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Different Views on Funding Adequacy

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Moderator: MARILYN MILLER OLIVER
Panelists: CHRISTOPHER M. BONE
RICHARD DASKAIS
MALCOLM P. HAMILTON
STEPHEN H. LEE
WILLIAM J. SOHN
Recorder: MARILYN MILLER OLIVER

Summary: What is funding adequacy and how can it best be achieved? Without considering the current regulatory constraints, what would an appropriate funding target be? Though funding adequacy is central to our work, pension actuaries hold widely disparate views on this subject. In order to encourage a free exchange of ideas in this important area, the Society of Actuaries (SOA) Committee on Retirement Systems Practice Education solicited papers from proponents of different viewpoints. These authors discussed their opinions. Those attending were encouraged to share their own views on the topics.

Ms. Marilyn Miller Oliver: I'm the moderator of the session and also the chairperson of the SO Committee on Retirement Systems Practice Education which sponsored this project. Sometime back one of our committee members, Bill Sohn, suggested that we compile a series of papers regarding funding adequacy. We've done that and the results have been published in the *Pension Forum.*

We're fortunate to have the authors or their representatives with us as a panel to discuss their papers. The authors or the panelists are: Chris Bone, from Actuarial Sciences Associates; Dick Daskais, a consultant from Ventura, California; Stephen Lee, from Mercer in Toronto, who's representing Mike Sze of Hewitt Associates; Malcolm Hamilton from Mercer in Toronto; and Bill Sohn, of Buck Consultants.

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We'll start with a brief summary of each author's paper. We'll follow that with a series of questions that have been designed to bring out the thoughts of each author relative to the others. With that I'll start the session by asking Bill Sohn to summarize his paper.

Mr. William J. Sohn: Why would a plan sponsor take money out of its operation and put it aside permanently in trust for the benefit of some of its employees? Clearly, the answer is to provide some security for the pension promises made to some employees. When would that security be needed? Again, very clearly not when the plan sponsor has a viable prosperous business, for then it could make its benefit payments out of ongoing revenues. The answer is that security is needed when the plan sponsor is no longer able to meet its obligations, or when it becomes unwilling or unable to continue its pension plan—in other words, when the plan has to be wound up or terminated. It's at that point that the security should be sufficient to meet the obligations the plan sponsor has obligated itself to make at the time of termination. I think that's fairly obvious.

Is it necessary or desirable for a plan sponsor to put aside more money than the plan termination liability? I can find no valid reason for a plan sponsor to do so. I would argue for a funding pattern that would aim at keeping assets on hand that are sufficient enough to deal with the termination liability. This has implications for how much money you put aside on a regular basis year after year. I would suggest that no matter what method you find to put aside money systematically, you have to deal with the fact that assets and liabilities are going to fluctuate in value. The demographics may not turn out as you project, actuaries may make mistakes and you're going to need to look at the situation going forward stochastically, in order to ask yourself whether or not you're putting aside enough money to provide for your wind-up liability within an acceptable range of certainty.

In the context of the kind of funding I'm describing, the methods that we all think of as funding methods—entry-age normal, aggregate, projected unit credit, and so on—aren't intrinsically very interesting. They're a means to an end. They're the means to derive a pattern of contribution that has to be tested stochastically to see whether or not they're likely to lead to the desired result, which is to have sufficient assets to deal with the wind-up liability in an agreed-upon percentage of the time.

Mr. Richard Daskais: I am somewhat different from the other speakers in that the views I express are those of my employer, at least my employer's view this morning. For American employees the most important retirement system is generally Social Security, not supplemental private pensions. I think actuaries sometimes tend to lose sight of that because we work primarily on private pensions. I believe that without the expensive guarantees required on the part of employers by the

Employee Retirement Income Security Act of 1974 (ERISA), particularly Title IV, employers might, in fact, provide much greater benefits under defined-benefit plans than they provide now. Of course, as an actuary, I believe very strongly that defined-benefit plans better meet retirement needs than defined-contribution plans. I believe that employees, in aggregate, will be better off if there are more defined-benefit plans, recognizing that some may fail and that, when they fail, some employees may not get what they expect. I contrast that with the present system where, by and large, employee's pensions are guaranteed by employer funding and by Pension Benefit Guarantee Corporation (PBGC).

Mr. Malcolm P. Hamilton: I'm here to bring a Canadian perspective to this issue, and I should start by saying that Canadian actuaries no longer certify that their methods and assumptions are adequate. We used to certify that methods and assumptions were both adequate and appropriate. In the most recent revisions to our standards, we dropped adequacy and left appropriateness because we felt that appropriateness included adequacy. Inadequate assumptions are seldom appropriate.

I've been a consulting actuary for 16 years, and during that time, I've tried to set funding targets for pension plans based largely on what the plan sponsor was trying to accomplish. I can look at my clientele through the years and divide it into two groups. The larger group wants to secure benefits. These clients want to be sure that the money set aside is determined in an appropriate way and that it's prudent and responsible. However, they don't want to do any more than secure benefits. They want to discharge their fiduciary obligations without setting aside any more money than they have to.

The second group is looking to do something quite different. They believe that by contributing to the pension fund they can earn an after-tax rate of return that's attractive to the organization. They view funding as a way to reduce the long-term cost of the pension plan on terms that are favorable from the shareholders' perspective. They're interested in funding well beyond the levels of adequacy. They want to go farther and drive down the long-term cost of their plans. When I'm doing a valuation for such a plan sponsor, I will identify a range of acceptable funding levels. The range goes beloved the amount that I think is needed to secure benefits. The upper bound is much harder to define.

