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RETIREMENT INCOME PHILOSOPHY -- GOALS AND ATTAINMENT

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o The session will discuss setting retirement income goals and the ability to meet them through various plans:
  - -- Floor plans
  - -- Cash balance pension plans
  - -- General defined benefit plans
  - -- Defined contribution plans

MR. CHARLES BARRY H. WATSON: This panel will explore the philosophy of retirement income setting. What are the goals that retirement income should aim at and how can we attain them. The session is set against the background of an increasing concern in the United States, Canada and other countries around the world about whether the traditional methods of setting and achieving retirement income goals will be successful in the future. This concern arises from two different areas.

First, retirement income goals have traditionally been viewed as a composite, incorporating not only what the employer might provide for its employees, but also what is provided through social insurance systems. It is increasingly doubted whether those social insurance systems will actually realize their goals and whether, therefore, they can be counted upon in the future as they have been in the past.

Second, private employer plans at least in the United States, Canada and most developed countries around the world, have up until now emphasized defined benefit formulas. The benefits of most such plans are related to some percentage of salary at or near retirement. This approach has many advantages, but it also has disadvantages, particularly in the eyes of workers who view pensions as deferred wages. These workers prefer a defined contribution approach to pensions, under which a fixed amount of money is put aside for their pensions each year and they, and not their employers, get the advantage of high yields on fund investments. Given the recent events in the stock market, I suspect that today's panelists may have done some rethinking and some reemphasizing in their presentations, to reflect the problems that such events pose for defined contribution plans.

MR. THOMAS P. BLEAKNEY: I accepted an invitation to participate in this panel with some enthusiasm because it would give me an opportunity to discuss a particular approach to retirement income goals that I wanted to pursue. To define this approach, I will quote from the goals laid down by the New York Commission on Retirement Systems, a watchdog organization in the State of New York that is responsible for seeing how the City and State Retirement Systems are going. Among the tasks of this Commission is to rationalize and justify the many different tiers of benefits available to employees in New York City and State. The complexity of benefits arises from trying to meet the goals as defined by the Commission, although it also may reflect the particular situation in New York. However, let me give you the definition so that you will understand what I am discussing.

The Commission's goal for the benefit structure is to provide adequate benefits to members who complete full work careers for employers and then retire from the work force. Obviously, "adequate benefits" is something which people can define in any fashion that they like. Another key phrase is "retire from the work force." As I am sure many of you know, in the public sector there is a particular tendency to go into the "double dipping" environment. Employees, particularly firemen and and policemen, might leave their public employment but then, because they are relatively young, they continue to work some place else. So one of the purposes of that particular definition was to set the benefit formula so that it works for somebody who has completely left the work force; it is not meant to provide a supplement for somebody who is continuing to work

elsewhere. To my mind, this problem is tangential to the main subject, and certainly tangential to what I want to talk about, but I think it provides some food for thought.

The main purpose is to provide adequate benefits to a person who has had a full working career. Probably the standard technique for evaluating whether benefits are adequate is to look at replacement ratios. These compare the amount of pension that is paid after retirement to the salary that is available immediately before retirement. The comparisons generally involve looking at just two years, the last work year and the first retirement year, although you will see some studies that attempt to look 5, or 10 or even 15 years into the future to see how the relationship is maintained.

One can also look at either the gross replacement ratio, or the net replacement ratio. The gross replacement ratio deals directly with the benefit formula, if it is a final average salary defined benefit formula. The amount of this benefit is calculated for the retiree and that is compared with his or her gross salary immediately before retirement. Under the net replacement ratio concept, taxes, expenses, and so on, which occur before and after retirement are taken out. In the public sector in the United States, it is very common to have contributory plans. I am not going to explore the Canadian situation but, in Canada, contributory plans are common for plans of both public and private employers. When you are looking at replacement ratios for a contributory plan, it is customary in determining the net replacement ratio to adjust for the fact that the employee's take home pay before retirement was lower because of the contributions. Similarly, known deductions such as for income tax, social security and so forth are offset before and after retirement. This process leads to a comparison that can serve as a basis for the major decision as to how good the plan should be to provide adequate replacement. This requires a judgment as to how much the employee's own savings should be taken into account in helping to meet the goals of the benefit formula.

There is thus a philosophical problem which must be solved in setting the benefit structure, and it is solved vastly better by the use of a defined benefit program based on final salaries. It can be solved, but nowhere near as well, using a defined benefit program with a career average formula. If you increase the

career average benefit using a general index, as is done in the Social Security formula, you come back very closely to a final salary approach.

A conventional career average formula may have the obvious disadvantage of being unable to match an individual's salary patterns, but the formula still produces benefits that are vastly superior, in terms of matching final average, to anything you can get using the defined contribution approach. Under a defined contribution plan, you are quickly stymied in trying to reach any particular retirement goal by the tremendous leverage that the assumptions, particularly the investment assumption, gives to the results.

I would now like to explore a bit of history on this as evidenced by U.S. public sector plans. In the United States, many public employee retirement systems significantly predate private employer pensions. The explosion in private pensions came after World War II, whereas there were a great number of statewide systems, particularly for policemen, firemen and teachers, that were set up in the 1920s and some even earlier than that. One of the advantages of this additional period of experience is that, in the public sector, some lessons were made available -- I wouldn't say learned -- as to the long run viability of defined contribution plans under diverse economic experiences.

One of those lessons is that a defined contribution program has a builtin problem which in the long run will make it all but unworkable if it is required to provide a major portion of a retirement goal of the replacement type that I earlier mentioned. This requires a calculation of the amount of defined contribution needed to build up to the amount of money required at retirement. A lot of good actuarial work went into this, but it all depended on the assumptions as to salary growth and investment return that were built into the process. All this worked fine for a while, until an incident that was unfortunately fairly similar to what we have just been experiencing this week, when investments went kaput and the assets needed to build up to the benefits evaporated. Actually a more critical problem came when inflation shot up rapidly. We then saw retirees going out with benefits that met expectations, but which were inadequate relative to the current salary level. The result, unsurprisingly, was that the employees took their grievances, as voters, to the powers that be -- the legislators or the city council -- who in turn respected the power of the vote and installed a protective supplement. This situation over the years has evolved to the point

where there are no major public retirement systems left in the United States which have a significant defined contribution element. They all have what amounts to an overriding defined benefits structure.

I wanted to set this history out because I feel it may not be fully understood in any rush to a defined contribution approach for meeting long-term retirement goals. I hasten to add that the defined contribution concept has other goals as well and I do not intend to address them. However, in terms of meeting the needs of retirees, and this is what in the states and local sectors the legislator finds himself responsible for, I don't think defined contributions in the long run will do the job.

