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PROJECTED UNIT CREDIT COST METHOD – UNITED STATES AND CANADA

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This session will:

- Compare and contrast standards set by various agencies (FASB, CICA, GASB, IRS) for calculations under the Projected Unit Credit Cost Method
- Discuss certain types of retirement and ancillary benefits that are not easily handled under the Projected Unit Credit Cost Method
- Provide insight into the nuances of using the Projected Unit Credit Cost Method for pension expense and funding purposes

MS. RONNIE SUSAN THIERMAN: As the title says, this session is about the Projected Unit Credit Funding Method. I'd like to see by a show of hands -- how many people were using this method, 10 years ago, in more than but a few of their cases? Anybody? Nobody – one person. How many people are using this method now, for say at least 50% of the cases in which they're involved? A vast majority. This shift in usage was one of the reasons why the SOA Pension Research Committee decided to do research and produce an article on the Projected Unit Credit Funding Method. It's a method that has really come into play in the last few years. Although it's now used by many plans, there are a number of issues regarding its usage that remain unanswered. We thought it would be beneficial to the pension community to bring out and discuss some of these questions.

I'd like to introduce the speakers. John Atteridg is principal with Mercer, in their San Francisco office. He also chairs Mercer's actuarial resource network. He's an FSA, a member of the Academy, a Fellow of the Conference, and an EA. Mike Sze is a partner and actuarial manager with Hewitt in Toronto. He has a Ph.D. in mathematics. He's an FSA, a Fellow of the Canadian Institute of Actuaries, and an EA. And last, but not least, is Dick Daskais. He's an independent consulting actuary, now residing in Los Angeles. Prior to that, he was a vice president and actuary with Goldman Sachs. Dick is an FSA, an EA, and a Member of the Conference.

MR. JOHN W. ATTERIDG: The first question, when you're dealing with the projected unit credit method, is what to call it -- the projected unit credit method or the pro rata unit credit method. Now fortunately, these can both be abbreviated PUC, which is what it's commonly referred to. But the difference between projected unit credit and pro rata unit credit is a very valid distinction to be made. The projected unit credit is the method that is described in some individual funding method applications and approvals by the IRS. And what the projected unit credit basically says to do is to value the plan on a unit credit basis, where you're going to take a look at the future decrements -- withdrawals, early retirement, death, and so on. And instead of valuing the benefit that's been accrued to date, you're going to value a benefit -- a projected benefit -- that will be based on service to date, what I'm referring to as SERVICE X and future salary, SALARY Y, where Y is the future date (Chart 1). I

want to mention that this nomenclature is by no means standard. It's totally haphazard, really. But, I think, as I use this throughout, it will help us see what pieces we measure as of today, and what pieces we project into the future. The projected salary that we're using herein would be based on the salary scale in use under the plan, the salary definition under the plan, and the averaging period under the plan. And it would reflect, since 1989, the $200,000 cap on earnings.

CHART 1

Projected Unit Credit

$$\text{Benefit}_y = f(SVC_x, SAL_y)$$

Alternatively, the pro rata unit credit values also takes a unit credit approach and values a projected benefit at each future age (Chart 2). But here, it values the actual projected benefit, with projected service and projected salary, and then prorates it, based on current service to date divided by projected service. If you've got a service cap in your formula, you would want to apply that cap not only in the benefit formula, but also in the proration. And this definition of pro rata unit credit can be found in Revenue Procedure 81-29, which gave automatic approval for a number of different funding methods. The first point that we want to make is that the two really are identical for formulas where the benefit is a flat percentage of pay for each year or a flat dollar amount for each year of service (Chart 3). In that case, the pro rata unit credit method starts with a formula that's identical to the one I just looked at. With the constriction that I've put on the type of formula, the projected benefit is simply the projected service times a percentage times the projected salary. Or, alternatively, projected service times a dollar amount per year of service. It doesn't take a whole lot of higher math to show that the fraction reduces results to the accrued service times the percentage times projected salary. And that's just what I started out with for my definition of projected unit credit. So, for a plan that meets the restrictions imposed by Revenue Procedure 81-29, the two methods are identical.

CHART 2

Pro Rata Unit Credit

$$\text{Benefit}_y = f(SVC_y, SAL_y) \times \frac{SVC_x}{SVC_y}$$

CHART 3

Identical for Flat Formulas

$$\begin{aligned}\text{Benefit}_y &= f(SVC_y, SAL_y) \times \frac{SVC_x}{SVC_y} \\ &= [SVC_y \times \% \times SAL_y] \times \frac{SVC_x}{SVC_y} \\ &= SVC_x \times \% \times SAL_y \\ &= f(SVC_x, SAL_y)\end{aligned}$$

Let's look at a projected unit credit example (Chart 4). All of the examples that I am going to use, I will use an employee who is currently age 35, and who has 10 years

of past service. I want to look at the specific withdrawal at age 50: what benefit should I be valuing under the projected unit credit method? In this case my plan formula is 1.5% for the first 10 years, and 2% for years after that. The person's current service is not yet into the 2% period, all that I would value for withdrawal at age 50, based on his current age of 35, is 10 years of service, times my benefit factor of 1.5%, times my projected salary. I've chosen a salary of $30,000, but notice the times salary scale to the 15th power. Fifteen years of projected salary.

CHART 4
Projected Unit Credit Example

$$\text{Benefit}_{50} = 10 \times 1.5\% \times (30{,}000 \times 1.06^{15})$$

$$= \frac{10 \times 1.5\%}{10 \times 1.5\% + 15 \times 2\%} \times 45\% \times (30{,}000 \times 1.06^{15})$$

= Pro Ration Based on Accrual Rates

I can restate that formula, working in the entire benefit formula. Start with 1.5% for the first 10 years, 2% for years after that. I'll come up with a fraction: 10 times the 1.5% factor divided by the projected percentage of pay that this person will be entitled to at age 50, again times my projected salary. I state it this way: I've come up with proration of the projected benefit, now using projected service, where the proration is based not strictly on service, but rather is based on the accrual rates under the plan. That's not what the IRS said to do in 81-29, but this formula doesn't meet the restrictions for 81-29, so that's sort of irrelevant. This is exactly the definition that the FASB says to use for a Financial Accounting Standard 87. Take the projected benefit and prorate it, based on the accrual rates under the plan.

