and tends to take a long time, as actuaries we really need to get involved in getting things done well, and getting a framework within which we can try to get the NAIC to fit these things together. What they have are clear issues, and all of these issues are clearly important risks that they need to look at when they're looking at various companies. What's the structure under which they're going to look at them?

I would also just note that if you're in the health marketplace, you should know we have a new regulator. There are now 55 jurisdictions because the Health Care Financing Administration (HCFA) is now regulating some health insurance and is likely to have a greater and greater role as the federal government sees itself more and more as the one who defines the standards under which health insurance is provided.

Ms. Regina V. Rohner: As you look at the different methodologies and the advantages and disadvantages for a unified system, do you think there'll be enough flexibility to recognize that there are some products that don't have the market risk or the interest rate risk? Some have only guaranteed elements, so maybe they need just the type A and not the type D.

Mr. Dicke: Right, I think that's a very important point. It's also not only a question of what type of method you use but, also, how the system arranges to release profit. I think it's a very important thing from that perspective. If you look at only the kind of models that are used for financial instruments, they tend to release profits as a spread and that tends to operate in a manner that essentially says your profits are proportional to the reserves or assets of the policy. That can be a very strange pattern.

If you try to look at a fully guaranteed whole life policy, you get a very weird pattern. This is because the amount of reserves do not follow the general pattern that we're expecting to see reserves released by because we're expecting a certain amount of the profit to come from the release of risk. We're used to that and that's something I think that we have to be sure gets built into the final system. I think some of the points that were made about the economic valuation model are based on the point of view, that the risk can be shared. I think there's some very technical ways that could be built into the same model.

As you said, in many cases, we may not need the full apparatus that Babbel was talking about. Basically, what he's saying is everything else is a special case of this class D model. Something that was stochastic has become deterministic, and that's a special case of stochastic. So there are going to be situations for which we won't need as much complexity. I really think as far as stochastic cash flows are concerned, in my experience, we haven't run across too many situations where that was the critical thing to do. It's more likely that what we need is, in some cases, the cash flows are sensitive to interest rates. If they are going to be stochastic, then you have to have that sensitivity in there. In other cases, like you said, they're not sensitive to interest rates at all, and you may not need that in there at all. Then there's the question of what do you do if there's no minimal reserves? Obviously the question of interest rates is moot altogether. I think that will come out in this.

Let me just ask a question of the audience. I'm interested because this is an Academy Task Force. Most of you are members of the Academy. The question is, how are we doing? This is something I always like to ask, because you're the constituency. Part of the reason that we're doing this is to try to serve you by accepting requests from the NAIC to help them out and try to do it in a responsible, professional way. One of the things we do try to point out when the regulators talk to us is that we do have a constituency. If possible, we like to do it in a way that doesn't cause undo problems for all of you. If only there's a way that we can satisfy the NAIC. For example, we've often tried to talk to practitioners about practical issues, like the dates that things are due and the order things are done in. That is so you don't get some ridiculous requirement where you have to produce the result before you have the assumptions, or something like that, which can easily happen

when you're thinking about it as a high theoretical point. So I just wonder whether is there any reaction as to where this is going, or is it too early to have any opinions about it?

Mr. William C. Koenig: At the risk of stating the obvious, if you're going to throw out a system that has served us relatively well for 150 years for something that is let's say, not entirely clear at this point, is likely to cause a practical problem or two. I have a question that has to do with the request from the NAIC. As I recall, part of the reason for the initial request was the action on the nonforfeiture front and the fact that if there were to be a major redo of the nonforfeiture law, there would have to be some adjustment or some review of the valuation law as well. And at one session, Tom Foley suggested that the nonforfeiture law work was perhaps slowing, and I wondered if, in fact, there's not to be a major redo of the nonforfeiture, whether that would reduce or eliminate some of the enthusiasm for this project.

Mr. Wilcox: Let me respond to that. It's an excellent question given the overall context, because the initial request from the NAIC did, in fact, refer to the nonforfeiture project as it related to this. In retrospect, and by examining that, I realized it has more to do with the timing than the circumstances. The NAIC had worked through identification of some theoretical approaches on nonforfeiture, and 1997 was going to be devoted to the process of putting that into a model law form and determining where it was going to go. It was appropriate to then launch the Academy into looking at the other major issue of the LHATF, to do with valuation. As we have gone through this process and looked at the reasons for doing this, the amendments to the Standard Nonforfeiture Law would be a minor reason for a change in the Valuation Law at best. There are many other reasons that are much more important, and much more significant as to why a change like this ought to be made. As you talked about, we were changing a system that has served us well for a long, long, time, and that's a valid concern. What kinds of problems is that going to entail.