Now, another element of defined contribution programs which must be recognized is the budgetary aspect. If you start off with a certain budget, such that a certain percentage of pay is all you can afford to provide pensions, then if you adopt a defined contribution concept, you are going to end up shifting money to the people who leave early, and away from the people who retire, as compared to a defined benefit program. Let me give an example. Suppose that you now have a defined benefit program and you have a budget for pensions that is meeting the cost requirements of that system properly on an actuarial basis. If you try to achieve the same benefit at retirement from a defined contribution plan, you are going to have to up the ante, because people who leave early in a defined contribution environment take more money with them than do people under a defined benefit program. On the other hand, if you keep the budget fixed and let the chips fall where they may, people who retire will receive less than they would have under the defined benefit program which has been replaced. It is all very easy to say, "It will work itself out," but I return to the environment of the public sector. Once the defined contribution program has worked its way to maturity in 20 to 30 years from now, then the employees will be standing in mass in front of the plan sponsors saying that the retirement benefit is inadequate, and they will be able to prove it. So once again it will be necessary to bail out the program in order to make it work.

For facts to support what I just now said about the relationship between the benefits provided early leavers compared to those who retire, I commend to your attention a paper Daniel McGinn delivered to a Society Meeting some three years ago. It is in the 1984 *Record* for the New York City meeting and to my mind

does an excellent job of showing the relationship between the two types of programs. Even though he bent over backward to make the comparison fair in terms of turnover, vesting and everything else, he showed that there is just no alternative but to provide more money to the people who leave early under a defined contribution program as compared to a defined. benefit program.

I would like to finish my presentation with an discussion of some tables that I have prepared.

Table 1 presents some calculations which lead to a graph I will show. The graph is the main story, but I thought it wouldn't hurt to follow through some of the arithmetic that led to it.

TABLE 1

DEFINED CONTRIBUTION PLAN -- INVESTMENT IN STANDARD & POOR'S 500

Year	Annual Salary	Beginning of Year Contribution (10%)	Rate of Return	End of Year Balance
1967	$ 5,213	$ 521	24.0%	$ 646
1968	5,572	557	11.1	1,336
1969	5,894	589	-8.5	1,762
1970	6,186	619	4.0	2,476
1971	6,497	650	14.3	3,573
1972	7,134	713	19.0	5,100
1973	7,580	758	-14.7	4,999
1974	8,031	803	-26.5	4,266
1975	8,631	863	37.2	7,038
1976	9,226	923	23.8	9,858
1977	9,779	978	-7.2	10,058
1978	10,556	1,056	6.6	11,842
1979	11,479	1,148	18.4	15,386
1980	12,513	1,251	32.4	22,031
1981	13,773	1,377	-4.9	22,259
1982	14,531	1,453	21.4	28,789
1983	15,239	1,524	22.5	37,143
1984	16,135	1,614	6.3	41,179
1985	16,823	1,682	32.2	56,644
1986	17,493	1,749	18.3	69,053

A.	Twenty-Year Accumulation	$69,053
B.	Annuity Purchase Rate [Age 65M:7.5%]	8.248
C.	Annual Pension [A/B]	$ 8,372
D.	Annual Pension/Final Year's Salary	47.86%
E.	Effective Defined Benefit Rate [D/20]	2.39%

I have taken a defined contribution plan under which 10% of salary is being invested for an employee, with all the investments going into the Standard & Poor's 500. I have taken the 20-year period that ended December 31, 1986. The employee was eligible to get out then. The salary shown for each year is the average salary covered under Social Security in the United States. (It is hard to think that $5,213 was ever that average salary, but it was in 1967!) I think the rest of the calculations are relatively easy to follow. Here are some of the critical points. I built up the 20-year accumulation and then used it to buy an annuity at the PBGC rate for December, 1986 for a male age 65. The choice of rate is not too critical and in fact I use the same rate in similar calculations for various other time periods. The question I am exploring is not so dependent upon the rate itself as it is upon the effect of different investment returns. In any event, taking the accumulation divided by the annual purchase rate comes up with an annual pension which starts at that point. I can now convert this into the gross replacement ratio that I mentioned earlier. That gross replacement ratio is 47.86% for a 20-year employee starting at age 45 and leaving at 65. That translates to an annual accrual percentage of 2.39%.

Table 2 shows more numbers, for different 20-year periods of accumulation. Obviously, the numbers are the same for the most recent 20-year period. I also show the results of the same calculations but based on investment in bonds.

All the numbers now are translated into Graph A. This is really the key point. If you take the accumulations and translate these into a benefit accrual factor and the employee has the foresight to keep 100% of his investments in common stock, then the benefit accrual factors per year of service become what is shown in the solid line. The factors range from 1.05% to 4.88% for each year of service. On the other hand, if the employee decided to invest 100% in bonds, the accrual factors are fairly stable except for the last 3 or 4 years. However, they are significantly less generous than those for investment in stocks. This shows what I consider to be the biggest disadvantage of the defined contribution plan. It transfers the risk of investment from the employer, who is responsible for it in the defined benefit program, to the employee. If that transfer occurs, the employee generally cannot absorb risk at such a level as was experienced in the market this week. He instead will take the safer route, which is the route to less generous benefits. I can probably prove that with Table 3 or, if I do not prove it, I can certainly give some evidence to that effect.