The next question is what should I do about normal cost (Chart 5)? So far, I've just been talking about the liability I want to value. Now, normal cost under any of the unit credit methods is equal to the liability for benefits payable in the future, attributed to benefits allocated to this year. In the pro rata case, it's simply one divided by the future service, and times the fully projected benefit, using projected service and projected salary. For the true projected unit credit method, the normal cost is the liability (based on next year's benefit minus this year's benefit). Both next year's benefit and this year's benefit are based on projected salary, because it's the projected unit credit method. The only difference is using next year's service as opposed to this year's service. So that can make a difference, if you're right on a bend point in a service-related formula. My nomenclature is going to get totally substandard here, but it actually makes sense to think of that as the present value of the benefit attributable to one year of service, right now. The one year of service at age X.

CHART 5
Normal Cost

$$\text{Pro rata} = \frac{1}{SVC_y} \times f\,(SVC_y,\ SAL_y)$$

$$\text{Projected} = f(SVC_{x+1},\ SAL_y) - f(SVC_x,\ SAL_y)$$

$$= f(1_x,\ SAL_y)$$

I'd like to look at four types of formulas that are difficult to deal with under the projected unit credit method. Formulas that are very easy to deal with are straightforward. Final average pay plans, where you've got a fixed benefit formula that attributes benefits to given years of service, are real easy under the projected unit credit method.

But other formulas can give you some problems. For example, an accrual formula that changes between two ages (Chart 6). I think many of us are familiar with plans that grant full accrued benefits if you take early retirement, but if you leave prior to early retirement, they use a project and prorate method, written right into the benefit formula. If you are doing that, then the benefit that you're going to value for benefits projecting to age 54, thinking of vested terminations at age 54, is a project and prorate benefit, because that's in our formula. This time I'm using a 2% formula, with a maximum of 30 years. So my projected benefit uses the maximum of 30 years. So far, my 35-year-old has 10 out of his projected 40 years, and that's the proration. Notice that this is the projected benefit, based on service to date, so this is a true projected unit credit approach. The proration is right in the benefit formula, as opposed to being a pro rata unit credit approach. By contrast, the benefit accrued to age 35 for early retirement at age 55 is simply 10 years of service to date, times 2%, times the salary at age 55. Again, projected benefit based on the service to date. Notice that in both cases, I'm using the benefit formula that will apply in those two years. The problem, really, is that the benefit formula applies changes between the two years, and so we have to recognize that change in the liability that we value.

CHART 6
Accrual Formulas that Change

$$\text{Projected to } 54 = \frac{10}{40} \times (2\% \times 30) \times SAL_{54}$$

$$\text{Projected to } 55 = 10 \times 2\% \times SAL_{55}$$

A similar problem comes with what to do when early retirement factors themselves change (Table 1). This would be a case where the early retirement factor for people who go out as vested terms are fairly low factors, rather chintzy. The early retirement factors for people who take early retirement from active status are much more heavily subsidized. The IRS originally took the approach in column A, that the liability accrued through age 54 would be the benefit accrued through 54 times the early retirement factor at age 55. Right now, I'm thinking in terms of what is my liability to date, for early retirements that will occur next year, when I'm 55. Since I'm not yet eligible for the enhanced early retirement factor, it would be the smaller early retirement factor. And then next year, when I become eligible for it, it would be my benefit using service to 55, times the enhanced early retirement factor. And you can see that since the difference in the two liabilities has got to be normal cost, there's going to be a huge spike in the normal cost under this approach. The alternative approach, to the extent that we're valuing early retirement at age 55, and the person is now age 54, would be to say, "Wait a second. Even if I terminate the plan right now, if this person works to age 55, I have to give them the more generous early retirement factor." So the alternative approach would be to use the more generous factor to the extent that the person is expected to work to age 55, which is what we're valuing in the first place. That results in a smoother progression of normal

costs and avoids the spike between age 54 and 55. Informal conversations with the IRS have confirmed that they now believe approach B, the smoother approach, is required. And basically, they're saying that even though the underlying method is no different, that really this is a result of the Retirement Equity Act, which said that the early retirement factor is now part of the accrued benefit. Prior to that, when the early retirement factor could have been cut back any time prior to age 55, you didn't need to value it that way, and you could have used approach A.

TABLE 1

Early Retirement Factors that Change		
	A	B
Age 54	B_{54} x 0.40	B_{54} x 0.70
Age 55	B_{55} x 0.70	B_{55} x 0.70
Normal Cost	Spike	Smooth

A whole class of benefit formulas that really don't work very well at all with the projected unit credit method is career average plans (Chart 7). The whole problem with it is how do you decide what is the projected benefit, based on projected salaries, but using service to date? And what most practitioners have done is basically to throw up their hands in dismay and use a straight service proration on the benefit formula. That actually makes a fair amount of sense, since the only other obvious alternative would be to use the actual accrued benefit, which would mean we're back under the pure unit credit method and haven't achieved our goal of advanced funding. A straight proration of the projected benefit also makes some sense if you take the viewpoint that a career average plan with reasonably frequent updates basically amounts to a final average plan, in which case straight proration is appropriate. The question of what to do about updates is still not solved very satisfactorily, even using the pro rata simplification. The problem is that if you prorate based on the accrual rates in the plan, and the update changes those accrual rates, you could have a case where the update does nothing, or very little, for a particular participant. Their benefit only goes up by a few dollars. And yet, if you change your proration, you could have a big change in the accrued liability. On the other hand, the straight proration alternative, which many practitioners use, means that some of your update is going to go into future normal costs. And that doesn't seem like a very happy solution either. From an accounting standpoint, it may actually make sense, because one of the reasons you're giving an update is because you expect to get some future economic benefit from the update. But from an IRS perspective, career average plans and their updates really don't work very well under the projected unit credit method, and most plans that I'm familiar with just use a straight pro rata approach on them.

CHART 7
Career Average

$f(SVC_x, SAL_y) = ?$
– Use pro rata
– What about updates?

The final benefit formula that has some difficulties under the projected unit credit method is what to do with a disability benefit that grants continued accrual while you're disabled (Chart 8). Most plans simply take a service proration. To the extent that I'm expected to become disabled this year at age 35, surely it all has to be already accrued. My ultimate benefit will be based on 40 years of service, times 2%, times my salary at age 35, because it's level continued accrual. To the extent I'm going out this year, I better have accrued 10/10ths of that." To the extent that I'm expected to go out next year, at age 36, it's still 40 years times 2%, times salary at age 36 this time, and we will have accrued only 10/11ths of that. And while that makes for a reasonably equitable solution, it does have the drawback that my accrued benefit attributable to next year's disability will actually be less than the accrued benefit attributable to this year's disability. And that seems like a slightly strange result.

