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FUNDING POLICY FOR PENSION PLANS FROM THE PLAN SPONSOR'S VIEWPOINT

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1. Alternative uses of cash

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MR. RICHARD DASKAIS: The speakers today will be Murray Segal of Eckler, Brown, Segal & Company, Keith Dallas of the Boston Office of the Wyatt Company and Charles Schaller-Kelly of Alcan Trading Bermuda, Ltd., which is an affiliate of Aluminium Company of Canada. I am sure those of you who are Canadians are well aware of the usual practice at sessions like this in the United States. Of the ninety minutes allotted, we usually talk for eighty-five minutes about things that happen in the United States and then someone gets up for five minutes and gives the entire Canadian viewpoint. Well, we are going to make amends for that this morning. We are going to let Murray Segal talk for five minutes about the Canadian viewpoint, and then we are going to talk about the rest of the world.

MR. MURRAY A. SEGAL: When Dick was working on the arrangements for this morning's discussion, I received a letter from him that made him sound almost like a sixteenth century supreme potentate dividing the world between the oligarchy of Keith, Charles and me, with Keith being assigned to deal with the United States, me with Canada and Charles with the rest of the world. Quite frankly, I would rather hear on this lazy day in May from Charles about alternative uses of cash in the Persian Gulf, which seems to be the only place they have it lying around in abundance these days, or about the external and internal constraints in such places as Afghanistan, than bore you to tears about the selection of esoteric actuarial cost methods and assumptions for pension plans covering bargaining unit employees in the industrial sector of Moose Jaw, Saskatchewan. Well, having bombed with my opening levity - I promise you there will be no more after your initial discourteous lack of response - let me now proceed directly to the main thrust of my remarks.

I would like to deal primarily with one of the main concerns of actuaries practicing in the pension field in Canada at the present time: that being the increasingly complex and divergent constraints of the various regulatory authorities. I said, and should emphasize, the adjectives "divergent" and "various".

It is important at the outset to understand that Canada operates under a federated rather than an unitary form of government, with certain matters falling wholely or primarily under the jurisdiction of the ten provincial governments. Property rights and conditions of employment - including pension plans - is one such area of provincial rather than federal government jurisdiction. This is not to say that the federal government, headquartered here in the beautiful capital region of Ottawa, has removed its finger from the pie entirely. Very much the contrary. But federal regulation may arguably be regarded as being somewhat indirect through the tax system rather than stating directly what is permitted and what is not. In other words, the federal government cannot say that a pension plan must contain certain minimum features or be funded in a certain manner for it to be legally established. However, it can and does say through its Department of National Revenue that if a pension plan does not meet those standards that it deems desirable, it will not qualify for registration under the Income Tax Act, thereby denying the deductibility of employee and employer contributions and subjecting the plan to onerously high rates of income tax on its investment income in the year in which it is earned. Because of that tax club, virtually every pension plan in this country is designed to meet the qualifications of the Department of National Revenue and, in fact, has been registered by that department.

Even though the main goal of tax collectors everywhere seems to be to increase revenues by minimizing deductions to their lowest legitimate levels, the funding guidelines of the Canadian tax department are not, in general, unduly constraining. For example, in the case of best or final average earnings plans, the Department has finally evolved to its present position that "normally, the long term assumption for the salary scale should not exceed the long term assumption for the rate of return on assets". Plans providing for some form of automatic post-retirement indexing in relation to inflation may be funded on the basis of a real rate of interest during the benefit payment period of at least 2% per year. I might mention that in one respect at least there is less restraint put on plan sponsors and actuaries in Canada than in the United States, namely, that a plan sponsor may contribute to a pension plan the full amount of the unfunded liability in any year and deduct from its taxable income the amount that it so contributes in that year. It is not required for tax purposes to spread the unfunded liability over a period of ten years or some such period. Some employers, in years in which they would otherwise have high amounts of taxable income, do in fact take advantage of this provision by accelerating their unfunded liability amortization payment schedule. That has created some problems for the accountants who like to have uniformity between one year and the next, but at least from a tax point of view, this has been done and it certainly is allowable.

One constraint on funding imposed by the Canadian tax department that has become of increasingly practical concern is the dollar limitation on pensions of $1,715 per year for each year of pensionable service, subject to an overall maximum of $60,000 per year for thirty-five or more years of pensionable service. No registered pension plan may promise to pay benefits starting in excess of that limitation, nor may any specific advance funding be made for future increases thereto. Carried to its logical conclusion, in a few more years of double digit inflation, that limitation would result in all best and final pay plans being transformed into flat benefit plans as more and more members reach the maximum limitation levels.

Since it is highly likely that the foregoing limits will be increased from time to time in the future - most probably when the actual pensions of retiring senior mandarins of the Departments of Finance and National Revenue begin to exceed them - it is not unknown for actuaries in Canada to anticipate such probable future increases indirectly through appropriate combinations of economic assumptions pitched at less than their most realistically expected levels, for example, the use of 6.5% interest and a 5% salary scale instead of something like 10% and 9%, respectively.

Turning now to the provincial scene, life for pension actuaries has become much more complicated than it was back in the halcyon days of the mid-1960's and its succeeding decade and a half of relatively uniform legislation and regulation by the various pension benefits authorities. In retrospect, it was perhaps too much to expect that separately elected governments with different political philosophies and with different types of professional staff and outside advisors would continue indefinitely the initial pattern that was established when Ontario passed the first Pension Benefits Act effective January 1, 1965, followed closely in most important respects by Quebec one year later and then the other governing jurisdictions, including the federal government, with respect to pensions for employees in those industries that fall primarily within federal rather than provincial jurisdictions, such as banking, railroads and telecommunications.