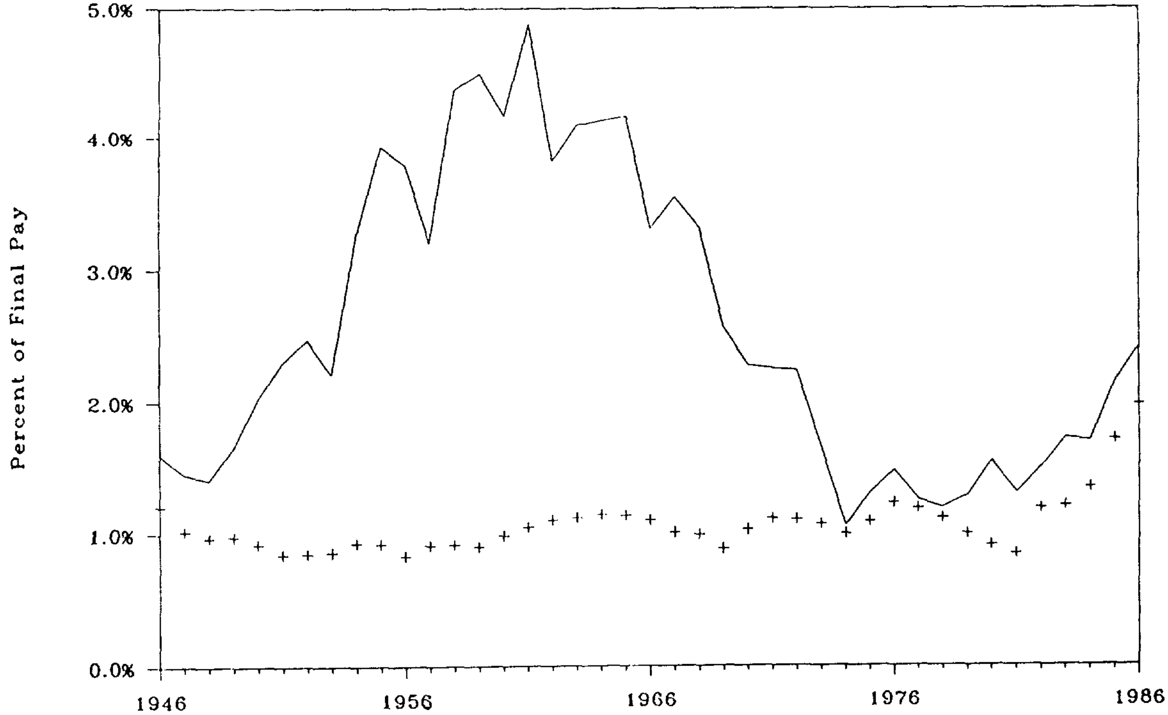
TABLE 2

Ending Year	20-YEAR BALANCES: Common Stocks	20-YEAR BALANCES: Corporate Bonds	EFFECTIVE BENEFIT RATE: Common Stocks	EFFECTIVE BENEFIT RATE: Corporate Bonds
1946	$ 5,095	$ 3,843	1.60%	1.21%
1947	5,241	3,673	1.45	1.02
1948	5,488	3,782	1.41	0.97
1949	6,563	3,865	1.66	0.98
1950	8,662	3,944	2.02	0.92
1951	10,613	3,894	2.30	0.84
1952	12,095	4,152	2.47	0.85
1953	11,418	4,447	2.20	0.86
1954	16,966	4,841	3.26	0.93
1955	21,381	5,021	3.93	0.92
1956	22,084	4,850	3.79	0.83
1957	19,238	5,488	3.20	0.91
1958	26,490	5,568	4.37	0.92
1959	28,610	5,738	4.50	0.90
1960	27,572	6,521	4.17	0.99
1961	32,888	7,055	4.88	1.05
1962	27,049	7,804	3.82	1.10
1963	29,729	8,105	4.10	1.12
1964	31,209	8,625	4.13	1.14
1965	32,029	8,732	4.17	1.14
1966	26,930	8,942	3.31	1.10
1967	30,483	8,678	3.54	1.01
1968	30,444	9,111	3.31	0.99
1969	24,849	8,591	2.56	0.88
1970	23,128	10,501	2.27	1.03
1971	24,039	11,910	2.24	1.11
1972	26,247	12,990	2.23	1.10
1973	20,608	13,335	1.65	1.07
1974	13,924	13,171	1.05	0.99
1975	18,577	15,481	1.30	1.09
1976	22,425	18,692	1.47	1.23
1977	20,173	19,143	1.25	1.19
1978	20,756	19,380	1.19	1.11
1979	24,326	18,845	1.28	1.00
1980	31,881	18,726	1.54	0.91
1981	29,707	19,129	1.31	0.84
1982	35,903	28,469	1.50	1.19
1983	43,208	30,285	1.72	1.20
1984	45,235	35,800	1.70	1.35
1985	59,246	47,380	2.13	1.71
1986	69,055	56,727	2.39	1.97

GRAPH A

ANNUITY BOUGHT BY DEFINED CONTRIBUTION BALANCE

Expressed as Percent Credited for Each Year of Service



Contribution for Twenty Years Ending in Year Shown;
Funds Invested in Common Stocks and Corporate Bonds

TABLE 3

Allocation of Premiums Between TIAA and CREF Retirement Annuities
(Premium-Paying Contracts as of December 31, 1986)

TIAA	CREF	Age of Contract Holder					
		≤ 30	30-39	40-49	50-59	≥ 59	All
100%	0%	27%	23%	20%	23%	33%	24%
75	25	17	17	14	11	9	14
50	50	45	48	49	46	40	47
25	25	5	6	10	13	11	9
0	100	3	3	4	4	4	3
All Others		3	3	3	3	3	3
Totals		100%	100%	100%	100%	100%	100%
Weighted Averages:							
	TIAA	65%	63%	59%	59%	64%	62%
	CREF	35	37	41	41	36	38

What I have here is an extract from the 1986 Annual Report of the Teachers Insurance and Annuity Association (TIAA)-College Retirement Equities Fund (CREF). I would imagine you all are familiar with how it operates, but for those who aren't, it is a mutual insurance company which provides benefits for college faculty members throughout the North American continent by building up a retirement fund. It allows the employees essentially a full range of investment options, from 100% investment in stocks to 100% investment in fixed income securities, which is the conventional TIAA program. The actual investor choices are shown in the chart -- that is, what percent chooses 100% TIAA, 75% TIAA down to 0% TIAA, at various age ranges.

The conclusion is that roughly 62.5% of the money goes into TIAA and 37.5% of the money goes into CREF. That's not too bad actually, but it certainly puts much less emphasis on equities than you find in most retirement plans where the goal is to maximize benefits (or minimize costs) at an acceptable level of risk. Those employees, particularly those on the top line -- about a quarter of the TIAA-CREF participants -- who go 100% into TIAA are effectively limiting themselves to something like the bottom line on Graph A. Even though they undoubtedly feel a great deal more comfortable today than they would felt if I had made this presentation last week, I must remind you that my graph showed not a single 20-year period for which investment in bonus was a better way to go than investment in stocks, despite all that has gone on in the market, including the Depression. This was true over all the economic cycles in the last 60 years.

My overall conclusion is that adoption of a defined contribution philosophy makes it difficult to achieve the goal of setting a suitable retirement benefit objective, and exposes one to the hazards that I pointed out -- namely, the inability to predict what the pension is going to be at retirement with any precision, and the transfer of all the investment risk from the employer to the employee.