CHART 8
Disability with Continued Accrual

$$\text{Benefit}_{35} = \frac{10}{10} \times 40 \times 2\% \times \text{SAL}_{35}$$

$$\text{Benefit}_{36} = \frac{10}{11} \times 40 \times 2\% \times \text{SAL}_{36}$$

$$\text{or Continue Accruals After Disability} = 10 \times 2\% \times \text{SAL}_{y}$$

One alternative that I haven't seen used very much, but I think may actually make some sense, is to go back to the basic precept that my disabled participants are continuing to accrue benefits, albeit at a frozen salary. If we do that, we could decide, "Well, why not treat these people as pseudo-actives, with continued accruals?" Then maybe the simplest solution is to continue those accruals, to recognize normal costs in future years for these disabled participants, and to say that the attributed benefit to date, for any future disability, is simply 10 years service to date, times my 2% factor, times the projected salary. Right now, this approach could have some favorable results for sponsors who want to limit their contributions, because it's going to come out with a lower accrued liability attributable to disability, which can be useful where the plan is going in and out of full funding. I think that this also makes some sense because the plan realistically can cease accruals for these participants who become disabled. For example, if you terminate the plan, even to the extent that you have some disabled who are currently continuing to accrue benefits, when you terminate the plan, wouldn't you generally cease their accruals? In which case, it doesn't make sense to say that they had already accrued 100% of their benefit back when they went out disabled.

That completes my four examples of plan provisions that have some problem under the projected unit credit method.

MS. SUSAN M. SMITH: Could you go back, John, to your very first example, where the accrual formula changes if you became eligible for early retirement. I don't think I understood how that normal cost was to be calculated. Is the normal cost simply the difference between the benefit at 54 and 55?

MR. ATTERIDG: In this example, I'm looking at the benefit accrued to date, for withdrawals at 54. And then separately at the benefit accrued to date for early retirements at 55. So the normal costs for withdrawal at 54 would be 1/40 in the first case, and would be one times 2% in the second case.

MS. SMITH: But you still run into the problem, on the first one, when it is just simply that kind of an accrual pattern. And I think that's one of the controversial parts of the IRS' interpretation. And there are differing opinions, as far as I know, in terms of whether that spike is to be treated as the normal cost or whether it needs to be smoothed, similar to what you have on the change in the early retirement factor.

MR. ATTERIDG: You're right: if we use the project and prorate as our accrued benefit even for early retirements, as well, then yes, you do get a spike as you move from age 54 to 55.

MS. SMITH: That one's not so clear, in terms of how the IRS wants to have it handled.

MR. ATTERIDG: I agree because, presumably, if you terminate the plan at age 54, this employee is out in the cold, and will never get that flat 2% rate that you would have been funding for. And yet, if you haven't been funding for it, when that employee reaches 55, you suddenly have a huge increase in liability, with a concomitant one-year normal cost.

FROM THE FLOOR: If the accrual pattern under the plan is the fractional method, would you always end up using the pro rata method?

MR. ATTERIDG: Yes. If the accrual pattern under the plan is the fractional method, then the pro rata and the true projected unit credit method will both result in the same answer because a fractional method accrual means that you have a flat rate of accrual for a given individual. It may differ from one individual to another, because of the fractional method, but for any one individual, it is flat from current age to projected age.

Now Dick Daskais will cover some of the Governmental Accounting Standards Board (GASB) issues and other problems.

MR. RICHARD DASKAIS: I'm going to talk first a little bit about GASB. GASB is the Governmental Accounting Standards Board which is, of course, not a governmental agency, but has the same relationship to governmental agencies producing accounting and similar reports that FASB does to profit-making enterprises and some nonprofit enterprises. GASB Statement 5 deals with the plan's reports and provides that what's called the pension obligation must be disclosed. And it prescribes the projected unit credit method for calculating the pension obligation. But it is different in one respect from the SFAS 87 in that it requires the use of a project and prorate method, even though the plan attribution formula, or the plan accrual formula, may be nonlinear. The reason, I believe, is that governmental agencies and governmental plans are more likely to have an indefinite life than private plans, and therefore, it is reasonable to disregard the method by which each employee accrues his benefits,

and just simply look at the projected benefit and prorate it among all the years of service.

Table 2 is a rather trivial example. It shows a front-loaded benefit formula, 2% for each of the first 20 years of service, and 1% for each year of service in excess of 20, for entry age 25. The front loading of the formula will result in a more rapid accrual of benefits for SFAS 87 purposes than for GASB Statement 5 purposes. In the first 20 years, the SFAS 87 accrual is one third higher than the GASB accrual. In other words, the GASB accrual simply accrues everything over the projected period to assumed normal retirement here, 65. For entry age 35, there's a slight difference. And, of course, for entry age 45, there's no difference at all. And that, of course, is very trivial.

Now I want to talk about floor plans. I'm defining a floor plan as a defined benefit (DB) plan which provides that, together with one or more defined contribution (DC) plans, a minimum benefit will be provided. A floor plan requires some assumptions that are not normally necessary in most DB plans. First, if the DC plan, to which the floor applies has variable contributions (that is if it's a profit sharing plan or something elsewhere the employer contributions to the DC plan will be variable), the actuary in valuing the DB plan must make some assumption as to what the future contributions to the DC plan will be. Second, the actuary needs to make an assumption about the investment return and, perhaps, forfeitures that will be credited to the employees' DC accounts. If the DC plan has employee options as to investment, the rate of credit may be different for different employees. It may even be expected to be different, based on their current elections. You also, of course, theoretically have to take into consideration the possibility that some of the DC accounts are in Executive Life, or similar life insurance companies, about which we've heard much.

There are some other peculiarities of floor plans. There may be past service credits under the DB plan, but not under the DC plan. There may be different eligibility requirements for the DC plan and the DB plan. Last, and this is important from an accounting standpoint, it probably doesn't apply to very many cases, if the DC plan is an employee stock ownership plan (ESOP), the credits to the employees' accounts will typically not be the same as the employer cost, because that's the way ESOPs generally work. We can have, in a floor plan, negative DB accruals. In other words, in the early years of an employee's participation, it may well be that his DC credits, together with assumed investment return on the DC plan account, will be greater than value of the prorated benefit accrual under the DB plan. If the DC plan works well, there will be negative DB benefits at retirement which, of course, will not be taken. And last, of course, we can have negative expense, but we cannot have negative funding in the DB plan.