The thin edge of the wedge of divergence started around the end of 1976 when, over a period of less than six months, the regulations under the Ontario, Quebec and federal Pension Benefits Standards Acts were amended to allow optional valuation procedures, having the effect of substantially lengthening the amortization periods over which actuarial deficiencies, resulting essentially from adverse salary experience, had to be liquidated. Initially, those experience deficiencies would have had to have been liquidated over a period of five years from their emergence in a regular actuarial valuation. While those amendments were all intended to address the very same problems that were not envisaged when the enabling legislation was first passed ten or so years earlier - and those were the days when everyone thought that salaries and inflation would perhaps go up by 2 or 3 or 4 percent per year - each of the three jurisdictions took a different approach to the common objective. The ways in which they differ are far too technical - picayune some may say - to explore in detail in this type of forum, but suffice it to say that they are different enough so that a computer program designed for one jurisdiction will not necessarily produce the results required for the others.

Telescoping now to the more recent past year or so, it seems that the provinces are each dancing to their own individual tunes with increasing frenzy. Until recently, for example, employer current service contributions could generally be remitted to pension funds across the country in the year for which they are made or within a period of a few months thereafter. Quebec felt it could ameliorate the problem of non-payment by shaky employers by imposing a new rule that such contributions for 1981 and future years must be remitted in equal monthly installments during the year in question. I think, in actual fact, they may find that if an employer is shaky and he does not put the money in when he is required to under the old law, he will not do it under the new law either. In any event, the Quebec law was changed in that respect and in a few other respects as well.

Saskatchewan took the lead over from central Canada by passing fairly major amendments to its pension legislation last June, scheduled to take effect July 1, 1981. While those amendments do not deal primarily with questions of funding, they are so broad in many other areas that they cannot but impact on funding as well. For example, minimum rates of interest used in accumulating Saskatchewan employees' contributions to pension plans will henceforth be prescribed by government regulation. Here they are considering basing the rate for a given year on the rate of interest earned on Government of Canada bonds during the twelve month period prior to the date at which such rate must be set. Also, not more than 50% of the value of all pension benefits, whether immediate or deferred, and again determined according to prescribed tables, may be comprised of the employee's accumulated contributions with such interest.

Lest it be left out in the cold, Ontario too jumped the gun on the long awaited report of its own Royal Commission on Pensions by enacting some fundamental and far-reaching changes of its own to the basic rules of the game as recently as December, 1980. The most significant provisions of the new Ontario changes insofar as they affect funding may be summarized as follows:

1. where a defined benefit pension plan is terminated in whole or in part (with very broad discretion given to the regulatory authority to determine exactly what constitutes a partial termination), the employer is obliged to complete the funding of vested benefits over a period of time to be prescribed by regulation. In the past, if an employer wound up a pension plan, he had no further legal obligation to complete the funding of any part of the value of the benefits of the plan other than paying the unfunded liability amortization payments and current service contributions that were due while the plan was still in existence. Really, what has happened in Ontario is comparable to what has happened under ERISA, namely, that the liability, at least with respect to vested benefits, has become a real liability rather than a contingent liability. That will certainly have an impact on how fast employers will pay off their unfunded liabilities. It will have an impact as well on company takeovers, where one employer is taking over another. In the past, a certain amount of attention was paid to unfunded pension obligations. Now companies will be paying much more attention to these liabilities because they have become real obligations rather than contingent ones from which, under certain circumstances, the employer might have been able to escape.

2. the amending legislation provides for a Pension Benefits Guarantee Fund to make up the unfunded cost of certain vested benefits where an employer goes out of business. The fund will be guaranteed by the Province, but it is expected to be self-supporting from premiums paid by employers who sponsor pension plans with unfunded liabilities. Unlike the provisions of ERISA, the employer will be subject to a lien only if he goes out of business and the plan has a claim against the Guarantee Fund.

One of the major as yet unanswered questions resulting from the recent Ontario changes is how the assets of a plan covering employees in Ontario whose vested benefits must be provided regardless of the continuation of the plan, as well as employees in other jurisdictions, whose vested and other benefits are subject only to the availability of assets actually in the plan itself, are to be allocated in the event of full or partial plan termination. After having been scrambled, fried, diced and hashed, even all the king's horses and men could not separate Humpty Dumpty back into his original individual components, broken down by province of employment.

The most recent changes in pension legislation that I have just described were regarded by the legislators as stop gap measures pending more major reform that was supposed to flow from the report of the Royal Commission that finally came out in February of this year, and the subsequent National Pensions Conference held here in Ottawa about six weeks later. As could have been expected, we are still far away from a national consensus on whether retirement income beyond the current floors provided by Old Age Security and the Canada and Quebec Pension Plans should be provided through a massive expansion of those government provided schemes or through a revamping of the private sector employee-employer context type of plans, let alone the type of changes that should be made in funding and operating those private sector plans.

Unless the various regulatory authorities in Canada get their acts together and become more willing to negotiate meaningful compromises to their own, sometimes parochial perspectives of what should or should not be done in the pension area - which I think they can do and still retain much of what they tried to accomplish through disunited individual action - the only alternatives in today's mood that something substantial must be done would seem to be the expansion of the government-provided schemes, with all that that entails in such areas as the temptation to defer costs to a future generation of society and shifts in capital formation and control, or the ultimate balkanization of pension plans in this country into distinct provincial units with some form of asset and liability transfer arrangements for employees moving from one jurisdiction to another. What a great boon that would be for consulting actuaries, but what a loss to the economy and fabric of the nation as a whole!