MR. JAY P. ROSENBERG: I am going to discuss certain developments in the U.S. in the redefining of retirement income goals and creating the means to reach those goals. I will emphasize the private sector as opposed to the public sector which Mr. Bleakney has just covered.

The 1980s have seen a great proliferation of defined contribution, or capital accumulation, plans. Employers had maintained defined benefit pension plans which had evolved from rather modest beginnings, perhaps with insured arrangements and even mandatory employee contributions, into noncontributory, final average pay plans with rather complicated formulas, including typically an offset for Social Security benefits, and generous early retirement subsidies. These types of programs are very easy to design when you define the objectives of your program through the replacement ratios Mr. Bleakney has discussed. The formula can spell out precisely what percentage of final pay or final average pay the plan will provide and can directly take into account benefits provided from other sources such as Social Security.

However, the burdens placed on sponsors of defined benefit plans are generally heavier than for other types of plans, and the trend continues. ERISA funding requirements set funding targets, which for final pay plans were well in excess of the value of accrued plan benefits. The high inflation years of the 1970s added layers of cost to amortize salary and investment losses which have only recently been offset by gains from favorable investment performance. Contingent employer termination liability started at 30% of net worth and is now at 100%. The increases in the PBGC insurance premiums have added significantly to administrative costs. FASB threatened to provide for the creation of balance sheet liabilities for unprovided projected benefits. Although the potential creation of balance sheet problems were seemingly mitigated, the events of the past few days conjure visions of horror for preparers of financial statements. Penalties for overfunding now exist in the form of excise taxes on nondeductible contributions and on excess assets reverting upon plan termination.

Compare this with the absence of unfunded obligations and easily budgetable costs characteristic of the defined contribution plan and it's easy to see its appeal to financial executives. The perception among employees of a defined contribution plan is almost uniformly favorable. It is simple, easy to understand; the value of accumulated benefits is easy to communicate and appreciate. Also, in the U.S., it is a most effective vehicle to use to enlist employee contributions. The idea of employee cost sharing has grown in other benefit areas such as medical care and life insurance. It may be needed in order to ensure attainment of retirement income objectives if reduction in Social Security benefits occur or to meet the higher replacement ratios that result from the lower tax rates under tax reform.

Accordingly, many U.S. employers have adopted combination programs. The most common combination that we have dealt with is one with a defined benefit plan and a supplemental defined contribution plan. In the past such a defined contribution plan has often not been considered a reliable source of retirement income because of the frequency of withdrawals prior to retirement and the plan immaturity and the corresponding insignificant size of account balances. However, with the years of plan existence growing and the introduction of 401(k) and other tax restrictions limiting preretirement withdrawals, the retirement nature of these plans is more evident and is being factored into replacement income assessments.

We have seen other hybrid approaches come to the surface. One is the floor/offset arrangement. Under this approach, the floor defines a minimum benefit which is offset by whatever the defined contribution plan accumulation will provide. This has been used where an employer wishes to shift away from a defined benefit program to one dominated by a defined contribution plan, but yet wants to protect either current employees participating in the defined benefit plan or all employees, current or future, from unexpectedly low retirement income levels due to the failure of the defined contribution plan investments.

We had some problems with such hybrid plans from the actuarial perspective in terms of making expense and funding calculations which will appropriately forecast the performance of defined contribution benefits.

Also, will these plans survive tax reform? Will such plans, which may actually benefit only a minor portion of the employee group, and perhaps only the higher paid, meet the new coverage and participation tests put forward by the Tax Reform Act of 1986? Will they be required to meet the requirements for Social Security integrated offset plans which limit the offset to no more than half the gross benefit?

I would like to briefly review a vehicle which a few employers have adopted to meet their future retirement income goals. It is the cash balance pension plan. I will discuss the reasons it was developed and what its basic features are.

First it was developed to relieve some of the burdens of the typical defined benefit final average, integrated offset plan. Second it was intended to respond to the changing demographics of the corporate work force. Third it was hoped that the basic concepts of delivering retirement income could be synthesized into a new approach to meet the needs of both plan sponsors and their employees.

It has been said that a primary motive for the cash balance plan was to reduce employer costs. A change from the typical corporate final pay plan of the 1970s with early retirement subsidies that in some plans amounted to a permanently "open window" program to one based on career pay with reduced early retirement benefits may very well produce cost savings, even after allowance for the greater termination and death benefits. It certainly adds more control of cost to the sponsor.

However, some employers interested in cash balance were not interested in reducing overall costs, but rather were interested in redistributing their overall costs among different vehicles or different segments of the employee population. There were certain cases where reduction in cost was needed, but often such reduction was a result of a discovery that the current program was too rich and that a lower target was a proper goal.

There was the realization that the plan which was costing the sponsor a significant sum was not appreciated by the great majority of plan participants. It was hard to justify such large cost figures.

Finally, those interested in cash balance plans were aware of a need to reposition themselves in an increasingly competitive global economy. The necessity to run leaner and meaner was clearly apparent.

The changing demographics of the American work force was a major impetus. In establishing goals for retirement income, an employer normally designed his plan to provide the needed replacement ratios for a "career employee," often one assumed to have worked 30 to 40 years with the same employer. However, for many companies, perhaps only one in five employees will meet these "average" criteria. Those now in the early stages of their careers do not expect to render 30 years of continuous service with one employer; they rather realize that job advancement will occur through a series of changes in employers, maybe one every 5 to 10 years. The typical defined benefit plan does not provide meaningful benefits to such employees, but this is something that a defined contribution formula can achieve and that the cash balance plan will monitor.

The influx of women, single parents and two career families into the work force has caused additional dilemmas for compensation and benefit planners. With fringe benefits still rising in importance in the total compensation package, the doctrine of equal pay for equal performance and equity among married versus single employees so easily espoused by employers, needed to be reckoned with in the retirement benefits arena.

Finally, it was decided to synthesize a type of plan with a new approach. Noting the immense popularity of the defined contribution savings plan among both participants and sponsors as well as the large scale utilization of lump sum options in defined benefit plans which offer such optional form and the general advantages and disadvantages of the two basic types of plans, the cash balance pension plan was born.

What exactly is it?

It's a defined benefit plan that looks and acts like a defined contribution plan. From the perspective of the employee, it is a defined contribution plan with guaranteed investment return results. From the employer's perspective, it is a defined benefit plan requiring actuarial valuations and PBGC premium payments.

The retirement benefit is expressed as an individual cash account balance. Benefit accruals are expressed as annual additions to the cash account. The account is increased each year with a predetermined, guaranteed interest credit which, once credited, cannot be lost. Generally, the form of payment is a lump sum distribution at retirement, although attractive annuity forms are available.