When does the contribution get so large that it becomes ridiculous, almost embarrassingly so? This arises in Canada where you have special plans covering one or two executives who own the surplus upon plan wind-up. In that circumstance everyone wants to sock as much money away as possible, and you

have to deal with some quite difficult questions. How much can be put in before the fund is clearly excessive?

The last point I wanted to make is how to set the funding target in the normal situation, where the plan sponsors says, "Security is the objective. Just set aside as much as you need, and no more." It's my view, and I think it is similar to the views expressed by Bill, that the wind-up liability is the appropriate lower end of the funding scale—not the pure wind-up liability, but the wind-up liability plus a contingency margin. The contingency margin should depend on four things.

First, how does the investment policy fit the liabilities? For example, a plan that immunized its wind-up liabilities would need a much lower contingency margin than a plan holding equities opposite a very interest-sensitive wind-up liability. The second would be the length of time the plan sponsor has to amortize deficiencies. If the plan sponsor amortizes deficiencies quickly, you can get away with low margins. If the plan sponsor wants to amortize them slowly, you need larger margins. The third thing is the frequency of valuations. If valuations are annual, you can have smaller margins than if they're triennial. The last thing that I look at is the asset valuation method. The plan sponsor that's prepared to value assets at market can get away with a smaller margin than the one who is going to use some smoothed variation of market, because the contributions will react more quickly to the changing circumstances of the plan.

Mr. Stephen H. Lee: To summarize Mike Sze's paper on funding adequacies, I would start by saying that funding adequacy is a dynamic process, and when determining funding adequacy you need to consider both the assets and liabilities, as well as company objectives and employee objectives. You cannot work with funding adequacy and not consider all these variables.

The probability of any extraordinary event should be considered when determining funding adequacy. An example would be plan wind-up. Differing with both Malcolm and Bill, I think the plan wind-up should be considered to the extent that there is a probability of plan wind-up. And I don't mean that if there's a 25% chance of plan wind-up in the next five years, you should fund 25% of the wind-up liabilities in excess of the termination liabilities. But you consider the probability of plan wind-up and then fund accordingly.

A funding policy needs to establish an ultimate funding goal, as well as an interim funding policy. An ultimate funding goal would be reached at the point the plan is a mature plan. The ultimate funding goal may be enough to make sure that all plan wind-up liabilities are covered, and it may be more than that. Especially if you were, for example, looking at a final-average-pay plan. Plan wind-up liabilities may

not be appropriate depending on the goals of the plan sponsor. You also need an interim measuring plan. As Dick said earlier, over the course of the life of the plan, assumptions will change, experience will change, and you need to constantly make revisions to your interim funding plan to achieve your ultimate funding objective. This should be done at regular intervals.

Mr. Christopher M. Bone: My paper is addressed toward the specific point of view of a corporate plan sponsor and talks about how that plan sponsor might set up a framework to address the security of pension promises. The framework presented is embedded in the current U.S. regulatory environment, which forms a set of opportunities and constraints. However, there are also some general ideas within the paper that you can then apply with other environmental constraints and opportunities.

The three main points I want to get across are: first, in making a long-term commitment from management to the employees, we need to have a mirror commitment by the program to provide reasonable assurance that those commitments will be met. In other words, a commitment extended towards employees towards retirement income must be met with some action taken to ensure that those income promises will be met.

The second point is stochastic modeling can be used to set such a framework, to derive goals for funding policy in terms that the management of the enterprise understands, and that can then be applied by the actuary and by management in determining how to make choices. Often when funding policies are set, you may hear people stating an appropriate target such as 115% of the accumulated benefit obligation. I would argue that is a misuse of the types of tools we currently have available. We now have tools available, such as stochastic models of assets and liabilities, that enable us to phrase the issue for senior management in terms of "reasonable assurance." For instance, one might ask for reasonable assurance that should the plan terminate during the next five or ten years, the company will be able to pay all benefits to meet all its commitments to employees. Management then has to determine what a level of reasonable assurance is; that level of reasonable assurance could be affected by the operations of the country in which the plan operates and the level of guarantees in either the governmental or private sector that are afforded should the company not be able to meet those goals.

The third main point is once one has set a goal of reasonable assurance, one may translate this stochastically into probabilities, e.g., 95% probability that we'll meet those goals, or 90% probability. (Most of us, by the way, do not think reasonable assurance is 50%.) Reasonable assurance implies something more than a coin flip. But given a target expressed in terms of stochastic assurance, one can then take this

policy, which is understood by senior management, and use it to make choices. These choices can be the investments of the trust fund, funding policies, (such as entry-age normal or unit credit), the relative degree of conservatism of assumptions, etc. One can take these alternatives, examine the contributions that are generated from that policy, and test them stochastically against the promise or assurance that senior management is communicating to the employees.

With that I'd like to turn it back over to Marilyn to start the debate.

Ms. Oliver: In discussing funding adequacy, one generally thinks about several areas. We picked four in particular to discuss: benefit security, definition of an appropriate funding target, how to provide for poor experience in the future, and how to take into account the plan sponsor's particular objectives. I'll start the discussion by asking the panelists a few questions. Then we will open up the discussion for audience participation and questions to the panelists. The first area is benefit security, and the question that I would ask the panel is, should disclosure to participants or collective bargaining agreements relieve plan sponsors from the responsibility of guaranteeing benefits?

Mr. Daskais: I've been elected to speak first on this. My answer to the question is yes. There should not be a guarantee by the employer beyond the level of the fund—essentially going back to the pre-ERISA situation in the U.S. There are really three sources of benefit security for the plan participants. First, of course, is the fund, which is dedicated to the benefits of the pension plan. Second is a supplemental employer guarantee such as we have had under Title IV since 1974. And third is the guarantee of some, but not all benefits, by the PBGC in the U.S.