I know, Dick, that I have not said much about some of the sub-topics billed for today's discussion, but I thought you would be more interested in hearing about some of the things that are of the utmost concern to at least one Canadian consulting actuary at the present time. I really do have opinions on some of those other sub-topics which are not necessarily unique to Canada which I would be pleased to touch on if you, as our esteemed Chairman, are not afraid to give the floor back to me during the discussion period.

MR. DASKAIS: Murray, may I ask you a couple of questions right now? Did you find that, prior to the new Ontario amendment, employers contributed the minimum that was permitted by the actuarial valuation and the then Ontario and other provincial legislations?

MR. SEGAL: No, I do not think you can generalize there. If you consider Canada as being one-tenth the size of the United States, and perhaps the average plan as having about one-tenth as many members as the average American plan, there was still a wide divergence of practice among the employers. Some employers, when they undertake a pension plan, regard the undertaking as being very serious. They know that the plan will not mature until many years into the future and, together with the actuary, look for a relatively conservative funding policy to salt away as much money as they can, particularly if they are in a high income tax bracket. On the other hand, there are those employers who are concerned more about showing good balance sheets and good income statements in the current year to keep the price of their stock up. They try, therefore, to show as low a cost as possible. I do not think that the problem is really much different from that in the United States.

MR. DASKAIS: Are there many Canadian employers who account for pensions on a different basis from that which they fund for pensions?

MR. SEGAL: No. Provision has been made in the recent guidelines for valuation of pension plans, put out by the Canadian Institute of Actuaries, which allows for a difference between costs for accounting purposes and costs for funding purposes. However, the practice has been, certainly since the establishment of the Pension Benefits Act, which limits the funding methods by and large to the entry age normal or unit credit methods, to put into the pension plan the same amount that is charged to operations.

MR. DASKAIS: Next, let's hear from Keith.

MR. KEITH J. DALLAS: I was very glad to see the Society include this topic on the agenda for this meeting, since I think all too often we have meetings which concentrate on the technical side of our business and possibly fail to deal with the clients' understanding and perceptions of the situation.

To me, an actuary wears at least three hats. The first hat is that of the technical expert, the person who has taken the actuarial exams and feels very comfortable with all the mechanics of the numbers and their meaning. The second hat is that of the protector of plan participants. We are the ones that insure that the benefits are properly funded for people. Both of these first two hats are areas in which we are very comfortable as actuaries. I would like to discuss today the third hat that we wear, and I will describe that as the management consultant hat. This is looking at things from management's point of view, from the plan sponsor's point of view, and helping the client make decisions. I might point out that sometimes in the extreme, this last hat can be in direct conflict with the first two. However, I won't try to deal with all the dilemmas that we all face in day to day dealings, since we could discuss that subject ad infinitum. I will just point out that obviously there are conflicts, and in the things I am saying today, I am assuming that as a management consultant, you are giving advice which does not compromise your professional standards.

A management consultant first educates the client as to the situation so that the client can make decisions based on a complete knowledge of the situation and, second, advises the client in those instances where the consultant feels strongly about the appropriate actions for the client.

I would first like to go over today the education process and what I think are its necessary elements. I will try not to bore you with basics, but the funding of a pension plan is basically a budgeting method. As with any budgeting method, a client has to understand that there are various cash flow patterns, some increasing, some level and some decreasing. There are various ways to budget for things, none of which are wrong or right, but some of which do have hidden problems unless the client is properly advised. Besides our expected cost pattern, we should also describe the extent to which our funding methods are sensitive to the experience fluctuations. We should also point out the extent of the conservatism in our assumptions. The client should not have any surprises as the long term cost patterns actually emerge.

In the past, the actuary often selected the method and the assumptions and based that selection on the actuary's own perception of the situation. The actuary used traditional methods, that is, the various snapshot approaches which do not anticipate changing conditions with new people entering the work force. Because of the Internal Revenue Service requirements for deductibility in the United States, the actuary did not anticipate any changes in the plan. The actuary funded for the current plan and ignored, for instance, changes in a dollars times service benefit, ad hoc cost-of-living increases not yet given, or updates not yet given to a career pay plan. Because most actuaries were trained in the insurance industry, conservatism meant no inflation. We tended to use non-inflationary assumptions which, to be honest, with today's high inflation, was rarely understood or appreciated by the client. Finally, the actuary often used funding methods which had somewhat strange characteristics as perceived by the average sponsor. I wonder how many of us have used a Frozen Initial Liability method for a mature group and added a young division to the plan, and when asked how much additional cost was associated with adding this division, would say that it decreased the cost? A client is not going to anticipate that type of situation unless it is pointed out to him.

In summary, the client often did not understand what we were doing, and since we did not understand exactly all the things that might be coming into play in the client's business, there was an information gap.

I would now like to go through how I would ideally deal with all my clients. First of all, I think you have to educate the client and make the client a lay expert so that, within certain limits, the client draws the conclusions. Assumptions are easy. We all know how inflation impacts both interest and salary scales. I think you also have to educate the client not to be overly influenced by today's very high inflation, but to look to the longer term. I, myself, like sometimes to have the client select the inflation component. It is not always the most informative guess, but it is interesting. To be honest, I usually then have to back off whatever inflation rate the client selects so that I can get what I feel is more of a long term rate. However, I must admit that as time is going on and inflation continues, I am using much more explicit assumptions than I did, say, five years ago.

As for the method, again, you have to find out what the client is trying to do. I find with many of my clients, although not all, they are interested in something that might be called a level cost as a percentage of salary method. This would be the case even if they might have a dollars times service plan. They are hoping that the benefit level changes that happen because of inflation will keep the cost going up at about the same rate as salaries. If you are not going to use a level cost pattern, it is very important that you give the client an idea of the magnitude of the change. To say it is going up is not enough. You must say how far you think it is going up.