Last, to ascertain the benefit under the floor plan, the plan must prescribe some method of converting the DC plan balance to an equivalent life annuity. This, of course, could be fixed by the terms of the plan or it could float with some indexed interest rate. There are basically two approaches to valuing the DB plan. First, you can project the net DB benefit expected at retirement, and prorate it according to the benefit accruals. Let's assume that they're equal in all years, just prorate it over projected service to retirement or other decrement.

PROJECTED UNIT CREDIT COST METHOD

TABLE 2

Benefit formula 2% FAS for each year up to 20,
1% FAS for each year in excess of 20

	Entry Age 25		Entry Age 35		Entry Age 45	
Accruals	GASB	FASB	GASB	FASB	GASB	FASB
Each year to 20	1.50%	2.00%	1.67%	2.00%	2.00%	2.00%
Each year over 2	1.50%	1.00	1.67%	1.00	2.00	1.00
After 5 years	7.50%	10.00%	8.33%	10.00%	10.00%	10.00%
After 10 years	15.00	20.00	16.67	20.00	20.00	20.00
After 15 years	22.50	30.00	25.00	30.00	30.00	30.00
After 20 years	30.00	40.00	33.33	40.00	40.00	40.00
After 25 years	37.50	45.00	41.67	45.00		
After 30 years	45.00	50.00	50.00	50.00		
After 35 years	52.50	55.00				
After 40 years	60.00	60.00				

Second, you can calculate the accrued DB benefit by taking the DB formula to date, and subtract from it the DB benefit attributable to the DC account balance to date, making assumptions about investment return on the DC plan and the rate at which the DC balance will be converted to an equivalent annuity. And for second approach, the actuary must decide whether he will recognize negative normal costs in the very early years, which will be more than offset by positive normal costs in later years for those employees who will project a positive DB benefit at retirement.

In many respects, when you go through the arithmetic, you will have problems that are similar to those that John referred to on the career average update. These problems will arise out of differences between the expected DC plan return and the actual DC plan return.

Tables 3 through 6 show a DC plan that calls for a fixed contribution of 4% of the employee's pay at the end of each year. We have a DB plan that provides for a benefit of 1% of final average pay. Now, what might be called the actuarial assumptions are that the discount, or interest rate, depending on whether you're talking about SFAS 87 or contributions, is 8%. The assumed pay increases are 5%. The DC plan return is the same as the investment return assumed for the DB plan, that is 8%. And the life income conversion at age 65, my assumed retirement age, will be based on a 7% interest rate and a reasonable mortality table. All of the examples relate to an employee who is age 35 at entry and retires at age 65. There are no assumed preretirement terminations, death or otherwise. The left-hand columns show the project and prorate, which would probably be appropriate for IRS funding purposes and for GASB Statement 5 purposes. And you see that the normal costs are a nice smooth progression. The normal costs are shown at the end of the year, and the accrued liability is shown at the end of the year; in other words, an accounting type environment. The normal costs increased by 8% per year which, of course, is the assumed investment return. And that's exactly what you would expect. And the accrued liability is, since we have not built any gains or losses in, the normal costs accumulated with the 8% investment return.

If we use the accrued net benefit approach, in the first eight or nine years, there is no normal cost, assuming we're not recognizing negatives. And, of course, no accrued liability. Which simply means that the value of the DC plan together with the assumed 8% return is more than adequate to provide the assumed 1% per year of service benefit. And then, once we get to the point where we have positive normal costs, they increase at a rate of much more than 8% per year, which is in contrast to what you would normally expect using a projected unit credit method with uniform accruals and with no gains or losses.

Table 4 is the same as Table 3, except that the DC plan actual return (not what the actuary assumes in doing his valuations, but what the DC plan actually returns to participants' accounts) is at the rate of 7%, rather than 8%. This would be quite typical if, as in many DC plans, the employees elect the GIC option and they, therefore, get a short-term interest rate. The DB plan had losses because the DC plan actual investment return was 7%, rather than the assumed 8%. Consequently, the normal costs under the prorate method were greater in Table 4 than were shown in Table 3. We have, in effect, thrown the losses into the normal cost. That should not generally result under a projected unit credit method, but it has happened here.

PROJECTED UNIT CREDIT COST METHOD

TABLE 3

Defined Contribution 4.00% of pay
Defined Benefit 1.00% of final 5-year average pay

Assumptions

Discount (interest) rate	8.00%
Pay increases	5.00%
DC plan return	8.00%
Life income conversion Factor (Ben/$1)	7.00% 0.1121

Entry age	35
Retirement age	65
Final average pay	93,559
DC plan actual return	8.00%

	PROJECT AND PRO-RATE		ACCRUED NET BENEFIT	
Age at Beg	Normal (Serv) Cost	Accrued Liability (PBO)	Normal (Serv) Cost	Accrued Liability (PBO)
35	197	197	0	0
36	213	426	0	0
37	230	691	0	0
38	249	994	0	0
39	269	1,343	0	0
40	290	1,740	0	0
41	313	2,192	0	0
42	338	2,706	0	0
43	365	3,288	0	0
44	395	3,945	216	216
45	426	4,687	285	518
46	460	5,522	353	913
47	497	6,461	430	1,416
48	537	7,514	514	2,043
49	580	8,695	609	2,816
50	626	10,017	713	3,754
51	676	11,494	828	4,882
52	730	13,144	956	6,229
53	789	14,984	1,097	7,824
54	852	17,035	1,252	9,702
55	920	19,317	1,423	11,901
56	993	21,856	1,612	14,465
57	1,073	24,678	1,819	17,441
58	1,159	27,811	2,046	20,882
59	1,251	31,287	2,296	24,850
60	1,352	35,142	2,571	29,408
61	1,460	39,413	2,872	34,632
62	1,577	44,142	3,201	40,604
63	1,703	49,376	3,562	47,415
64	1,839	55,165	3,957	55,165

TABLE 4

Defined Contribution 4.00% of pay
Defined Benefit 1.00% of final 5-year average pay

Assumptions

Discount (interest) rate	8.00%
Pay increases	5.00%
DC plan return	8.00%
Life income conversion Factor (Ben/$1)	7.00% 0.1121

Entry age	35
Retirement age	65
Final average pay	93,559
DC plan actual return	7.00%