In order to qualify for the plan as a defined benefit plan, there must be definitely determinable benefits. Thus, the plan specifies by formula the benefit accrual, interest credit and actuarial factors to convert the account balance to a monthly pension.

The employer bears the entire investment risk and can reap the reward of superior investment performance. PBGC guarantees also apply. The sponsor can provide special past service benefits, updates of accumulated benefits and minimum pensions to handle special situations. Funding requirements have the flexibility of a range of permitted contribution levels with amortization of gains or losses and benefit updates. Forfeitures may be anticipated in determining funding levels.

So what the cash balance approach has done is combine the strengths of both the defined benefit and defined contribution designs. From the defined benefit side, elements of benefit security, funding flexibility, cost control from a career pay accrual pattern, ability for past service updates at the employer's discretion and facility for numerous payment options at net rates have been included. The sense of individual ownership of benefits, portability, benefits whose value is easy to understand and communicate, and age neutral pattern of buildup are some of the best features of the defined contribution plan incorporated into the cash balance approach.

Because of the difference of the buildup in the value of earned benefits, the cash balance plan providing the same level of retirement income as a typical defined benefit plan might cost more due to the larger termination and death benefits. This issue is often a stumbling block for many employers who get interested in the plan. However, if an employee who moves from job to job is covered by the same kind of cash balance plan at each employer, that person will receive benefits which will provide him with the target replacement ratio of that cash balance formula.

So, an employer who is concerned with attracting new, younger, more mobile employees who want to understand their entire compensation package may find the cash balance plan a nice fit.

MR. NICHOLAS J.M. SIMMONS: Canada is very similar to the United States in many ways, as I appreciated once again in listening to Mr. Rosenberg. Nevertheless, I will emphasize some slightly different aspects of the problem, without concentrating on any one particular solution.

Floor plans, cash balance plans, defined benefit plans and defined contribution plans tend to work much the same way and have many of the same characteristics in both countries.

Certainly there are differences, not in the least is terminology. For example, I might refer to a floor plan as a "university type" plan, because that particular hybrid (under which the member gets the better of the defined benefit or a money purchase pension) has become typical for the staff of Canadian universities. Cash balance plans have not really captured the imagination of Canadians because, given the direction of Canadian pension law, they might just possibly combine the worst attributes of defined benefit and defined contribution plans. For example, the Canadian regulators might well force as conservative or more conservative funding than would apply to the equivalent money purchase plan.

Another difference is that most Canadian employers are coming from a history of reasonably good, contributory, defined benefit plans. Until recently there have been relatively few defined contribution plans, while thrift plans always seem to have been well established in the U.S., or at least they have for all of the U.S. employers whose Canadian subsidiaries I work for. Defined contribution plans in Canada never got the boost that Section 401(k) seemed to provide in the U.S.

It is also easy to forget that employee pension contributions are tax deductible in Canada.

So even though the mechanics of the available plans may be quite similar, there are and will be big differences in how retirement needs are addressed in the two countries.

RETIREMENT INCOME PHILOSOPHY -- GOALS AND ATTAINMENT

I would like to talk about what I see as the challenge to Canadian companies and their actuarial consultants to design relevant retirement savings arrangements in an era of fairly significant social and demographic change. We have to face the fact that pensions are one of the most expensive of employee benefits -- in Canada, because of the national health program, there is not a great need for post-retirement health insurance -- and if pensions don't meet employee needs or reinforce employer objectives, or preferably both, I submit that there isn't much point in having them.

The challenge is to design a retirement plan, or a group of retirement plans, today that is appropriate to tomorrow's work force and tomorrow's business environment. To see how this challenge can be met, we need to consider four questions.

-- What is different about tomorrow's Canadian employee?

-- What is different about tomorrow's Canadian employer?

-- What is different about tomorrow's Canadian economy?

-- What is different about tomorrow's Canadian pension environment?

You can extend these questions to the U.S. if you want, and many of my U.S. colleagues tell me that many of the same issues arise here too.

TOMORROW'S EMPLOYEE

Will tomorrow's employee be any different from yesterday's?

I think you'll agree that today's employee is already quite different from the employee of even 10 years ago. Much of the difference is due to the "baby boom phenomenon," which I define as relating to the generation running from about age 25 through age 45 that has an unprecedented share of the economic and political power in Canada, and indeed in the Western World. This generation typically represents a very significant portion of the Canadian employer's work force, especially if many of the older employees took early retirement a few years ago. We cannot afford to ignore the special interests of this group.

Today's 25 to 45 year olds claim to be, and in many cases actually are, quite different from earlier generations. They are more financially sophisticated -- hence the growth of self-directed Retirement Savings Plans and so on -- and are more apt to question the rationale behind the status quo. They are more mobile, changing employers more frequently and more easily than their predecessors did; therefore we have pressure for portability. The growing interest in flexible benefits evidences their willingness to make choices. They claim to be willing to live with the results of poor choices so long as the alternatives were fairly explained to them. I don't think we should depend on this, though, because they probably will change their minds. Indeed, their reaction to the events of the last few days may give an early opportunity to test that claim out. We will have to see whether all or any of these attributes persist as the group grows older.

TOMORROW'S EMPLOYER

We have also been witnessing enormous changes in Canadian corporations and the Canadian business environment in general, and I suspect that many of the same changes can be seen in the United States. Some of these changes are the result of the last recession, some a reaction to the changes in their employees. Mostly, though, the changes are due to the globalization of business enterprise and competition.

Today's corporations are leaner, more competitive and more result driven. The performance of each employee and of the corporation in general is much more closely measured, scrutinized and judged. Cost consciousness, especially with regard to fixed costs, is paramount.

Not surprisingly then, some companies that went lean and down-sized ended up throwing the baby out with the bath water. This is because today's business is more dependent on human resources than ever. This reliance is magnified in the growing high tech and service sectors, but it is also felt in the more capital intensive heavy manufacturing and resource sectors. All employees are encouraged to become more entrepreneurial.

These changes in the nature of the workplace are being reflected in compensation and benefits philosophy. For example, companies are developing reward systems linked to productivity and financial results. There are new initiatives

with respect to employee information, education and involvement. Variable compensation schemes are a prime objective, with at least part of the employee compensation fluctuating with the productivity and financial fortunes of the company.

TOMORROW'S ECONOMY

What about tomorrow's economy? For retirement planning, the most important determinants are usually rates of investment return, rates of inflation and the resulting real rates of return. These govern the cost of defined benefit pensions, the effectiveness of money purchase pensions and, in Canada, the relative significance of the tax sheltering aspects of the two.