One of the types of analyses I have used I will call a "what if" analysis. Obviously, none of us knows what is going to happen in the future, but I think it is sometimes interesting to analyze "what if" certain things happen in the future, to determine what will happen to the cost, the cash flow, and the liabilities of the plan. In this type of analysis, you can be either very sophisticated or not. Here I really separate my clients into those who are large enough and sophisticated enough themselves to want the sophisticated answer versus those who, although they want to know the answer, still want it kept simple enough so that it stays within their understanding and, of course, within their budget.

For the clients where I am going to use a somewhat simple approach, I would do a regular valuation of the current plan first. Then, either using computer programs or sometimes rough approximations, I estimate what is going to happen if certain changes are made to the plan, for instance, if the benefits go up at the rate of salaries. For this example, I am valuing the dollars times service plan with a salary scale. Other examples might be to value cost-of-living increases to the retirees, or fund a career pay plan like a final pay plan. You could even get into some sort of estimate of what will happen as the population of a young group starts to age. The point here is to give the client a good understanding of what is going to happen "if", being as sophisticated as they desire and as you feel is necessary. The point is to educate the client so that the client knows the magnitude of what may happen in the future and can make a knowledgeable decision today.

For cases where more sophistication is desired, I have found the most useful tool to be a valuation based on some sort of a projection system. In our company, we do have available a projection system which models a company. It hires new people, depending on demographics the employer thinks is appropriate, gives them actual salary increases, probably on a select basis so that it can be geared to what we think is going to actually happen in the future, gives interest rates according to what we think will actually happen, etc. Then each and every year this model company has its plan actuarially valued. This could either be the plan that the client currently has or, let's say, a dollars times service plan amended at certain intervals for benefit increases. This projection develops all the liability, asset, and contribution figures for each of the years. It is interesting because, as I see these models produced, I think I have learned something personally on how some of my actuarial assumptions and methods may react. It gives me a great opportunity to obtain at least some glimpse of what long term results some of my approaches to funding may produce.

Obviously, in this type of approach, you know that when you are doing it, you are not picking the perfect forecast for the future. Therefore, it is equally important to test the sensitivity of the forecast to various adjustments in the assumptions and to what you think is going to happen in the worst case and in the best case. From this, you can start to get an understanding of what is going to control the situation and help the client develop a strategy for the funding of the plans. This strategy may be defined in terms of contributions, or it could be based on liabilities at certain check points.

Interestingly enough, I have also found from this analysis that sometimes the cost pattern decreases. Obviously, this is somewhat a function of how your salaries versus your investments are doing, but I think it has made me reconsider some of these methods and re-evaluate my degree of conservatism. On the other hand, it sometimes has made me also question whether or not my assumptions were realistic as to future "actual" experience.

One of the other ways that clients sometimes actually affect cash flow, of course, is by buying annuities for retirees. In the pure sense, I see buying annuities as merely a cash flow and investment decision. Many clients see something magic about buying annuities, and I think they should be educated to the fact that if you could have earned the same yield by investing those assets elsewhere for the retirees, then the long term cost of the plan is going to be the same to them, although obviously the cash flow patterns are going to be widely different. The same thing applies in the situation where people are segregating off assets for the retirees and investing them differently, possibly using different actuarial assumptions for that group. All of these really are cash flow and investment decisions and should be explained as such to the client.

The final item I would like to talk about here today that I have found to be very useful to the client is the idea of tax planning and using different sets of books for different purposes. We all know, of course, that you have your ERISA minimum in the United States which says that you must pay at least so much. We also know that most companies have a funding policy where they usually contribute some amount in excess of that minimum, let's say on a thirty-year, forty-year or possibly a ten-year basis. This is used in their profit and loss statement. However, in recent years, I have found that many clients had an entirely different set of books that they were using for tax deductions. When you think about it, it makes a certain amount of sense that they may, for instance, be prepaying contributions which will not affect the profit and loss because it is on the books as the regular amount but will affect their taxes. What they are basically doing is that when they have the cash flow and when the tax situation is right, they put more money into the plan. When the time is right, they use the prepaid contributions thus produced for other years where they have a different cash flow and tax situation. This can be a very useful tool, but I find that most clients do not really understand what we do, and so when they try to develop these strategies on their own, they come up with answers which are not correct.

One method I have seen used is the projection valuation method to determine, for instance, that a client's contributions on a long term basis might be 9% of salary. Therefore, each year we would do a traditional actuarial valuation and come up with contributions which would be 9%, which they would then show in their profit and loss statement. The accountants are happy, since this is a stable amount, and we are not affecting profits. However, for cash flow, the company might, in a certain year, pay much more and other years much less than 9%. This enables the client, as I said before, to maximize the tax effectiveness of the plan and to decide each and every year where is the best place to invest the assets. It could be in the pension plan or somewhere else.

I would like to say in summary that within certain bounds, clients do have flexibility as to how they contribute to their plans. Without upsetting accountants, regulatory bodies, or the Internal Revenue Service, they should be able to manage their plans and their business. They should be aware of the advantages and disadvantages of all the decisions they could make. I think it is our responsibility as actuaries and more so as management consultants to provide the client with the tools that will help them so that they can better do their job and so that in the long term, hopefully, the businesses are in a better position. It helps everyone. Thank you.

MR. CHARLES V. SCHALLER-KELLY: I work for an international company, with only about a third of its employees in its home country, Canada, so I have been asked to give an international perspective. I should say, though, that any opinions expressed are strictly my own. Generally, Alcan will take the most conservative of any reasonable alternatives.