	PROJECT AND PRO-RATE		ACCRUED NET BENEFIT	
Age at Beg	Normal (Serv) Cost	Accrued Liability (PBO)	Normal (Serv) Cost	Accrued Liability (PBO)
35	197	197	0	0
36	213	427	0	0
37	231	694	0	0
38	250	1,003	0	0
39	271	1,361	0	0
40	294	1,776	0	0
41	320	2,256	0	11
42	348	2,809	119	224
43	379	3,447	168	523
44	414	4,181	223	923
45	452	5,025	285	1,440
46	493	5,994	353	2,093
47	539	7,106	430	2,904
48	590	8,379	514	3,896
49	646	9,836	609	5,097
50	708	11,501	713	6,536
51	776	13,401	828	8,247
52	851	15,568	956	10,268
53	934	18,036	1,097	12,642
54	1,025	20,844	1,252	15,416
55	1,126	24,036	1,423	18,642
56	1,236	27,660	1,612	22,379
57	1,358	31,771	1,819	26,693
58	1,492	36,429	2,046	31,656
59	1,639	41,704	2,296	37,350
60	1,802	47,670	2,571	43,864
61	1,980	54,412	2,872	51,299
62	2,176	62,026	3,201	59,765
63	2,392	70,615	3,562	69,386
64	2,630	80,298	3,957	80,298

On the other hand, if we use the accrued net benefit approach, that one which we would probably use for SFAS 87, which I believe is much more oriented toward accrued benefits than toward level costing, we find that all of the loss is thrown into the accrued liability. The normal costs are exactly the same as were shown on the previous table.

I'm going to skip Table 5, which was exactly the opposite of Table 4. Table 5 shows that if there are gains (if the DC plan earns 9% rather than the assumed 8%), the gains are thrown into the normal costs under the prorate method, whereas the gains are all reflected in the accrued liability or the projected benefit obligation (PBO) under the accrued benefit method.

Now, in Table 6, I'm going to show what happens if the actuary is able to predict that the DC plan will, in fact, earn less than the DB plan fund. This is like Table 3, in that the actuarial assumptions are 8% for the discount rate, and same pay increases and same life conversion factor is used. But the actuarial assumption as to the earnings of the DC fund is 7%, rather than 8%. You can all think about whether the IRS, under its 8% standard, would permit you to assume that a DC plan is going to earn less than 8%.

Again I'm going to write some figures here, comparing this with the base case, where all the assumptions were 8% and were all realized. We see here where the DC plan earns, and is expected to earn, only 7%, that the accrued liability at retirement is $80,000 instead of $55,000, or almost 50% greater. What that shows, of course, is the sensitivity of the DB costs to a relatively small change in the earnings rate and earnings assumption for the DC plan. In our base case, with the 8% assumption, under the accrued net benefit method the DB plan produced no cost until the 10th year, whereas with a 7% investment return the DB plan develops a cost in the first year. I won't give you any more examples.

That's all for floor plans. On shutdown benefits, which is an entirely separate subject, the actuary valuing the DB plan has to consider what are the triggering events that might typically be the shutdown of all employment covered by the plan. It might be the shutdown of a distinct part of employment, for example, a particular location or factory in a multilocation employer. Or it might be the United Auto Workers (UAW) or Steelworkers type of shutdown of a small unit, or layoff, or other mutually satisfactory termination of individual participants. Now the two types of benefits that we can deal with are the so-called supplemental benefits, typically income replacement until either age 62 or age 65, or early retirement enhancements, which may be either earlier eligibility for early retirement or a smaller reduction for early retirement. Obviously, the actuary needs to make assumptions about the triggering events, but those are really not peculiar to the projected unit credit method. I won't go into them. The prescribed accrual patterns are basically similar to what John had described; namely that for the supplemental benefits, which are typically not related to service, they are deemed to accrue linearly to the decrement age, and for early retirement enhancements, they should follow the pattern of the basic plan.

MR. MICHAEL SZE: The first topic is contributory pension plans -- to see how these plans would affect the application of the unit credit method? And the other topic is Canadian issues. By the way, just to see whether the topic is relevant, let me ask

TABLE 5

Defined Contribution 4.00% of pay
Defined Benefit 1.00% of final 5-year average pay

Assumptions

Discount (interest) rate	8.00%
Pay increases	5.00%
DC plan return	8.00%
Life income conversion Factor (Ben/$1)	7.00% 0.1121

Entry age	35
Retirement age	65
Final average pay	93,559
DC plan actual return	9.00%

	PROJECT AND PRO-RATE		ACCRUED NET BENEFIT	
Age at Beg	Normal (Serv) Cost	Accrued Liability (PBO)	Normal (Serv) Cost	Accrued Liability (PBO)
35	197	197	0	0
36	213	426	0	0
37	230	688	0	0
38	248	986	0	0
39	266	1,323	0	0
40	286	1,703	0	0
41	306	2,127	0	0
42	328	2,599	0	0
43	351	3,121	0	0
44	375	3,697	0	0
45	399	4,329	0	0
46	425	5,019	0	0
47	452	5,769	58	0
48	479	6,581	320	43
49	508	7,456	609	337
50	537	8,394	713	710
51	567	9,395	828	1,177
52	597	10,457	956	1,751
53	627	11,579	1,097	2,447
54	658	12,755	1,252	3,282
55	689	13,981	1,423	4,277
56	719	15,248	1,612	5,453
57	749	16,546	1,819	6,835
58	777	17,863	2,046	8,448
59	804	19,182	2,296	10,323
60	829	20,483	2,571	12,494
61	851	21,741	2,872	14,997
62	870	22,927	3,201	17,874
63	884	24,006	3,562	21,170
64	894	24,935	3,957	24,935

PROJECTED UNIT CREDIT COST METHOD

TABLE 6

Defined Contribution 4.00% of pay
Defined Benefit 1.00% of final 5-year average pay

Assumptions

Discount (interest) rate	8.00%
Pay increases	5.00%
DC plan return	7.00%
Life income conversion Factor (Ben/$1)	7.00% 0.1121

Entry age	35
Retirement age	65
Final average pay	93,559
DC plan actual return	7.00%