Recently, we have seen very high investment returns realized by most pension plans, lower inflation that we have experienced for quite some time and unprecedentedly high real rates of return. Even leaving aside the events of this past week, how permanent is this situation?

The two groups of professionals that most often discuss these issues are the economists and the actuaries. I find economists usually believe that the world has just undergone a major change and so conclude the next 20 years will be pretty much the same as the last 3 or 6 months. Actuaries have always been accused of thinking that the last 5 years were an aberration and concluding that the next 20 years, or maybe even the next 100 years, will be the same as the 50 years that preceded the last 5. I suppose there is some substance in this, but most actuaries would like to think that they are open minded enough to accept that there is truth in both viewpoints. Probably the only thing that is certain is that we will continue to be surprised by. events. Six years ago, few actuaries or economists would have predicted what has happened over the last 5 years. I might add that, six days ago, few would have predicted what has happened over the last 5 days.

TOMORROW'S PENSIONS

What about the Canadian pension environment of tomorrow? I predict that we will see pension surpluses continuing, although they will certainly be smaller after the investment results of the last few days. There is going to be growing uncertainty as to whether they can in fact be realized. We will have higher tax sheltered money purchase contributions for some of the higher paid. However,

maximum tax sheltered pension benefits from defined benefit plans will be effectively frozen at the current $60,000 level for quite some time to come. When they do start going up again beginning (under present thought) about 1995, they will increase only at the rate of average wages. Eventually, we will have at least partial indexing of most pension benefits. We will have growing inflexibility in defined benefit registered pension plans. And we already see a very significant base level of income from government plans for the lower paid.

I would suggest that government plans will basically provide for those earning up to the average industrial wage. Registered plans will cover those earning between 1 and 2.5 times the average industrial wage, while the even higher-paid employees will have an urgent need for unregistered arrangements as well.

What trends can I see developing over the next few years? First of all, a note of caution. The pendulum does swing both ways. Fifteen years from now, today's 25 to 45 year olds are going to be tomorrow's 40 to 60 year olds. Their objectives will probably be different. Given the current low birth rates, they may still have a disproportionate share of economic and political power. I don't think I am being too cynical when I say that, 10 or 15 years ago, this generation was too young to worry about retirement savings. They wanted a benefit from which they could realize some immediate personal value, and they got dental plans.

Today they are older and they are beginning to like the idea of retirement savings, but only for themselves. They often don't like defined benefit plans because they give too small a slice of the pie to mobile workers like themselves. However, in 10 or 15 years time or less, those of us consulting to corporate employers will be asked, "How do we get back some level of predictability into the pension?" and "How do we catch up with the savings that we didn't make?"

THE TRENDS

So what might the trends be?

First of all pensions, like other benefits, will become more flexible. Employers will typically offer a combination of plans, such as some compulsory core plans, others voluntary add-ons with partial employer matching, and still others

entirely employee paid. Employees will be able to choose the ones that suit them and change their choice as their needs change.

The overall retirement savings field is going to mushroom, but there will be a growing variety of plans. Many of the new plans will not be registered pension plans, and certainly not registered defined benefit pension plans.

Core plans will tend to be noncontributory, partially indexed and fully portable. Add-on plans will be more flexible, often allowing lump sum payments or accelerated payments in the early years of retirement.

Tax effectiveness may be a big issue in the next few years, but after that it will become quite minor. We already see the real value of tax deferred arrangements being eroded by frozen limits, and this is going to continue. Indeed, with tax reform Canadian style, tax deductions won't be so valuable anyway. Almost all employers will have non-tax deferred as well as tax deferred plans.

Savings, stock purchase and stock option plans will be more widespread and popular, even though we will see stock values fall as well as rise. They will usually not be tax sheltered.

THE PROCESS OF CHANGE

The process of change begins with redefining the employees, and the employer's objectives in both general and specific terms. Usually the first question the employer addresses is "How much pension do I want to give?" In the Canadian context, this can be 70% from all sources after 30 years of service. "How much can I afford to spend?" is the employer's next question.

There are, however, even more basic issues to be decided. How much risk should be taken, and who should take it? Should there be a high degree of certainty about the level of retirement income, or is a high degree of certainty about the level of cost preferable? How are different employee groups handled? Should there be one plan for all, or should groups with differing wants and needs be recognized? Remember that, in the Canadian context, you can discriminate in favor of the higher paid. Whose responsibility is retirement savings? Should the employer ensure that all have an adequate retirement

income, or should employees determine their own personal savings priorities? Who should benefit from employer contributions? Those who leave at normal retirement age only or early retirees as well? How about leavers? How important is tax effectiveness? Internal equity? Encouraging stock ownership? Having an easily understood plan?

All of this will mean that there will be as many or more variations in future retirement plans than there are at present. All of the plan types that Mr. Rosenberg described will play a part, with the possible exception of the cash balance plan. Canada is not that different from the U.S. in this regard.

I think that the flexible core plus options approach is going to become quite widespread. The core benefit will often be designed to provide a basic minimum level of pension to all employees which will discharge, if you will, the employer's social responsibility to see that no employee falls on hard times after retirement. Today's typical defined benefit plan is heavily integrated with statutory benefits in an attempt to provide a benefit that is reasonably level as a percentage of salary. In the future, core plans may well be targeted to provide more for the lower paid than for the higher paid, with the higher paid getting more of their benefits from the flexible add-ons. The idea here is that the higher paid are better equipped to stand the financial risk of a money purchase approach. If you are making $100,000, then you may well be able to stand a reduction to $70,000 and to adjust your life style somewhat, but if you are only making $20,000, then I suggest that there is not much margin for an adjustment down to $15,000.

As an example, a core defined benefit plan of about 0.8% of final earnings up to 2.5 times the average industrial wage for every year of service (with no integration) plus Canadian statutory benefits will give about 70% gross replacement on earnings up to the average industrial wage, which in Canada is about $25,000, and 35% replacement on the slice of earnings between 1 and 2.5 times the average industrial wage. Such a plan might well be noncontributory, partially indexed and fully portable. Now as this could cost 4% to 5% or more of payroll, some companies might well feel they haven't much pension budget left over for optional benefits. If so, priorities would have to be reexamined.

Continuing the example, there would likely be a variety of optional benefits. A defined benefit plan might be designed to hold employees who were approaching retirement. It could be contributory and integrated with the Canada Pension Plan to top up to a total benefit of about 1-3/4% or 2% of all earnings per year of service, and this might equal the plan that the employee has now before any change is made.