At the same time, if you were living in a home that had been built 150 years ago, there are a lot of the things that you're capable of doing today that that home would not have originally provided for. It may have had indoor plumbing, but I can promise you it didn't have a provision for wiring for electricity and communications. A home that we might live in today is capable of doing many more things, mechanically, electronically, and intelligently than a home that was built a 150 year ago. At what point do you continue to try to add wiring and hide it under the carpet versus finally deciding that it's time to rebuild a home that is designed to take advantage of what we can today, not what we could do 150 years ago. I think that's where we are. We've gone through the patch and plaster a long time and now the products that the industry is offering very often do not fit within

the valuation framework that is defined by law. We all agree to come up with something that pragmatically works, but in many cases it only sort of works. So it is time for us to reexamine and come up with something that is based on an era of where actuaries can do a lot more than add up columns of large numbers backwards.

Mr. Dicke: I think other motivations for this project also included the new products, such as equity-indexed products that are out there where reserving for them has become difficult. This applies the work that was being done before on annuity reserving where a lot of things, like minimum guaranteed death benefits and the regulations 33 and 34, are starting to get kind of complicated. I think there are three possible end positions this could get to. We could find a way to take the statutory system and find a way to get around some of these problems, and make it a sleeker system that can deal with various coverages on a more uniform and consistent way. Maybe that's possible.

Another possibility, as Shirley pointed out, is several countries have gross premium valuation approaches and that type of thing has been successfully used. Many people look longingly at Canada because of the apparent rationality of everything up there except for hockey. The final one is the market-value-type approach that academics are very fond of. I want to point out the fact that I had concentrated on that only because it was the thing we've been getting reports on, not that we've made any decisions that that's the way to go. That's just an example and probably the outlying example of how complex this system could get to be if you wanted it to be. No decisions have been made, and it will probably depend on how the NAIC reacts to reports and which kind of approaches they think are most fruitful to look at.

Mr. Wilcox: There's also an article in *Contingencies*. There will be another article coming up in *Contingencies*, so we're trying to get the word out, and I think we'll put some things on the Web site as well that will help now that the Academy's Web site is up and running.

Mr. Charles D. Friedstat: You asked for feedback, and my observation is that I really like the direction in which you're going. I think that the concepts and the approach you've taken are all appropriate. My point is just to emphasize again the difficulty of the project. You're trying to come up with one system that will serve at least three audiences. I think that each of them focus on something different. I think the environment in the U.S. is completely different than the environment in other countries.

I've worked on certain committees and valuation task forces from a statutory point of view, the focus is solvency. There was almost a heresy that you had to look at patterns of earnings and how earnings were released when the primary focus was statutory and solvency. With GAAP you have standards. To recommend something that would be different or place the insurance industry (in terms of different treatment or in a different category) to either account for a financial instrument or something like that is not going to go over too well. Their focus is on valuing the entity and patterns of earnings. Of course, the primary focus of the IRS is on getting revenue, which may bear no relationship to anything else that we've discussed.

Mr. Wilcox: I think we want to be clear. We're not talking about necessarily one set of numbers, but an approach where the relationships between the various uses of the numbers are clear. So if you develop a different number of financial reports and GAAP-type reports than you do for statutory, that's fine, as long as we understand the relationship.

Mr. Morris W. Chambers: I think this is a marvelous project long overdue. I'm a Canadian who has been through some of this stuff in the past. What we have accomplished in Canada (some wouldn't call it an accomplishment) is an environment that I believe is much less adversarial than the U.S. environment. I would caution you in that regard. One thing is it's essential to communicate and cooperate with our accounting colleagues, and that may be something new. It's essential that they be supportive. The biggest difficulty down the road is going to be our own members. Much more responsibility is going to be placed on the individual subjective determinations of the actuary and there is a very heavy responsibility. We have to make sure that our members are ready to take it on.

Mr. Wilcox: That's an excellent comment.

Ms. Shao: Yes, Morris. I do believe modernizing our valuation system is very important. If you look at what's happening in the capital markets and on the asset side, there's a lot of progress being made. I think it's going to happen. The real question is whether it's going to be done by actuaries or other professions. So I think that concludes my remarks. Bob is inviting all of the members to participate in the meetings we have, which are held once a month. We spend a full day discussing all the relevant issues because it will have a drastic impact on everything that we do as an industry and on the training that we will have to have over the next three to five years to be ready.

Mr. Wilcox: Yes, we are actively trying to do that. We had a report at the 1997 Valuation Actuary Symposium. I've spoken to the New York Actuarial Club, and I have a scheduled speech at the Chicago Actuarial Club in November.