	PROJECT AND PRO-RATE		ACCRUED NET BENEFIT	
Age at Beg	Normal (Serv) Cost	Accrued Liability (PBO)	Normal (Serv) Cost	Accrued Liability (PBO)
35	287	287	123	123
36	310	621	148	281
37	335	1,005	175	478
38	362	1,448	205	722
39	391	1,954	239	1,018
40	422	2,533	276	1,375
41	456	3,191	317	1,803
42	492	3,939	363	2,310
43	532	4,785	414	2,909
44	574	5,743	470	3,611
45	620	6,822	532	4,432
46	670	8,038	600	5,387
47	723	9,404	676	6,494
48	781	10,938	759	7,772
49	844	12,657	850	9,243
50	911	14,580	951	10,933
51	984	16,731	1,061	12,869
52	1,063	19,132	1,183	15,081
53	1,148	21,811	1,316	17,604
54	1,240	24,796	1,462	20,474
55	1,339	28,118	1,623	23,735
56	1,446	31,814	1,799	27,432
57	1,562	35,921	1,991	31,619
58	1,687	40,481	2,203	36,351
59	1,822	45,541	2,434	41,692
60	1,967	51,152	2,687	47,714
61	2,125	57,369	2,963	54,495
62	2,295	64,253	3,266	62,120
63	2,478	71,871	3,596	70,686
64	2,677	80,298	3,957	80,298

how many people are dealing with contributory pension plans? Oh, many of you are dealing with these plans. Then you probably know better than I do already. The complication with contributory pension plan is that, on the one hand, you have benefit accrual. On the other hand, you have employee contribution plus interest. The benefit accrual is a benefit, employee contribution plus interest is a value. Somehow you have to compare the two. To bring them to the common denominator, you either change the contribution plus interest from a value to a benefit or you change the benefit into a value. Whichever the case, you need to use actuarial assumptions. Not only do you need to know the benefit formula, the government regulations, and the service and pay to calculate the attributed benefit, but you have to tie it to the value. Therefore, the calculation of the attributed benefit would hinge also on economic assumptions. That is where the complication comes.

The principal is pretty straightforward. You have employee contribution plus interest. Every year you will credit those accounts with additional employee contribution and interest. The total plan costs would be based on the total benefit that's earned by the employee, recognizing the employee contribution, and whatever that's paid for by the employer. When you net out the employee cost from the total cost, you get the employer cost. Thus, the principal is pretty straightforward. But the practical application of the unit credit method to the calculation of pension cost is more difficult. And there are many different variations of the method. I will discuss two variations that are commonly used. One is based on the attributed benefit and employee contribution plus interest to date. The other is based on projecting everything to the point of decrement. Then compare the value of benefits to the contributions at that point and discount it with it back to the valuation date. The point of decrement that we are talking about could be termination, disability, death, or retirement.

I'm first going to talk about the principal involved, and then tie in with details required as a result of IRS regulations. The first method is based on the attributed benefit and contribution plus interest to date. In principal, what do you do? You know what is the attributed benefit to date. You can work out the present value of that. On the other hand, because you have been rolling up employee contribution plus interest to date, you know what that amount is. Compare the two, the bigger of the two is your liability. Then you look at one year's attributed benefit, work out the present value of that, netting out the expected employee contribution. That is the employer normal cost.

But that's only principal. Now does the regulation apply to that kind of principal? Well, they're basically trying to do that same thing. What they are saying is, for employee contribution plus interest, you've got to roll it up every year to the normal retirement age, based on some prescribed rates, convert that by prescribed factors into a benefit. That benefit is called the benefit that's provided by employee contribution. When we net out the benefit provided by employee contribution from the total attributed benefit, we get the employer-provided benefit. The employer-provided benefit also includes the benefit that's provided at the time of employee termination, e.g., return of employee contribution, plus interest. The total value of the employer provided benefit is the accrued liability. As we apply the same process to the benefit accrued for this year, we get the normal cost. As you can see, although the principal

is pretty straightforward, the application is rather tricky because you have to use all these different prescribed rates.

Another variation of applying the unit credit method to reflect employee contribution plus interest is to project everything to the point of decrement. Starting with the accumulated employee contribution, you roll it up every year, based on some prescribed rate to the point of decrement. Similarly you project the total benefit that the employee has earned to the point of decrement. Then you compare the value of the projected benefit to the employee contribution plus interest to get the bigger value, and discount it back to date of the valuation, recognizing the value of the return of employee contribution at the time of termination. That is your accrued liability. By repeating the process for benefit earned to the end of the year, and subtracting out the value the benefit earned to the beginning of the year, you get the total normal cost. Now, if you subtract out the expected employee contribution plus interest for the current year, you get the employer normal cost.

The principal difference between the two variations is that in the first method you're recognizing only the projection to the normal retirement age and only accounting it once. The other approach, you'll actually do it decrement by decrement, which is more detailed, and presumably more exact. However, even with all the computer software that all of us have, you know how difficult it is to roll things up at prescribed rates at different ages and so on. My experience is that most practitioners are using the first method. Maybe at this point can I ask how many people are actually doing it exact? Oh, good. So we have quite a few people doing it exact to the decrement ages. The majority of the audience here, I presume, are doing it a little bit simplified. I think that this is a choice that you have to make.

FROM THE FLOOR: I'd like people to think about the situation where you're to do the projection of the total gross benefit and then the projection of what the employee contributions are going to buy, at a decrement age. And then say, "Okay, I'm going to net that out, and that's my net benefit." Now you know what you think the employer is going to pay. What assets do you subtract from that obligation? Because I think you're in trouble.

MR. SZE: Are you asking a question, or providing a comment?

FROM THE FLOOR: I'm asking people to think about it.

MR. SZE: Well, I guess that's how much I'm going to talk about contributory pension plans. If there's no other question, I will go on to Canadian issues.

By the way, how many people are working on Canadian plans at all? Oh, boy, that's good. There seem to be a sizeable group of actuaries here working on Canadian pension plans. So the topic is not just academic. However, even for the others who are not working on Canadian plans, I contend that looking at Canadian issues is still very relevant, both on a theoretical basis as well as on a practical basis. It's of theoretical interest because pension is a complicated subject. There are similar problems in Canada as well as in the U.S. Facing similar problems as these of the U.S., but operating under different environments, you will see that Canadians come up with a different solution or semisolutions and regulations. So even from an

academic point of view, it is an alternative approach to funding and legislated issues. It is also of practical importance, because, with free trade and so on, there's very close economic tie between the U.S. and Canada. A lot of U.S. companies have Canadian subsidiaries, and I was told recently that there are some U.S. companies that are Canadian subsidiaries themselves. These companies have to abide by both Canadian and U.S. accounting rules, as well as satisfy some funding requirements in Canada. So it is very relevant for us to try to understand what issues are involved and how we should deal with them.