Those of you who work in the context of ERISA and Accounting Principles Board Opinion No. 8 will be very conscious of the differences in principle between annual cost of a pension plan, the annual recommended contributions, the annual actual contributions, the minimum permissible contributions and the maximum tax deductible contributions. In Canada, it may not be as important to make the distinction since the minimum permissible contributions are sufficiently high that they will usually also be the actual contributions and the annual cost charged through the employer's books.

In any case, the above amounts are so closely inter-related that I have to mention several of them almost in the same breath. I can only assure you that I have tried not to confuse them and to concentrate on their affect on funding.

In this context, I should say that I interpret funding policy to mean the policy governing the pattern of contributions over time. This is affected by the actuarial method, the method of valuing assets, the actuarial assumptions and the amortization periods for prior service liabilities. Some lawyers in the United States, unfortunately, seem to interpret the words "funding policy" as used in ERISA as meaning something akin to liquidity policy. That is not what I am talking about.

Many sponsors will be concerned with this year's "bottom line". Well, this year's bottom line will be affected by the method and policy used for costs, at least under APB No. 8, not the method and policy used for funding. It should be noted that this distinction is likely to become more recognized internationally. For example, the Internation Accounting Standards Committee has produced an Exposure Draft No. 16 which has been adopted now as an Exposure Draft with absolutely minimal changes by the Institute of Chartered Accountants of Jamaica.

In the longer run, funding policy can affect costs by the amount of any excess profits which might have been made by an alternative use of funds. I am assuming that all large companies today make their investment decisions largely on the basis of a study showing for some years into the future the expected revenues and expenditures, including taxes, associated with particular possible projects. These will balance when discounted at some interest rate, and this rate is the expected rate of after tax profit. If this rate is sufficiently in excess of the rate at which the company can borrow, after allowing for the fact that interest is deductible from taxable income, or in excess of the yield at which surplus cash can otherwise be invested, after tax, then the investment is worth considering. There may, of course, be other legal, financial or personnel constraints which make the particular investment impossible. In particular, the investment will imply a risk that the actual revenues and expenditures will be in more or less favorable balance than was projected. When considering accelerated funding in the pension plan as an investment, it is relevant to consider how the risk of long term gain or loss in the pension plan compares with the risk in the alternative use of assets. Another question to consider is the rate of interest assumed to be earned by the pension plan. Does the plan sponsor just assume the conservative rate that we actuaries use, or does he assume the rate that pension investment advisors are suggesting, such as 16%? A possible factor, for which allowance must be made in an international context, is the different currencies in which the money can be borrowed and invested in an operation or in the pension plan. In all these discussions it may be worth producing projections of pension costs. However, there will always be a great deal of judgment and personal preferences involved in judging what interest rates should be used in comparisons. It may be worthwhile first to dispose of some decisions about matters that are even more intangible.

The sponsor's first and most important decision is the importance he attaches to being well funded. This importance can arise from the expected feelings of employees or from possible comparisons with competitors, either in the sponsor's industry or within the same financial market. In the international context, the degree of independence allowed to local financial officers will be important. So will the extent and type of disclosure required by the law in various jurisdictions. For example, if the unfunded liabilities must be disclosed, then it may be possible to minimize these by using an actuarial method, such as the attained age normal cost method which produces low unfunded actuarial liabilities, or even the aggregate method, which apparently produces none. Whether these devices serve any purpose at all depends on the sophistication of the persons to whom the disclosure is made. In some countries, employee representatives, either by law or by custom, take a great interest in the pension plan.

In some countries where salaries seem permanently to rise at a rate greater than the investment yield, even the most conservative employer will decide that funding is a waste of time and money and that he will be able to bear the burden of pensions more easily on a pay-as-you-go basis, provided this is legal. I wish that a more academic actuary than I would consider what is an appropriate annual cost to allocate in such a country, since the usual actuarial cost methods no longer seem appropriate. I am inclined to suggest the normal cost on the entry age normal cost method, with zero interest, and only the promotional, merit and productivity component of salary increases. This would allow for the cost of increases to pensioners proportionate to the inflationary factor of salary increases. Alcan operates in a country where this very problem exists, namely, Jamaica. It is a relatively closed economy with severe restrictions on the outflow of currency. Consequently, the funds must be invested in Jamaica, and if the real rate of return is negative, the best that can be done is to minimize this loss. In these countries, then, funding will depend largely on the employee relations impact. The employees will want to think that their benefits are funded, however useless that may look from a financial planning point of view.

In choosing an actuarial method, the employer may also want to decide on the importance of a relatively stable contribution rate. The aggregate method and the entry age normal cost method will tend to be more stable than the unit credit method or any variations thereof. Of course, constant funding can, subject to legal constraints, be achieved by contributing less than the recommended amount, but this could lead to embarrassing increases in deferred credits in the balance sheet. In some countries the actuary might resign if his recommendations are not followed. In some countries, or for some types of plans, a particular method may be so entrenched (for example, the aggregate method in the United Kingdom) that anything else requires explanations, which may not be welcome. If the employer is entitled to a "tax-holiday", a method of postponing funding as far as possible must be considered from the employer's point of view. Tax-holidays are provided as an inducement to persuade employers to locate in certain areas, such as the Michelin case in Nova Scotia and the reduced tax rates generally afforded industries in Ireland. In this case, it may be desirable to do an alternative calculation for informally determining the annual costs. However, if the corporate tax rate is only 10%, as it is in Ireland, then it may not be worthwhile to go through this kind of contortion. Indeed, this is what Alcan and its partners have come to conclude in their new Irish project. Needless to say, whichever method is adopted must be acceptable to the actuary and that implies appropriate to the circumstances.