Money purchase options will probably be handled by means other than an employer pension plan, such as a group Registered Retirement Savings Plan (which is a peculiarly Canadian entity) or a Deferred Profit Sharing Plan. The advantage of both of these is that they are exempt from many of the pension rules, such as those which require indexing or taking the benefit in a specified form. There might be a choice of contribution rates and there might be partial matching by the employer. Typically, there will be a variety of investment options, including employer stock, which might attract a higher level of matching.

Each of these optional arrangements will likely have a non-tax sheltered counterpart because the tax sheltered benefits alone will be insufficient for the middle and higher paid.

Other possibilities further down the road, that we probably don't need to worry about right now, include "quick catch up" provisions for those hired late in their career with inadequate benefits from previous employers or who had neglected their retirement savings, and conversion privileges allowing money purchase accumulations to be used to buy back a defined benefit entitlement when retirement approaches.

Perhaps a practical approach, for an employer who now has a good defined benefit plan but wants to add some flexibility as well as a money purchase element, might be to make the plan voluntary, at least above a base level, and to add one or more money purchase options or "top up" unregistered plans.

To summarize, whichever country we are in, we all must plan ahead to make the most of current opportunities and to meet the challenge of providing relevant retirement savings arrangements in a constantly changing environment. Over the next few years, I think we will see more flexibility, more different plans of different types, base benefits that are noncontributory, partially indexed and

portable, less emphasis on tax effectiveness, and more emphasis on planning, communicating and administration systems. Some of today's plans will stand the test of time but some will need substantial change.

MR. GREGG L. SKALINDER: I have a brief comment about Mr. Bleakney's interesting talk and then I would like to share with you some of our experience in reviewing retirement plans for our clients that might be interesting.

My comment relates to the interesting presentation of the investment performance relative to the comparison of investment risks between bonds and equities. This strikes me as not being an argument against defined contribution plans at all, but as an argument in favor of imposing some restrictions on the employee choices which are available under a plan. In fact this is now extremely common, at least in my experience. For example, it is normally not permitted for 100% of an account to be invested in the employer's bonds or equities.

We have in the past few years done about 30 studies of retirement programs as well as other benefit programs. Our clients are mainly in the middle sized range -- 200 to 2,000 employees. I can tell you, and this may not be a surprise to most, employers of that size are resoundingly rejecting defined benefit plans as they begin to focus on employer objectives. This rejection is primarily due to the inability to achieve effective cost sharing in the U.S., where employee contributions to defined benefit plans are not deductible, to the relative lack of employee understanding of defined benefit plans and to the kinds of fixed liabilities that everyone in this room knows are associated with those kinds of plans. This increased focus on employer objectives led to three pension plan terminations and two cut-backs out of those 30 or so studies we conducted. Of the two cut-backs, one went from a final average plan to an accrued average plan, and then added a 401(k) plan, while the other (a plan covering hourly employees) cut back by freezing the dollar benefit per year of service. In this second case, there was a public commitment not to grant future increases in the dollar per year of service plan. It was, in essence, converted to a 401(k) plan, thus mirroring the change that occurred in the other cut-back plan.

In more than half of our studies, we have encouraged our clients to ask employees what they think and have done surveys of employee attitudes toward all kinds of plans. The one message that comes out clear as a bell is that, when

asked, employees want flexibility. They are very entrepreneurial; they want flexibility in investment alternatives, and they want flexibility in their ability to save on pre-tax dollars, or not to save as the case may be. Obviously those objectives lead in the direction of 401(k) defined contribution plans.

MR. BLEAKNEY: I have one and one-half comments. The half comment is a semi-rebuttal to Mr. Skalinder's last statement. I think there is a tendency for employees to be entrepreneurial, and I would even say myopic, at the stage of their careers that the baby boomers are now at, but they tend to become much more oriented to the "I want guarantees" outlook when they get older.

My full comment relates to investment limitations on defined contributions. TIAA-CREF used to have rather widespread limitations applied at the institutional level on the percentage of employee contributions that could be put into the stock fund, CREF. Those limitations have now been removed, so that fewer than half of 1% of the employees are in plans which have a limitation. Employees now can go 100% into fixed income, 100% into equities or any distribution in between.

MR. SIMMONS: I would also like to make a brief comment on restricting employee investment options. I wish we could achieve the same result through education of the employees and communication with them as we can through formal restriction, and I am not sure that's unrealistic. Canadians are very similar to Americans as described earlier. They tend to put 100% of their money into a guaranteed income certificate, or a savings account type of arrangement, and they are not going to get a good rate of return. I think we can handle that through education, as we can handle the need to minimize volatility as retirement approaches. I have been thinking about how to reduce the effects of the interest rate that happens to be applicable at retirement when you buy an annuity. One possibility would be, at some point between, say, age 55 and 60, to switch into a bond portfolio but, instead of investing in bonds with a duration up to age 65, you choose one that matures at age 75 perhaps. Then, if interest rates are high, the bond portfolio will have a fairly low market value at age 65 with 10 years still to go, but annuity rates should also be based on the same type of interest structure and so annuities should be relatively cheap. If the reverse is the case, then the annuity will cost you more, but you should have more cash then because there should have been capital gains on the bond portfolio. I

think we need to think about these types of investment options and how they can be used to offset volatility.

MR. HOWARD YOUNG: Those of us who are here for this session are largely persons who have to think about these issues already because what is obviously needed is a lot of education of employers, employees and the general public on these issues. With this in mind, I offer two comments.

One relates to Mr. Watson's opening remarks which almost equated the deferred wage concept with the defined contribution plan. It seems that logically there is another way to look at this -- that is, to view the deferred wage as a payment to a group of employees as a whole which gets used by the group in some way. However, even though this is logical, psychologically the general public does not buy it, just as people don't buy the argument that survivor benefits in a pension plan are unnecessary if there is an adequate group insurance program. I wonder why people don't complain when a group insurance premium is paid but they don't collect but, if a pension premium is paid and they don't collect, they do complain. I conclude that this may be because the alternatives are different, and I say this only half in jest.

My second point is that as actuaries we should be working to give a much more balanced presentation of the relative achievements of the private system and the public system. It is true that those who stay in a private plan that does well come out good. However, in terms of a more normal expectation, under which they move from employer to employer -- even if all employers had the cash balance plan, which we know they don't -- I think that, whatever may be the concerns about the social insurance system, the expected rate of return is probably at least as good under that system as anything one can get out of a private system.