Of course, when I say the disclosure would be an adequate substitute for guarantees beyond the fund, I am coupling that (as I hope is clear in my paper) with the expectation that there would be strong requirements for funding, somewhat stronger than we have now, where the funding can be largely managed by the sponsoring employer.

Mr. Sohn: I want to draw a line, though it may only be a line in the sand, between the pension promises made to a group of senior executives and the promises made to rank-and-file workers. There are plenty of supplemental executive retirement plans (SERPs) in this country that are unfunded promises from a corporation to a participant. I hope and expect that the parties to the SERPs understand what they're doing.

I think the situation is fundamentally different when you get to industrial pensions for rank-and-file workers; there the promise either is going to be secured or it's not

really much of a promise. Either we have a system that produces large-scale financial catastrophes, or we have a system where pension promises are kept. For social and political reasons I don't see how it's possible to make promises that people are going to rely on. We're talking about millions of people and not providing a system that will secure those benefits.

Furthermore, we must all recognize that the PBGC can only guarantee benefits that someone is going to fund. If you're not going to fund benefits, I don't see how the PBGC can legitimately guarantee them. That's why I'm suggesting that there has to be an extremely strong relationship between the promise and the funding. Then the PBGC can help take care of the situation where there's a discrepancy when the plan is wound up.

Mr. Bone: I'd like to ask Dick a question about what the degree of disclosure should be. We have laws in this country against deceptive advertising. To say to participants, "Here is my plan for providing you with a pension," and to have people retire and the fund run out of money to pay them at age 80 seems analogous to the sorts of practices that we're trying to avoid by saying we don't allow deceptive advertising. How do you get enough disclosure so that participants are safe? And does it vary by the type of benefit?

Mr. Daskais: My views are based upon weighing the benefits of eliminating employer liability so that there will be more defined-benefit pensions against the disappointments that will occur if there are no employer guarantees. Personally, I would rather see few or no guarantees and more defined-benefit pension plans. Of course, we have significant decline in defined-benefit pension plans. I attended another session at this meeting, where one actuary announced that it was the policy of one of his clients, whenever they make an acquisition, to just get rid of the defined-benefit pension plan and substitute a defined-contribution pension plan. I understand and would probably endorse that policy on the part of a client of mine, except that it might produce less actuarial work. I think that's what is happening except in the case of the very large employers who may deal with very strong unions, such as the automobile workers, the steel workers, and the communications workers, who have strong interests in defined-benefit pension plans.

As to your specific questions on disclosure, the standard plan booklet prior to ERISA stated that the employer does not guarantee the pensions. The employees have to look to the fund. My experience in a number of plan terminations that occurred pre-ERISA was that the employees were not happy, but there were no lawsuits. We did not have as litigious a society back in the pre-1974 days as we have now, but we were impressed by the fact that there were no lawsuits, and that the unions that were involved in several of the plan terminations with which I was concerned fully

understood why what happened did happen. I think that the pre-ERISA plan termination allocations were somewhat unfortunate in that they followed, to a certain extent, Section 4044. They gave a very high preference to retirees, with the result that there was relatively little left for the vested and older individuals. In many pension plans such as Studebaker, which had a very mature age distribution, one would have expected that a cutback in the retirees would have made a big difference in the amounts of benefits that were provided to the vested employees. As I recall, Studebaker had a standard United Auto Workers contract and increased benefits significantly in the year or two prior to the shutdown. Those benefits were fully provided for under the terms of the plan termination allocation, which, of course, would not be the situation under Section 4044.

Ms. Oliver: Malcolm, would you like to give the Canadian perspective of guarantees by government agencies?

Mr. Hamilton: I'll give a Canadian perspective, but not *the* Canadian perspective. I like this question because the answer is easy. Should pension benefits be guaranteed by a government agency? The answer is no, and I'm tempted to leave it at that, but I'll give you a little bit of the reasoning. The great irony in Canada is that all of the pension promises made by government seem to be in danger of being reneged on. Canada hasn't come up with any way to make any of those programs affordable given an aging population. So the government is the last entity one should ask to be the guarantor of pension benefits. I don't think the public has any confidence in government, and I don't either. I don't think Canadian governments are up to it. They're not competent to do it.

The other thing I don't like about government guarantees is that they encourage everyone in the pension system to behave recklessly—the result is reckless funding, reckless investing, reckless negotiations, and extravagant promises. In Canada, we have one jurisdiction that guarantees pensions. I see no evidence that this jurisdiction has derived any benefit from it.

Mr. Daskais: I think what Malcolm has described as reckless behavior is probably economically rational behavior on the part of the companies that are doing these things that we would characterize as reckless from the standpoint of employee security.

Mr. Bone: So far we said that perhaps the government shouldn't be in the process of issuing these guarantees. That doesn't mean the government cannot set up a system that requires the purchase of reinsurance by pension plans. Any speculation there?

Mr. Hamilton: Well, I don't know how it would be priced. I don't view the notion that participants in pension plans should be completely divorced from the funding and investment of the fund as a positive.

From the Floor: I like the idea that the participants have their pension at risk if the plan is inadequately funded, or if it's foolishly invested. If anything, our system suffers from there being too indirect a link between the beneficiaries and the fund.

Ms. Oliver: Does anyone in the audience have any questions in this area? Or any thoughts they'd like to share?

Ms. Heidi R. Dexter: I have a question on Dick Daskais's paper. Where the participants would be relying on the fund to provide their benefits should they also have a say in how those funds are invested through joint trusteeship or some similar requirement?

Mr. Daskais: From my employer-oriented background I would say no. I think that it would be very difficult to reach a consensus of the participants, and if you start having each individual participant, which I don't think you intended, decide how his or her funds were invested, I think you'd have a hopeless administrative matter. I would suggest, however, and I think it came out in one of the panelist's discussions earlier, that safety margins might depend upon the asset allocation of the pension fund. In other words, the low margin would flow from an immunized bond portfolio, and the highest safety margin would be a plan that was heavily invested in equities.