The actuarial method used for reporting to government also largely determines the range within which the funding policy for unfunded actuarial liabilities may be chosen. Most countries do not have such tight restrictions concerning minimum funding as apply in the United States and even more in Canada. As regards maximum tax deductible contributions, most countries, like Canada, only have the equivalent of the United States "full funding limitation". I cannot think of any others with regulations as complex and detailed as the United States. Some countries have a combined percentage maximum for both past and future service contributions, usually with an escape clause allowing the authorities to permit more.

To my mind, an actuary should not choose his assumptions with the principal objective of helping the employer's funding pattern. However, the employer's information on salaries, hiring, firing, retirement policies and so forth are clearly relevant to our assumptions, and the employer's opinions on interest rates may be as well supported by evidence as those of the actuary. Moreover, it is the employer who monitors the investment manager and thus influences investment yields. We all know that actuaries reach their conclusions with mathematical exactitude, but they are based on unprovable assumptions. So we should be willing to recognize that we have a range of assumptions within which we can be comfortable and that any set of assumptions is only one set out of many families of sets of assumptions, resulting in the same cost and recommended funding though perhaps not resulting in the same pattern of recognition of gains and losses.

An external constraint on funding policy which does not apply in North America but is very significant in some other countries is the absence of suitable funding vehicles. But the very concept of a trust is unknown in the pension scene of many countries from Germany to Thailand. In some countries, such as Japan, the trust assets are taxed, while in Hong Kong the trust's income is taxed at the usual rate of only 15%. In other countries, such as Bermuda, there can be stamp duties on contributions. Yet other countries require some part of investments to be in particular types of assets, usually government bonds; examples are Mexico and Australia.

Apart from Canada and the United States, I doubt whether labor agreements ever deal with funding.

The accountants will claim that they are not concerned with funding but only with costs. However, not every employer wants to do several calculations for contributions, for tax deductibility and for costs, even where this is considered legal and ethical.

Assuming, then, that the same calculations will be the basis for contributions, costs and tax deductibility, the sponsor will have to consider within the constraints of what the actuary finds acceptable, whether he wants costs that will remain relatively stable in adverse circumstances. This stability can only be achieved by fairly high costs at all times, based usually on the entry age normal cost or on the aggregate methods.

As regards government contracts, it seems to me that the government should reimburse reasonable costs subject, of course, to these costs being funded to make sure that the employer is, in fact, not going to be able to recoup them directly. If the contractor wants to fund faster, that is his privilege.

There used to be what I consider something of an abuse in government contracts and reimbursements in the United States. It was largely the government's own fault for refusing to pay for prior service costs. The companies, therefore, used the aggregate method with equal annual costs, thus calling all costs future costs and making the government pay more heavily than ever. However, for a company heavily dependent on government contracts, or on any other single client, there is much to be said for a conservative actuarial method for determining costs and, hence, funding.

There are two other circumstances affecting funding, particularly in an international context, which are not on the program but which I would like to mention. If the pension plan covers employees at a single mine, or the refining plant associated with that mine, it seems reasonable to try to ensure that accrued benefits are fully funded before the mine becomes uneconomical. Moreover, it is arguable that the interest assumption should be conservative enough to allow for future increases to pensioners to compensate for any cost of living increases.

On the other hand, if an operation can be expected to be taken over by a hostile regime under unfavorable circumstances, then I think it is in the multi-national company's interest to leave not only assets but also pension obligations to the nationalized. Sometimes these two circumstances cancel each other out.

I think projections are useful in discussing funding policy with financial officers, but immunization theory seems to me of little use when investments have to be matched with liabilities subject to inflationary increases. There is a real problem if assets are valued as the discounted future cash flow, as is common in the United Kingdom. When current interest rates greatly exceed that assumed by the actuary, then the actuarial value of assets will greatly exceed the market value. I am not a supporter of using market value of assets as the value for actuarial calculations, but market value is a significant benchmark.

As regards the effect of investment strategy on funding policy, I can see it particularly useful for a company whose cash flow cycle is out of phase with the stock market cycle. I was very interested to hear what my fellow panelists had to say, and I am now looking forward to hearing what you have to say. Thank you.

MS. ELIZABETH C. BERNI: When Keith mentioned the games plan sponsors are playing on their books, it brought to mind a recent interpretation I had heard of regulations to Internal Revenue Code Section 404(a) and, in fact, the statute itself. The regulations imply that the employer may deduct in a given plan year the minimum required contributions made for that year and any succeeding plan years ending within the current taxation year. I cannot believe the Internal Revenue Service really intends this interpretation. The situation would be such that an employer could make the minimum contribution for a plan year too late to get a deduction for that year but in time to satisfy minimum funding requirements. Then, in the second year, he could make the minimum contribution again, but this time sufficiently early for both the deduction and the minimum funding requirement. The interpretation is that the employer can claim the deduction for both years. If so, the timing of deductions would be a tremendous management tool.

MR. DASKAIS: Betty, is it not still subject to the ten year amortization rule, that is, a maximum of the normal cost for the year plus the year's amortization payment based on a ten year amortization schedule?

MS. BERNI: That is what I would believe and that is what I think the Internal Revenue Service would believe. But, many actuaries to whom I have talked, who have read and reread that section, think otherwise. In fact, I think Connecticut General even put out a bulletin to some of their clients, which I have seen, that follows this interpretation.

MR. DASKAIS: I would like to summarize your point just to make sure I understand and the audience understands what you have said. It is the employer who essentially deducts nothing in the first year, then two years' normal costs and two years' amortization payments, whatever he happens to contribute, in the second year. Does anyone have any comment on that?