MR. BLEAKNEY: Let me just add one thing to Mr. Young's last remark. I fully agree with it and in fact I was one of the handful of people who felt that the required program for mandatory pensions that the Commission on Retirement Systems came out with really made a fair amount of sense. One of the problems that I see with either defined benefit or defined contribution programs in the high mobility environment we live in is that neither really does what has to be done to provide retirement security. No matter which kind of plan you have,

the employee who moves around -- unless he happens to move within a group of employers where a build up benefit is possible, which sometimes happens in the public sector -- will likely have spent everything or almost everything except what he acquired in the last 5 or 10 years of his service, and this will not do the job.

MR. RICHARD G. SCHREITMUELLER: Let me build on the last remark. I suggest that, rather than just demonstrate the average delivery of a pension system, we may some day be called upon to look at the worst cases. This is the common approach in the political environment and, when the worst cases are focussed on, it may be too late to look at the average. My question to the panel is this. Mr. Simmons has told us that in Canada he sees a trend toward more indexing and more portability, and I think these do address some very basic problems of the defined benefit plans. I would like to ask both him and Mr. Rosenberg what they see as the reasons why this is happening in Canada and will those extend to the U.S.?

MR. SIMMONS: I guess the reason this is happening in Canada is because of the social and demographic changes that have occurred. I believe these same social and demographic changes are taking place in the U.S. as well. The main change that I see is a new reluctance on the employee's part to be told what is best for him and a new reluctance on the employer's part to tell him, "I know better than you do what is best for you," and I suspect these apply in the U.S. just the same as in Canada.

MR. ROSENBERG: I agree with Mr. Simmons. The same demographic factors certainly apply in the U.S. as in Canada. On the portability issue, though, we run into the problem that employers just don't want to let departing employees take their money with them. What a lot of employers have done is to block that money up. For example, in a cash balance plan, they may index the account balance if it stays with them, as if it were invested in an indexed stock, and only making distributions at retirement age. I would also note that, in a recently issued report from the Congressional Research Service, there was a reference to the need to change the structure of pensions so as to have less job dependent retirement benefits and more coping with the demographic changes that we have been talking about.

MR. SIMMONS: If I may just follow up on that. I probably didn't make it sufficiently clear in my presentation but the major reason for the portability in Canada is that it is being legislated. In other words, it has to be offered.

MR. SCHREITMUELLER: Why is it being legislated?

MR. SIMMONS: Because the employees have more votes than the employers do!

MR. BLEAKNEY: I hate to say this, because it could happen without having federal legislation, but I am afraid that's what in the long run will achieve portability in the United States. Of course we have taken a step in that direction with the Tax Reform Act, which puts an excise tax on early distributions. In the long run, what will generate the build up of benefits is that otherwise they are squandered prior to retirement.

MR. WATSON: I can add that portability is being legislated in the United Kingdom as well. There, some rather elaborate techniques exist for translating amounts of money held in a fund into equivalent service years, which is another way of handling the problem.

MR. SIMMONS: This would be a preferable way of achieving portability, because it keeps the mechanism within the defined benefit system and within the private pension sector, rather than changing over to individual approaches like savings plans. I doubt this is going to happen in Canada, though, for a number of regulatory and social reasons.

MS. BARBARA J. LAUTZENHEISER: A quick question for Mr. Simmons. If I understood correctly, you said one of the desires of the baby boomers as they reach retirement age is to receive accelerated payments. I wonder why you say that because my concern is the opposite. From what I see, the needs are going to center around extended life and chronic deceases. Thus there will be more of a need for those benefits that really are not insurable, for someone to come to mow the lawn, prepare the meals, and so forth, so we are going to need decelerated payments -- that is, increasing benefits as opposed to decreasing benefits.

MR. SIMMONS: On that question, I heard basically two opinions expressed by different people. One was in effect, "I want more in the early years because I can really enjoy it then; if I wait to get it, I will be too old to do all those things that I want to do." The other is the one you just expressed, "I am going to need it then but I have to pay for all the things that I do myself right now."

MS. LAUTZENHEISER: So your thrust was more from the wanting it because you want to enjoy it right away, really a desire driven as opposed to a needs driven impulse.

MS. ELLEN M. TORRANCE: I haven't heard a distinction made between portability and vesting. I think part of the problem with the so-called mobile population is that most of the benefit that they have earned when they are terminated or otherwise leave are effectively forfeited to the plan. I think they would be willing to leave the money where it is. It is not being able to take it, to own it, to keep it and not have it taken back, which is adding insult to injury. I think that some employees who have moved around or have had friends that have moved around and have lost most of the pension that they have earned give less credibility to an invested pension. Maybe it is not portability but vesting, especially for defined contribution plans, that is needed.

MR. BLEAKNEY: To a large extent, vesting of an indexed benefit in a defined benefit program will do the job for you. I need to clarify that. If you take programs which have immediate or very short-term vesting, and the benefit is the accrued benefit increased to retirement using, for example, social security indexing, then even if you add together different benefits that have accrued from various employers, forfeiture as such doesn't occur. However in reality, indexing of benefits after termination but before drawing of benefits is exceedingly rare. I have one statewide system in the State of Idaho which does that and I have a lot of trouble trying to find another. Now a defined contribution plan achieves this almost automatically, and this is a very substantial argument for early vesting of defined contribution plans so long as the money isn't withdrawn and spent. That is the TIAA-CREF approach.

MR. SIMMONS: I agree with what Mr. Bleakney said. Indexing during the deferral period is key if it is going to be held as a deferred vested benefit and

that really is not going to be accepted, at least not very easily. I think that employers in the private sector are going to accept indexation for people who retire a lot sooner than they going to accept indexation for people during the deferral period. Thus I think that the solution is to transfer the benefit out to some other arrangement. However, the transfer out will not be more than the cash value of the unindexed deferred pension, because it will still be based on salary at termination rather than ultimate salary at retirement.

MS. TORRANCE: Still, getting all of the accrued benefit is better than getting part of it.

MR. SIMMONS: True. Vesting in Canada is not an issue. We will now have two-year vesting.

MR. ROBERT J. MYERS: Defined contribution pension plans have one other advantage that has not been brought out in the discussion -- namely, that it is feasible to provide post-retirement adjustments in pensions to reflect changes in economic conditions. In fact, most such plans (including TIAA-CREF) do this by utilizing "excess" interest over a moderately low rate that is used for determining the purchasable annuities or through the actual investment experience. I would not assert, however, that this advantage necessarily makes defined contribution plans preferable to defined benefit plans.