Mr. Sohn: I would like to add that in a system where there is no governmental guarantee, the interest of the participant becomes much more closely tied to the successful investment of the funds. In collective bargaining I think that the impulse to ask for union trustees would become much greater.

Mr. Daskais: Bill, if you were advising a union trustee in a plan that was say, 60%–70% funded on a termination basis, would your advice be to invest conservatively so as to maintain the 60%–70%, or to invest aggressively so as to possibly get much closer to 100%?

Mr. Sohn: You're asking an extremely good question. In the situation you describe, different classes of participants have different investment objectives and there may be great controversy arising from there. But just because it will be hard to reach a consensus does not mean that some interested parties should be ignored.

Mr. Bone: I think I'd start by recommending they bargain a higher level of contributions.

Mr. Hamilton: I'd also recommend conservative investment in that circumstance. The ability to take investment risk starts when you have secured your wind-up obligations. If you've got something that's well capitalized, you can afford to take risks. If you have something that isn't well capitalized, it really isn't the plan sponsor's money. It's the beneficiaries' money, and there's little doubt in my mind, if you went to the beneficiaries and said, "Your pension is at risk; should we put it in the stock market and try for a home run?" that they would oppose such a move.

Mr. Arnold A. Dicke: In the old days before ERISA, and for a while after that, there was much more use of the guarantees provided by insurance companies. I wonder if that might play a role in the future. I think that with modern financial instruments, insurance companies could do better than they were able to do in the past. In fact, if you think about it, if you want guarantees and you put them in the private sector through insurance companies, in a sense you're turning them into financial instruments that can be dealt with in the financial marketplace. Many clever things have been happening lately there. Do you have any comments on that kind of approach?

Mr. Hamilton: Well, in Canada, we only have one jurisdiction that requires government guarantees. The use of insurance products in the other jurisdictions is no different than the one that has the government guarantees. I think the problem with the guarantee is that it's not economic to give up the additional return that's available to those who will take risks. People won't give that up in exchange for a guarantee. If it's properly priced, they just won't do it.

Mr. Daskais: I agree with Malcolm's statement, and I want to refer back to Chris's earlier statement about bargaining more contributions. I think if we look at a group of employees represented by a very sophisticated union, with economic experts and with economists and actuaries on its staff, I think history will show that the employees through their advisors and representatives have chosen to opt for higher benefits that are less secure rather than to have iron-clad or more secure benefits, but a lower level of benefits. As those of you who have been involved in collective bargaining must know, usually the employer in the union bargains over the total cost of a package including wage increases and benefit elements. And if we make the benefit element too expensive using more conservative assumptions, the employees won't get much in the way of benefit improvements. They might even in some cases theoretically have to take a benefit decrease.

From the Floor: May I ask if any of those opinions would change if you were dealing with smaller plans rather than these large plans?

Mr. Bone: I'm a believer in a system of reinsurance, either through a government guarantee or through private-sector markets. And the point I wanted to make about the very large plan is that for the size of those plans versus the size of the insurers, there's some reluctance to reinsure with a single reinsurer on that instance. So for those type plans, the government guarantee maybe more useable. The reason I'm in favor of these government guarantees is because when you actually look at the price of providing assurances, on a stochastic basis, if you have no system of reinsurance, the price becomes prohibitive.

I would like to respond to Dick's and Malcolm's comments. I suspect that if you ask the beneficiaries, they would argue as Dick has suggested, for a rather aggressive investment strategy. But beyond a certain point, you do see participants willing to trade off the wage for the benefit security at least.

Mr. Hamilton: But it has to be a real benefit promise. I don't think anyone is going to accept a fixed-dollar promise 30 years down the road, in exchange for an investment strategy that has more risk and higher return. The fixed-dollar payment 30 years out is itself a significant risk. In Canada, the government finally did get around to doing what your government says it's going to do, which is issue bonds indexed to the cost of living. I think they were surprised at just how little interest the public had in these bonds. They now trade above a 5% real return. So the Canadian government guarantees a 5% real return for 27 years to anybody who wants to buy that bond, yet there's very little interest.

Mr. J. Christopher McCaul: In Dick Daskais's characterization of his article, he commented that his funded-guarantee approach was based on a more stringent set of funding rules, or more aggressive funding. I'd like to get a little more information on what he would consider a revised set of funding rules.

Mr. Daskais: One of the suggestions that I had is to fund toward amortization at a moving target of the full unit credit liability, say 10 or 15 years hence. That was the primary goal.

From the Floor: I come from England. In our way of thinking in England, there are two ways to consider funding. Talking very broadly, either you're funding on a termination basis, or you're funding on an ongoing basis. Or as you probably know, we have had this act last year which imposes upon us the need to fund on a termination basis, so that the fund can guarantee at any point of time that the assets meet the liabilities, or be able to meet the liabilities within a short number of years.

Clearly this affects your investment strategy, because you can't have volatility of assets. However, if you're funding on an ongoing basis the procedure is to try to minimize the contribution payable by the employer. And, therefore, you invest quite differently from the termination basis. You're not trying to match assets/liabilities at any point in time. You're just trying to minimize contribution over the long term. Basically, of course, we do asset/liability monitoring and stochastic modeling as you do in the U.S.

If you're funding to be sure of being 100% funded on termination, surely your assets and liabilities shouldn't be mismatched and your liabilities and assets should be matched appropriately. Now if your funding on an ongoing basis, your match of assets and liabilities is different.