MR. SCHALLER-KELLY: It appears to be in line with what the law says, but I can see that it does not make much sense.

MR. DASKAIS: In this situation the employer has, perhaps unwisely, lost or deferred the deduction for the first year. By filing for an extension - assuming that the plan year and the tax year are the same - the employer could have deducted what was the right contribution in the first year.

MR. SCHALLER-KELLY: If you do file for an extension on your income tax, then you also have an extension on your minimum funding requirement. If you do not file for an extension of income tax, then you have to have your minimum contribution funded within two and a half months anyway. So I am not quite sure under what circumstances one could take advantage of this suggestion.

MR. DASKAIS: No, I think you have eight and a half months to meet the minimum funding standard.

MR. SCHALLER-KELLY: Always, even though you have not asked for an extension on income tax?

MR. DALLAS: Yes. I think there is a Revenue Ruling, and it may be in a regulation.

MR. SEGAL: Perhaps the problem in the United States is the existence of two extremes: lack of regulation or over-regulation to the extent that the regulators find themselves boxed in. I am not sure that we have 404 sections in the Canadian Tax Act. But there is, in Canada, a general provision in the Income Tax Act that says any transaction that is for the sole purpose of reducing the income tax that otherwise would be payable, and does not have a valid business reason to it, will not be recognized. I would imagine that, if such a situation were to arise in Canada, the government would close it very rapidly under this general catch-all provision.

MR. DASKAIS: I think the Internal Revenue Code does have a similar provision. But in this particular situation we are talking about an employer who, perhaps because he foolishly filed his income tax return before he made his contribution, is catching up on an inequity.

MR. SEGAL: So he can then deduct the contribution in both years?

MR. SCHALLER-KELLY: No, he cannot deduct it in the first year because he has not made it. But in the second year he can deduct both contributions. In Canada this is no problem because you can, in fact, deduct everything up to the full funding limitation.

MR. DASKAIS: I would like to call some attention to a point made by all the panelists, namely, whether or not to fund should be a question of the value of money to the employer in the pension fund, or the value of money to the employer in his own business. We heard from Keith that his high technology companies which, presumably, can earn a tremendous rate on internal capital, are making maximum deductible contributions in many cases. I certainly find that many of my clients in the industrial Midwest, in depressed industries, are making minimum contributions although more capital in their business may not be particularly useful. It looks like the theory is being honored in the breach more than in the observance.

MR. JAMES C. HICKMAN: I would like to propose a certain outline that I use in trying to organize some of the forces in the pension movement. The outline will involve some outrageous generalizations. First, there is the proposition that all pensions are wage-related, because you are replacing income. A corollary of this proposition is that all pensions are, one way or another, really integrated with social insurance schemes whether it is done explicitly or implicitly. Now, after these propositions come certain empirical facts. First of all, real interest rates have declined. We worry a lot about peaks and troughs in the short term interest rate, but the hard facts are that we are experiencing a secular decline in real interest rates, and it may very well have been close to zero in recent years. Secondly, mortality has declined and the ingredients of low real interest rates and low mortality, of course, are a recipe for high pension costs. A third empirical fact is that the growth of the labor force is slowing. During the 1960's and 1970's in the United States our labor force was growing over 2% per year as a result of women moving into the labor force while we, at the same time, assimilated the baby boom produced between 1945 and 1960. The growth of our labor force is down in the United States and the growth rate will go down fairly rapidly, perhaps even turning negative, in the 1990's. The implications of these forces, of course, impact both social insurance schemes and private pension schemes. Because of some of the facts mentioned earlier, we have a great deal of difficulty increasing real levels of social insurance benefits now. Therefore, there is enormous political pressure to turn to the regulation and management of the private sector to increase those retirement benefits. We also have the desire of our accounting colleagues to stabilize, in some way, the cost accounting of pensions. But if you outline the various forces within this framework, you cannot only organize them, but see some of the developments that may well take place.

MR. SEGAL: I would like to comment on one item that Jim said, namely, that we have seen lower real interest rates for the past couple of years. I am not sure he would agree that this is the case today.

MR. HICKMAN: No. Real interest rates have been declining for many years. We have lots of peaks and troughs, but they have been declining.

MR. SEGAL: I did a study on this relationship a while ago for something unrelated to the pension field and looked at real rates of interest back over a period of fifty years in Canada. Also, just recently I had the opportunity to read an excellent paper presented to the British Institute of Actuaries where the author had presented a series of inflation rates and interest rates going back to the seventeenth century. I have come to the conclusion that the real rate of interest is relatively stable over very long periods of time. The times in which you have real rates of interest declining or increasing beyond their very long term trend of 2.5% to 3% per year are during times of unanticipated changes in inflation rates, either up or down. Real rates of interest, for example, in the early 1930s were very high in relation to their long term patterns because nobody believed, at that time, that the inflation that had been experienced in the late 1920s was going to come down and stay down for a long period of time. After the early 1930s, real rates of interest did, in fact, return to their traditional levels. In the last few years, I do not think anybody really believed that we were going to have very high rates of inflation. Therefore, real rates of interest were declining and went down to zero, perhaps negative levels. But I do not think there has been a secular downtrend, rather a reflection of what the economy perceives inflation will do. Personally, I see no real reason to believe that real rates of interest will not return over the long run back to their historical levels of 2.5% to 3%.