There are two kinds of issues that I would like to discuss with you -- accounting issues and funding issues. Let's talk about accounting issues first, because these are simple. Not that the issues are simple, but because the Canadian accounting principles are quite like the U.S. principles. The U.S. accounting issues are prescribed in SFAS 87 and SFAS 88. While all the discussion, task force, exposure draft and so on were going on in the U.S. in 1985 and 1986, similar discussions went on in Canada. The Canadians started a little bit later, and borrowed a lot of concepts I presume from the U.S. In the end, they came up with a similar set of rules that are prescribed in *Canadian Institute of Chartered Accountants (CICA) Handbook,* section 3460. The principles laid down there are very closely tied to the SFAS 87 and SFAS 88. There are a few exceptions, as you would expect there to be. In general, the CICA principles are more flexible and less detailed. Thus, the actuary and the accountant have more leeway to change and put in their own interpretation.

Let's look at a few of the differences. On negotiated benefit increases that are not in effect as of the actuarial valuation date, in the U.S., according to SFAS 87, you recognize the ultimate benefits immediately. In Canada, you have the flexibility. You can recognize it as it happens. So, in that sense, you recognize the cost increases gradually. In terms of the application of the unit credit method, both FASB and CICA would require that you use projected unit credit method. However, in the application of the method, there is a difference. In the U.S., you have to base the proration on the benefit accrual rate. So if you have a benefit rate that is 2% for 30 years and 0% thereafter, thus, after 30 years' service there's no normal cost because there is no benefit accrual. In Canada, you are allowed to project the whole benefit accrual to retirement, and then just prorate the entire benefit by total service. As you see, there is more flexibility in Canada.

Because a lot of the Canadian companies are U.S. subsidiaries, you have to comply with both U.S. and Canadian rules. Now, does it mean that you do FASB and CICA expenses differently? Does it mean that you come up with two sets of books? Well, not really. Because there are so many similarities between FASB and CICA rules, usually the accountants and the actuaries will be able to agree on a common set of rules to use for both CICA and FASB calculations. And for most calculations, they would satisfy both FASB and CICA rules. If minor differences exist, we just say, "Oh well, that's negligible because it is not material." That's an important word.

So much for accounting. Now for funding. Funding is governed by the IRS in the U.S. In Canada, the situation is worse, you have two government agencies involved, the federal government and the provincial governments. Each of these governments has a say on the funding issues. Thus, the situation is quite complicated. In Canada, the basic principle is: the federal government is in charge of tax deduction. So the

federal government has jurisdiction on the maximum deductible amount. On the other hand, the provincial government has the duty of looking after the benefit security of the participants. Therefore, the provincial governments will be looking after eligibility, portability, vesting, minimum pension contribution, termination benefit, and liabilities. Of course, with two sets of jurisdictions on the same pension plans, they need to work together to ensure consistency. Luckily, so far, the rules and regulations have not been contradicting each other.

With all the differences in regulations for U.S. and Canada, there are quite a number of similarities, especially in principle. For instance, look at the maximum benefit limit. In the U.S., we have the 415 limit. We have also a limit on pay. In Canada, we have a similar maximum benefit limit. And the benefit limit is based on the smaller of 2% of final average pay and $1,722.22, times years of service. Don't ask me why they use $1,722.22. It used to be $1,715 per year of service. But they thought of being generous with the new goods and service tax (GST), give you $7.22 for postage or something. GST right. Seven percent GST, so therefore the $7.22. The major difference between the 415 limit and the Canadian limit is that the Canadian maximum benefit is based on per year of service. So if you look at a full career person with 35 years service, the benefit that the person would get would be about $60,000 a year. That's substantially less than the 415 limit with roll up and grandfathering. That is why in Canada they really don't need to put in a pay limit. Because the maximum benefit level would limit the amount of benefit that you can get even without further pay restrictions.

So much for the maximum benefit. Now, in terms of maximum contribution, in the U.S. you have full funding limitation. Full funding limitation is basically governed by two sets of calculations -- ongoing funding calculation and current liability calculation. I'm not going to go into details of these calculations because I don't know much of the details. In Canada, we have only one set of maximum contribution limits that's based on the ongoing funding calculation, which we call a "going concern" valuation. How come there's no termination calculation for maximum contribution? Termination is under the jurisdiction of the provinces. Maximum contribution, on the other hand, is under the jurisdiction of the federal government. Now what's the maximum contribution limit? This is based on the ongoing funding valuation performed at the beginning of the year. Consider the accrual liability versus assets. If you are in surplus position with assets exceeding liabilities by more than two times the normal cost, you cannot make a tax deductible contribution. Sorry, correction. Technically, you cannot make a contribution. Not only can you not get a tax deduction, theoretically, if you make a contribution your plan would be deregistered. This is the Canadian equivalent of being disqualified. So there are some parallels between U.S. and Canada there.

In terms of the minimum contribution now, the minimum contribution rules are there for the security of the employees. The government wants plan sponsors to pump in enough contribution every year to safeguard the security of the employees.

In the U.S., an additional safeguard is provided by the PBGC which picks up certain short falls in assets. And the PBGC may be going bankrupt because of all these terminations like LTV, etc. In Ontario, Canada, we have what is called the Pension Benefit Guaranty Fund (PBGF), which also is undergoing hardship. However, they are

guaranteed by the Ontario Federal Government, so that if there is a shortfall, the general revenue would pick up the tab. In other words, the poor taxpayer would be paying for it. Because of potential liabilities involved for the PBGC and PBGF, both the U.S. and Canadian governments want to make sure that there is adequate funding.

In the U.S., in the past, you did not have any plan termination calculations for funding contributions. Now you have the current liability calculations on top of the regular funding calculations. In Canada, we have been one step ahead of you. There are two sets of calculations since the Pension Benefit Act, Ontario, 1987. There is an ongoing funding calculation, which is called a going concern valuation. There is another set of calculations based on a plan termination basis, called solvency calculations. What is the difference between the two? The difference is quite comparable, the difference between the ongoing and current liability calculations in the U.S. For a going concern calculation, you assume that the plan would be continuing and you use more conservative assumptions to work out the liability. Compare that against assets. Whatever the unfunded liability, you fund for it over 15 years. In the solvency valuation, you calculate things based on a plan termination basis. You use the benefits accrued to date and a market interest rate to calculate the liability. Compare it against what is called solvency assets. If you have a deficiency, you have to fund for that over five years. So, there is very much accelerated funding involved if you have solvency deficiency.