If you say that the assets and liabilities are mismatched, are you talking about mismatching according to the duration, or are you talking about mismatching according to nature? If you're talking about matching according to nature, surely that imposes on you the desirability to invest in equities because your liabilities are subject to inflation, and equities match that liability. So I would just like to ask, are assets and liabilities likely to be mismatched, why are they likely to be mismatched, and in what nature are they likely to be mismatched?

One point was made about affecting the tax rate of return. Of course in Britain companies are taxed on a different basis than pension schemes. If you're an accountant, you can affect the tax position of a company by altering your contributions to a pension scheme. So in Britain, you have the restriction that you're not allowed to overfund the pension scheme. You also have a minimum funding adequacy consideration. We have the consideration that we must not overfund, and then we have the practical consideration that we wish to minimize the contribution rate. It seems to me that when we say that pension plans should be funded to the level of the benefits promised, that's only one aspect of the overall issue.

Ms. Oliver: I think we may discuss many of these areas as we progress. The next area that we're going to discuss is funding targets. What do the panelists think the funding target should be?

Mr. Hamilton: You have to be aware of the legalities to start. In most situations, there are certain legislative constraints. There may be other constraints in a collective bargaining agreement, in an agreement between the employer and individual employees, or by what's been communicated by the employer to individual employees.

In Canada, an actuary can pick a funding target that is outside accepted actuarial practice if the law permits or requires such a choice. In such circumstances the actuary should never say that the pension plan is funded in accordance with accepted actuarial practice. As a profession, we have standards governing what constitutes appropriate funding. Anybody who wants to go to employees or go to management or go to the government and say that the plan is funded in accordance with actuarial practice should have to live up to those standards.

In Canada we've been trying to define the standard. What is the minimum acceptable contribution or minimum acceptable funding level that any actuary should accept? We are not yet at a consensus. My own view, as expressed earlier, is that the focus should be the wind-up liability plus a margin. If the plan sponsor wants to run the fund close to wind-up liability, the investments should match or immunize the wind-up liability. At that point you're saying you don't want any company capital tied up in the plan. You just want to set aside enough to discharge today's obligations, so you should lose the ability to take chances on investment policy. Conversely, if you're prepared to fund on a going-concern basis, which typically means funding quite a bit beyond the wind-up level, then you have a much better capitalized pension fund. The members aren't relying entirely on investment policy to protect them. There's a cushion. If you are prepared to fund at that level, you should have the freedom to pursue long-term return.

Mr. Sohn: I'd like to continue on the same theme, taking our British colleague's remarks into account. Again, as I said before, I favor funding to the wind-up liability, or living in a system where that would be the goal. So I think it is the appropriate goal. I had said that if assets/liabilities are mismatched, which is to say I'm assuming a current system even though our funding goal may be different, that is to say, a system where pension assets are invested heavily in equity, which are, of course, completely mismatched with the liability. And that's why I say if that's the kind of system we want, we know that we're giving up something as a system. That is, a plan that is funded 80% in equity towards the long-term liability with a duration of 20 or 30 years is going to see a swing between liability and assets on any basis. And to deal with that, we have to say we're willing to accept that risk. We have to say, we have to measure whether or not we're successful in funding by looking at the systems stochastically. And asking whether or not in our model we're going to be have adequate assets an appropriate percentage of the time. And we have to say that there's going to be some percentage of the time when we will fail, when assets will be inadequate on a market value basis, and the company will be unable to put in any more funds, and things will have to be wound up. And at that point, we can ask isn't this a time when there is a real role for the PBGC?

I was scheduled according to our internal schedule to speak third on this topic. I've already, in answer to Mr. McCaul's question, said that I would have a very strong funding on its termination basis under my idealized environment of no PBGC and no residual employer liability. Under the present system, I would certainly advise my clients, as I have in the past when I had clients, that the choice of funding policy is basically a matter of corporate finance, and the company should consider its after-tax cost of funds with its after-tax advantage of investing in the pension fund. And this, of course, will lead generally strong companies who have virtually unlimited ability to borrow, to making very large contributions and somehow hinting to their actuaries that they might like to use conservative investment return assumptions. Whereas companies that do not have unlimited ability to borrow and need every bit of cash that they can get seem to be somehow hinting to their actuaries that their best-estimate assumption should be a fairly aggressive investment return. They also use weak funding methods. And I think that's quite appropriate in the present environment, because the company is making a corporate finance decision, not a benefit security decision.

Ms. Oliver: How should the desired funding target be reached and should the government or the profession play a part in this role? In this determination?

From the Floor: First, I'd like to start by saying that there may be more than one funding target. There may be the company's desired level of funding, and there's the plan termination or solvency liability. There may be a deficiency under one scenario you may not want to fund as quickly. For example, you have an ultimate funding goal, which is based on a final average pay plan with some margins built in. If you're underfunded on that basis, then you may not want to amortize or fully fund that liability over a very quick period of time. You have that opportunity, but you may decide to fund that over 15 or 20 years. In my opinion, that would be quite legitimate with respect to the plan termination liability because the benefits are for the employee. I think, as a professional you have responsibility to the employees, to ensure adequate funding for termination benefits. If there is a possibility of plan wind-up, the wind-up liability should be funded far more quickly. To pick a number, I'd say five years, but I'm not sure that's the correct amount of time.

I guess I'd question the questions we have in front of us. I think there's a very key difference here between the U.S. government and the Canadian government. In Canada, the profession has a governmental recognition feature. Here, if we say that the profession of the U.S. should decide these issues, how are they enforced? How do we monitor that everyone is included with the profession who is making these decisions, etc? It seems to me that unless we have some sort of enforced recognition of a defined profession, with entry rules, we can't allocate that type of

decision to the profession here. That's a decision that is a function of government. Whereas in Canada you have the government having ceded certain extra authority to the profession, which is not the case here.