MR. DASKAIS: Thank you, Murray. Murray mentioned earlier that very few employers in Canada with which he is familiar appear to be using a different pension expense charge from the amount that is contributed to the fund. On the other hand, Keith mentioned that in the United States there is a significant number of employers, probably the larger employers, who are accounting for pensions somewhat differently from the manner in which they are funding. My observation would agree with Keith's. I wonder if some of you in the audience would care to comment upon what your perceptions are in the United States, in Canada or in the rest of the world.

MR. SCHALLER-KELLY: Well, I suppose I can say that my employer much prefers to keep the pension cost and the pension funding as the same amount. The problem is that in a country like Germany, you cannot have separate costs because there is really no way of funding or, at least, the ways of funding are a little peculiar. You can have a pension fund, but it is regulated just like an insurance company. Most pensions in Germany are simply commitments, and if the company goes bankrupt, then pensioners are simply creditors like any others. Perhaps they have previously been promised a pension with an index,and when the actuary finally gets around to calculating what his claim on the bankrupt company is, he does not take into account the indexing.

MR. MICHAEL COHEN: One of the factors that Murray mentioned as being important in funding Canadian plans is the dollar maximum that Revenue Canada places on funding. I was wondering, firstly, whether this is a common feature in the United states and other parts of the world, and secondly, if Murray would like to make some comments as to whether he feels the maximum should simply be abolished or at what level he feels a suitable figure could be struck that might be indexed.

MR. DASKAIS: Murray, while you are thinking, let me talk about the similar situation in the United States. In the United States there is in ERISA a maximum pension of $75,000 a year which escalates by the cost of living. The 1981 figure is $124,500. The Internal Revenue Service, in the preamble to some regulations it recently issued, appeared to imply that, for the purpose of deduction of contributions, the actuary cannot anticipate future cost of living increases in the $124,500 even though the statute itself automatically provides for the escalation. At a session I attended yesterday, somebody pointed out that if you use an 8% rate of pay increase and assume a 50% plan, employees aged 30 are affected by the maximum if they earned more than approximately $20,000 a year, and employees aged 20 are affected by the maximum if they earned more than $8,000 a year. I hope that in the United States the Internal Revenue Service will do something about this. Now, again, my observation is that most employers are not making maximum deductible contributions, and so it is not terribly important to them.

MR. SCHALLER-KELLY: May I just say one thing on the United States' situation. I gather there are a few cases which are being fought against the Internal Revenue Service on the basis that this regulation is ultra vires. These cases are being fought as slowly as possible by the Internal Revenue Service because the actuary involved in them says he thinks the Internal Revenue Service is going to lose the cases. Therefore, they are going to proceed as slowly as possible and, perhaps, find some way of not admitting they have lost that particular battle.

MR. DASKAIS: It would be my speculation, by the way, that the reason for the Internal Revenue Service's strong position has little to do with pension plans of large and medium sized companies. They are primarily concerned about professional corporations of doctors, lawyers, entertainers and such, where the employee may be earning a few hundred thousand dollars a year and would like to fund such a pension over 100% of pay.

MR. SEGAL: I would like to comment about the impact of that $60,000 maximum. First of all, I do not think it is now doing what it was intended to do. Employees of large corporations in Canada, where the employer intended them to have a pension that bears some relationship to what they were earning before retirement, are getting around that $60,000 maximum. For example, if a large corporation is paying its president something like $250,000 a year before retirement, and wants him to retire with a pension of $150,000 a year, it is charging it to taxable income, rather than through the pension route. They are doing it through various avenues, such as retiring allowances, which are then charged off to current operations. Or, they are doing it through consulting services arrangements under which the employee agrees that he will be available to answer two telephone calls a year.

In the case of the lower paid people or the middle management people, take, for example, an engineer who is earning $35,000 to $40,000 a year and who is now 30 or 35 years old. If he were to make realistic projections of what his pension will be on a 2% final pay plan, you will find that it will be much larger than $60,000 per year. If the purpose of costing and the purpose of allowing tax deductions is to charge to this year's customers and shareholders the cost of the pension that accrues during this year, it is unrealistic to be restricted by the $1,715 limitation. The result of this limitation is a one quarter of 1% or one half of 1% of final pay rather than 2% of final pay. The 2% of final pay will not be achieved unless the Canada Pension Plan is very massively expanded to cover not one times the average industrial wage but five or six times the average industrial wage.

In order to resolve this problem, I believe that a more sensible approach would be to do what the government has done with respect to the income tax system, the Canada Pension Plan and taxes on beer and liquor, all of which have been indexed. The $60,000 should be indexed to changes in the average industrial wage. If $60,000 was an appropriate limit in 1976, when it was raised from $40,000, then it is inappropriate in 1981, and it will be even more so in 1991. My suggestion, therefore, is that it should be indexed to changes in average wages throughout the country so that actuaries and employers will not have to go through the subterfuges that they are going through right now. Creative bookkeeping usually results in accountants going to jail. Actuaries have engaged in a bit of creative actuarial work, get paid quite handsomely for it and are held in high regard by their clients. The present system does not work and does not make sense.

We said a little bit about cash flow projections. I think it is dangerous. You can usually tell within a short period of time if the accountant has been wrong, if he has under-provided, for example, for bad debts. Actuaries are very fortunate. When we make our estimate, an estimate for the next fifty years, we will not be around at that time. Once we start making cash flow projections on a year by year basis, though, I think we must be very careful to hedge those projections. We likely will be around in a year from now after having projected the fund to earn 6% when it actually earned 12%, or the reverse, which could be much worse.

MR. SCHALLER-KELLY: I would like to make a small comment on the last subject. Most other countries do not have limits defined according to specific level of their particular currency. Most of them have something rather similar to, say, 2% of final average pay times years of service with a maximum which may be 70% or 66 2/3% of such average.