We can probably dissect the diagram into pieces. For the going concern valuation, you have the total liability. Part of it is covered by assets. The remaining unfunded is amortized over 15 years. Now, in the solvency valuation, you work out the total solvency liability. Compare it against solvency assets. This is where we have a little bit of variation. The solvency asset doesn't just take into account the actuarial asset of the plan. But on top of that, they say, "Well, you are amortizing the unfunded liability, based on a going concern valuation. So you are already funding for a chunk of it. Therefore, let's look at the present value of those payments, on a solvency basis. And for a big chunk of that, we allow you to consider it to be part of the solvency assets as well." It's only part of the liability that's in excess of the solvency assets that you have to fund for over five years. As you can see, the solvency calculation is, in principle, quite close to the current liability and deficit reduction contribution calculation.

Let's go on one more step. In the U.S., you have a funded current liability percentage. Of course, there has to be some equivalent like that in Canada too, right? And the equivalent is what is called transfer ratio. What is the transfer ratio there? It is just the plan assets divided by solvency liability. Suppose that the transfer ratio is 80%. Now what is the penalty there? The penalty is much stiffer than the U.S. penalty. In Canada, because of portability, a lot of people who terminate after say two years of service can take out the lump sum value of their accrued benefit in a lump sum and transfer it to another plan or to a Registered Retirement Savings Plan (RRSP) which is quite like your IRA. For an 80% funded plan, if there is a person who has a lump sum value, say $10,000, that he wants to transfer out, by regulation only 80% of that can be transferred out immediately. The 20% deficit must be made up by the company over a period not more than five years. In the example that we are talking about, only $8,000 would be paid out up front, $2,000 would

not be paid out until the employer has made up the $2,000 deficit. The employer may make it up in five years. As the employer makes up the deficit, the remaining piece would be paid to the employee. So as you see, the process carries a much heavier penalty than the equivalent process in the U.S. That kind of penalty is not just restricted to these lump sum transfers. It actually applies to regular benefit payments as well. Which is why it's very stiff.

Because it's so stiff, therefore, the method of calculation of the solvency liability is a very important issue in Canada. Right now, there are legal battles between General Motors and the Ontario government on what should be included in the solvency liability calculation. As you know, auto plans and steel plans have an extremely heavy subsidy for both early retirement and termination as a result of plant shutdown. In the case of a shutdown, after 50 years of age and 20 years of service, all the retirement benefits become payable immediately without reduction. Furthermore, the supplemental benefits will be payable to age 62 or 65, depending on the plan. The cost of these benefits would all be included in the solvency calculation, to the extreme. By the extreme I mean the government would require you to calculate out the liability assuming that the person would take retirement at the most advantageous age. He would go out with the biggest liability. And furthermore, if a person's current age and service would add up to more than 55 points, he would not only grow into the early retirement benefits, he would grow into the shutdown benefits as well. That is something that I can never understand. How can you have a plant terminating today, and yet the person would grow into shutdown benefits five or 10 years down the road? You have to assume that the plan is shut down now and shutdown later on. But anyway, that's how the rule works. That is why, for Canada, the solvency liability is really much bigger than the ongoing liability for may plans. And the method of solvency calculation is very much a bone of contention for many companies.

MS. THIERMAN: We have tried to cover a lot of material to show various instances when the projected unit credit method is used both in the U.S. and Canada and to show some of the tricky benefit calculation valuation techniques that are practiced. Is there a minimum interest rate in the solvency calculation?

MR. SZE: In the solvency calculation of costs, the interest rate that they want to put in is the maximum possible interest rate. Minimum is fine.

FROM THE FLOOR: Isn't it low though?

MR. SZE: Typically what they would want you to use is the interest rate that is prescribed by the Canadian Institute of Actuaries (CIA) for the minimum transfer value, which is relatively low. However, they would allow you to go out for insurance quotes and use underlying interest rate for the insurance quote. This is typically 1-1.5% higher CIA interest rate. That makes a lot of difference.

MR. PENA: Dick talked earlier about floor ESOP plans and the assumption made on the return on the DC plan. I have a floor offset plan and the bigger variable is the assumption you make as to the contributions that will be made to the ESOP or the DC plan. Just a 1% or 2% change can make a great deal of fluctuations. I guess I'm asking for comments as to the concern that that brings. When you're making an

assumption about the future contributions that are relating to the expense, in essence you're giving the employer control over today's expense by what they're going to contribute in the future. So it seems to me that there's kind of an anomaly there, and I'm looking for some kind of comment.

MR. DASKAIS: If it's for accounting purposes, it's presumably the employer's best estimate. And it's the actuary's best estimate for funding purposes. And how you get your best estimate is a very difficult problem in that situation. There will be disagreements, I'm sure, within the company.

MS. TERESA M. REIDER: I wanted to clarify something you said about floor plans. Suppose you have a participant with a nonzero accrued net benefit, which declines to zero as he ages to age 65. Based on our assumptions that the DB benefit goes to zero, did you say under SFAS 87 that the PBO should be based on the current net accrued benefit, so that the current PBO should equal the accumulated benefit obligation (ABO)? And this participant should have negative service cost?

MR. DASKAIS: I didn't deal with that situation. I dealt with the opposite situation where as the employee ages, the DC plan is providing a smaller DB benefit, and the DB benefit, of course, or the gross DB benefit is constant. I didn't show a situation where there was a negative projected to retirement, but a positive to date. Now, you can have that situation where, for example, you have a DB plan that's been in for a long time, and then you put in a new DC plan. And your question is, what should the FAS liability be? And I would think you should have negative FAS service cost in that situation. Because otherwise you would be giving the employer full credit today for the prospective DC plan contributions. Is that answering your question? I'm not sure it's the right answer.

FROM THE FLOOR: Well, we picked up a plan where the valuation showed the ABO to be greater than the PBO which I don't believe the SFAS 87 allows. And we believe that the PBO is based on projected benefits in many cases of zero, even though these participants had current accrued benefits.

MR. DASKAIS: I think I agree with you. I think the accrued benefit should be positive, and get to zero by reason of negative service costs. That is not authoritative. That's my view.

MR. ATTERIDG: Notice that in that instance, having a negative service cost probably makes some sense. If you have an accrued benefit in the total of the DB and the floor plan that's going to stay level over the next few years, which is your premise, in essence the person is not earning anything. And since the sponsor is presumably making a contribution to the DC plan, and registering that as an expense for the year, but the person isn't earning anything, the net total should be zero, and therefore it would make sense to see a negative service cost in the DB side for the year.