In this instance the government didn't cede any of the authority to make that decision, and the profession isn't looking for the authority. But at least you have a recognition of the body that signs off, and so that you could cede as a governmental function, the authority to say here is a minimum. Whereas in the U.S. I think you have a different issue.

From the Floor: I'll address my questions primarily to Malcolm—he talked about having different funding contributions, like a minimum and a maximum. The maximum is the fuzzier number. When you do that, you also give people two different liability calculations: this is your protected credit liability calculation; this is your wind-up liability calculation. When you say two funding targets, you give them two funding targets.

No, the vast majority of my clients pick the same end of the spectrum every time. So most of them are going in at the low end of the spectrum, and what they want you to do is turn up every year and say, this is the minimum amount you can contribute this year and still tell the board of directors that it's behaved responsibly. And so, that's where the focus would be for most situations.

Ms. Oliver: What about plant shutdown benefits? Should they be funded?

Mr. Sohn: The subject of plant shutdown benefits has been controversial in the profession for many years. It would see obvious that either plant shutdowns benefits should be funded or they shouldn't be promised. A company failure is one of the reasons the plant shutdown benefits may come into play. But plant shutdown benefits can come into play in a normal course of events for an ongoing company with many plants. I'm more concerned with what would happen if the whole company failed. Many individuals would become eligible for these benefits, and because they haven't been funded, under the American system, the PBGC instead will pick up the funding. They are being secured in that sense. But of all the mechanisms we've invented, this is really the most obnoxious because it forces every company in the system that doesn't have plant shutdown benefits to subsidize those who do. I believe such benefits should be included in the termination liability and be subject to funding, or they should not be in the plan at all.

Mr. Lee: I guess I addressed this issue a little bit earlier, but I'll expand on it. If there's any sort of reasonable likelihood of plant shutdowns, definitely you need to consider that in your funding on both a termination basis and your ultimate funding

objective. However, the concern would be if a company was extremely healthy, and there was very little or no chance of plan wind-up, to fund these benefits basically puts you in a unionized plan with an overfunded plan. And because of surplus issues in both Canada and the U.S., that may not be a desirable thing from the plan sponsor's point of view, and you're not promising any more benefits for the employee, because the likelihood of plan wind-up is basically nil.

Mr. Thomas J. Egan, Jr.: Fortunately or unfortunately I've been an actuary for three plans, one of which was on the PBGC top 50 list, and the other two were just below it. So the issue of funding is very important to some of my clients. And the issue of funded status is very important. For example, you have funded status for Financial Accounting Standard (*FAS) 87;* you have funded status for PBGC top 50, and then the company may have its own internally set funding target. And what I've experienced is that particularly in large underfunded plans, the board of directors gets very involved, and it has some very strong views about funding. And it keeps looking at things like *FAS 87;* internally the company might have their own target. I wonder if any of the people here can comment about how they've dealt with this external target (let's say it is *FAS 87)* and then some other internal company targets. If these funding measures disagree, how do they communicate back and forth to the board?

Mr. Hamilton: I don't have the issue in the U.S. context, but I have it in a Canadian context. When we started doing going-concern valuations on a best-estimate basis, we started coming up with liabilities that were significantly below what had been used to fund plans. That triggered questions about why we were funding at that level and was it appropriate. The best explanation, and the explanation that I always found worked very effectively, was to justify your funding level by reference to wind-up. The number of clients now who find that their *FAS 87* or their *CICA 3460* going-concern accounting liabilities are less than their wind-up liability. It's easy to explain to the board of directors that, in the long term, if everything goes the way management thinks it will, not much money will be needed and the plan won't cost much. However, in the short term, if you want to tell members that their pensions are secure, you need to cover the wind-up liabilities.

Mr. Bone: I think one of the special issues in the U.S. perspective is the disagreement between what board of directors initially hears in terms of how *FAS 87* liabilities are often described as being based on settlement liability, and then to hear that a PBGC top 50 list may have a different viewpoint as to what that plan termination obligation may be. This is an issue that I think many plan sponsors, particularly large-plan sponsors, have come across as the PBGC has gotten much more aggressive in enforcing its view of whether or not a plan is sufficient on termination in the area of mergers, acquisitions, etc.

I think that's an issue that can be explained. There are issues regarding the government regulations, and whether or not PBGC estimates are best estimates of plan termination liabilities.

Mr. Joshua David Bank: Allow me to explain how plan sponsors react to all these different percentages. I'm the enrolled actuary for the number one on the top 50 list. The company won't be number one for long; it's going to move down. The plan sponsor is fairly jaded by the whole thing at this point. All they know is that all the numbers are wrong. The *FAS 87* numbers aren't right because if they were right, the company would be out of the business. The PBGC numbers aren't right because if they were right PBGC's job is to make life miserable. So they don't really care. We don't charge them fees to go through and dispute the PBGC's numbers, so it can be 27% funded instead of 24% funded. It's not worth it. So it's an extreme case. They don't understand the numbers, but they know what the different sides are.

Mr. Daskais: Could I have a show of hands to see how many of your clients are primarily concerned with *FAS 87* presentations of earnings and the balance sheet, as opposed to the contribution levels? For the record, I think we should state that there seems to be at least a slight majority for *FAS 87.* I guess I'm concerned about the companies that need *FAS 87* figures; it's obviously not the very small ones.

Mr. Bone: How many clients in general are more concerned with the contribution level? My guess is it was somewhere between three to two or two to one in favor of *FAS 87*.

Ms. Oliver: I'll move on to margins for poor experience. The question is, should margins be introduced for poor experience? Instances include investment, withdrawal, or retirement areas. The first question is, how should these margins be derived stochastically?

Mr. Bone: I would argue that the purpose of funding is to stand behind promises in bad times; nobody is worried about standing behind those problems in good times. That's the easy part. So the question is not, should there be margins for when those bad times occur; but instead it should be, how can those margins appropriately be estimated? They can certainly be established in a variety of ways. And we've seen that throughout our history.

We've seen conservatism in assumptions. We've seen conservative asset valuation methods. There are some asset valuation methods that are permitted by regulation in the U.S. that on average will understate the market value of assets and thereby

induce some additional margin. Finally, there is the use of funding methods that are not strictly targeted towards whatever we agree is the funding target.

But I guess I would argue that one should evaluate the use of this set of choices in a stochastic model against the results—evaluate the results should the plan terminate. In other words, by choosing a set of assumptions that are conservative or exact, an asset valuation method that is conservative or at market value, and a funding method that is conservative or aggressive, one then can simulate the results of the method and the contributions it produces. In simulating, you could reflect all of the recent laws that generate contributions that may override that funding policy and thus test the adequacy of the margins one has established. In this manner, through an iterative process, one can set a policy that has conservatism and test options until the policy provides the margins required to meet goals, such as reasonable assurance that benefits will be met. Of course, as we said, this interacts with the government guarantee systems.

Mr. Lee: I would largely agree with what Chris just said, but I would add that I don't think that government should be involved in guaranteeing pensions. Having said that, if you take away a government, depending on how valuable you think that is, it's important to have margins so that, as Chris said earlier, the probability that you'll be fully funded should the plan be wound up, is better than a coin toss. You need margins in order to do that, and they should be allowed to be provided for in any valuation methods used to calculate the contribution requirement.

Mr. Hamilton: In Canada we had sort of an aborted set of standards on margins. We wanted actuaries not only to have margins, but to identify them. And the whole thing went on the rocks when we realized that actuaries could agree about what was conservative, but they couldn't agree on how conservative. There was just no way on earth you were going to get a group of actuaries to agree on what the margin was. They'd all agree that 6% was a conservative discount rate, but they wouldn't agree that the "best estimate" rate was 8% or 9% or 10%. I don't know how we're going to deal effectively with margins in a professional setting when there is so little agreement about what constitutes the best-estimate assumption.

Mr. Daskais: I'd like to comment a little bit about using stochastic methods or any methods for determining margins. We shouldn't be too directed in our efforts by the tools that are available to us. Chris mentioned that there's no problem in good times, but there may be problems in bad times. The one case that has been discussed here is Studebaker; my general recollection is that Studebaker closed down its automobile manufacturing operation during generally good times. It just couldn't maintain its market share, and all of the wonderfully calculated stochastic

or deterministic margins would not have helped much for a lack of period over which the funded benefits had been promised.

Ms. Oliver: Should the investment policy, namely the asset allocation or duration matching, affect this? Any additional ideas on that subject?

Mr. Bone: I'm not sure how much of this is additional, but as I mentioned in my first point, if you don't consider the investment policy in determining the funding adequacy in your contribution environment, then you're not looking at the complete picture. So from my perspective I wouldn't see how you could go ahead and not take into account the asset allocation method in determining your contributions and funding adequacy.

Ms. Oliver: Is there any input from the audience? If not, we'll move on to the last area, which would be the consideration given to the objectives of different plan sponsors. Dick, do you have some ideas on that?

Mr. Daskais: I have many ideas, but I think I've expressed them earlier. In the present situation, the funding objective of a company should largely be determined by corporate financial considerations. There's probably very little determined by benefit security considerations because most companies' in setting their corporate financial policies, consider that they will be around and they recognize the liability for benefits. The question to them is, what is the optimal use of funds? Is it to contribute it to the pension fund and have them invested on a tax favor basis, or is it to keep them in the company? With *FAS 87*, there is a more realistic balance sheet presentation than there was prior to *FAS 87*, so lenders, shareholders, and perspective shareholders can, presumably, properly evaluate the funding position and perhaps even the contingent liabilities of the company in making their decisions as to whether to buy or sell stock or whether to lend.

Mr. Bone: Well, I would argue that different plan sponsors should have different objectives that are determined by their tolerance for risk, the funded status of the plan, and the asset allocation of the plan. However, I would not agree that the decision should be made solely on the basis of corporate finance. Most employers want to be able to go to their employees and say, "We have a commitment to you to provide these benefits." Most employers are not willing to go to employees and say, "We have a commitment to provide you these benefits if things go well."

This goes back to the initial question of whether disclosure to participants should relieve the plan sponsor of its responsibility to guarantee benefits. I think Dick has said, "Yes, if you disclose it." Presumably you would say that plan sponsors who are willing to disclose to participants that they have a commitment to give you

benefits, but say, "By the way, don't trust me if things go bad," would have a different commitment. Whereas those of us who believe that this type of disclosure is implicitly misleading to rank-and-file participants would argue that there are other corporate objectives that include giving employees some degree of assurance. In that situation the different goals would not be driven solely by corporate finance, but also by benefit security. There would still be, however, different risk tolerances and asset allocation strategies.

Mr. Daskais: I would not disagree with what Chris said, in the sense that the employer would consider the perceptions of the employees. It's just that perhaps my experience is different from Chris's regarding the weight that would be given to the perceptions of the employees as opposed to the corporate financial objectives.

Mr. Hamilton: As actuaries, I think we have to be very careful in circumstances where employers are comfortable running significantly mismatched funds well below wind-up funding levels. I think I would be very careful writing actuarial certificates or writing anything about the appropriateness of those contributions, because, in some sense, the regulator, certainly in Canada, and I think the members too, are looking to the profession for some level of protection. I think we better be careful that we don't let them down.

Mr. Thomas Naffe Rice: The government requires more and more guarantees on corporate pension plans and also puts more and more restrictions on the level of funding and funding adequacy. It's my opinion that the employees should have more freedom regarding funding policy and investments. If employees get involved in the investment aspects of a defined-benefit plan, it's my opinion that they will tend to choose more aggressive investments in ways to increase the assets, and also then will tend to take a part in what level of benefits they should have. As investments do better, perhaps because of equities, I think there's a tendency to want more benefits and more cost-of-living adjustments. The pressure on the employer increases the enhanced benefits. The problem is that it tends to use up those extra investment earnings, and to upset the employers' funding ratios and funding policies as benefits increase when investment earnings increase.

Mr. Sohn: I'd like to say that there are many reasons for a plan to invest conservatively. *FAS 87* pushes you in that direction. PBGC premiums push you in that direction. The "nifty-50 list" pushes you in that direction. If your funded ratio (or whatever target you chose) is close to 100%, then your funded position pushes you toward conservatism.

But a conservative investment policy is one more factor to use in distinguishing defined-contribution from defined-benefit plans in a manner that makes the defined-

contribution plan more attractive to both participants and plan sponsors. Your defined-contribution plan, over the long haul, will show a better investment return than your defined-benefit plan, and the defined-benefit plan will be relegated to providing a floor of protection. Accordingly, it seems to me that defined-benefit plans providing the bulk of retirement income from private pensions is equivalent to having defined-benefit plans invest in equities.

From the Floor: We were just discussing the objectives to the plan sponsor, and I think, theoretically, when companies set up plans, they're trying to provide some type of retirement income. Because we live in an inflationary environment, a number of countries, including the U.K., Canada (within at least one of its jurisdictions), and Germany, have required some type of mandatory indexation of defined benefits, at least to some degree in certain countries and some situations. We have existing flat-dollar plans that are not appropriately funded from the long-term perspective. Eventually, the benefits that are given at retirement are significantly greater than you're currently funding for. Often plans provide cost- of-living allowances or increases that are not currently funded because they are not part of the plan. To what degree do you believe that there should be more recognition of these types of increases that are not currently being funded under the law?

Mr. Hamilton: I don't think we should legally require organizations to fund benefits they're not committed to. On the other hand, I think the defined-benefit pension plan design in the private sector in Canada is not very good. The plan itself has many problems. It exposes members to inflation and people who lose their jobs at age 50 don't get much. You can't compensate for bad design with good funding. You can try to. Actuaries have tried to do that for a long time in Canada. We implicitly set money aside to pay for all the indexing. It didn't work for two reasons: the money piled up and the corporations decided not to use it for indexing. Also the need for indexing disappeared about the same time all the money piled up because the level of inflation was greatly reduced.

Mr. Daskais: My experience in collective bargaining situations is that given the choice between a $10 per year of service benefit, which is not indexed, and a $7 or $7.50 per year of service benefit, which is indexed only after retirement (which would be approximately of equal value), the employees and the companies would always rather bargain a $10 benefit than a $7.50 benefit.

Mr. Arnold F. Shapiro: I just have two questions. I was wondering where you put the contingency charge on the Schedule B? The other question is since we have some Americans and we have some Canadians, who owns the asset?

Mr. Bone: I'd like to address the first question. I think one of the places where you put that contingency margin is in the actuarial valuation of assets as opposed to a market valuation and in the use of a funding method. Those are places where margins are clearly permissible at this time.

Mr. Hamilton: I'm not going to deal with what they put on what form. If you're funding close to the wind-up level, you should behave as if the members own the assets. It's their money that's at risk. If you have a very well-funded pension plan, where you're covering, say, 150% of the wind-up liabilities, you can afford to treat it as if it's the shareholder's money because the shareholder is taking the risk. The shareholder is underwriting the pension promise.

Mr. Daskais: I think one of the problems with the ownership of assets, at least in the U.S. today, is that it's not symmetrical. In other words, if the assets are more than the liabilities at wind-up, there's an excise tax on the reversion. Whereas, if they are less, the company is responsible for the full deficit, assuming the company has the ability to pay. Of course, this would tend to discourage heavy funding in cases where there is a likelihood of wind-up, because the company would not be able to recover the assets. Or would not be able to recover as many of the assets.

Mr. Hamilton: One thing I've heard several times that disturbs me is this notion that we should, in funding, take into account the probability of wind-up. It is difficult to form opinions about whether something is going to be wound up or not. You can get into silly situations where the plan is likely to be wound up, and if it has more than enough money, you stop funding. Then it isn't wound up. I just don't know why any actuary would want to jump into the middle of that assumption. I don't think we need to, and I wouldn't recommend it to anybody.

Mr. Bone: Malcolm, I'm not sure I understood your last comment. Are you saying that the objective should not be wind-up liability with 100% probability of wind-up, or are you saying that actuaries get into a horrible mess if they try to assume a percentage probability of wind-up?

Mr. Hamilton: It's more the latter instance. I think the objective should be to have a funding policy in place that, at a minimum, has a high probability of maintaining the market value of the fund above the wind-up liability. But there's no room in that for an assumption about the probability that the plan will or won't be wound up. I don't see that playing any role in the calculation.

From the Floor: I'm sure you're not disagreeing with Malcolm, but ownership of the assets depends on what the documents say. What deal did you make? Court cases have hinged on questionable wording. But it's sort of beyond actuarial expertise.

Mr. Hamilton: But it's very easy if you're under your wind-up liability. Say the plan sponsor is insolvent, and the members are getting cents on the dollar. Perhaps they would have received 90 cents on the dollar if the plan had been conservatively invested, but because it was in the stock market, they got 50 cents on the dollar. I just don't like the story that the board of directors is going to have to tell. It decided to take this woefully funded pension plan and follow a high-risk strategy when it wasn't its money nor the shareholders' money that it was paying with.