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Date: October 12, 2007

To: Outline notes to myself

From: George Luste, President, University of Toronto Faculty Association

Re: **October 18, 2007, 3 p.m. Presentation to the Expert Commission on Pensions**

(1) Briefly: - Thank you ... about UTFA .... about myself .... please ask questions

**(2) This presentation? Perhaps unique?**

Over the past several years I have examined the details of some twenty consecutive University of Toronto DB pension plan annual actuarial reports (by Hewitt), - from 1987 to 2006, starting after the last major restructuring of the plan (in 1987). This involved tabulating changes in actuarial assumptions (a key issue I will come back to), annual service costs, annual investment returns, contribution holidays by employer and by employees, cumulative value of contribution holidays, plan formula change, plan costs, plan experience, etc. (I am not aware of any other similar or equivalent study.) In addition, for several years I have researched pension articles, other pension plans, and pension books in an attempt to better understand both the fundamental principles and the long term viability of DB and DC plans.

**(3) Main conclusion?**

My overall conclusion is that defined benefit plans, as currently constituted and perhaps intrinsically, are not in the long term best interest of our DB plan members (UofT faculty), or the employer (the University), or our provincial economy.

DB plans are a terrific financial benefit to the DB pension industry, to pension actuaries, to pension lawyers and to expert consultants. DB plans are imbued with details and complexities that have no end. Resulting in excessive frictional costs. This is unproductive and a real economic loss. DB plans advertise assurance and certainty while ignoring the underlying uncertainty. They rest on the shaky foundations of 'agency trust' and long term 'actuarial assumptions'. Many (all?) may have the structural attributes of an unsustainable pyramid in assuming the ratio of more workers to retirees will persist. Some individuals may benefit but not all and who pays and when?

#### **(4) On what basis?**

What are the reasons, the justification for this conclusion? The main issues are highlighted in points (5) and (6) below.

#### **(5) Intrinsic Liability and Wealth transfers, unavoidable in DB plans**

(I will expand on the following in the verbal presentation.)

(i) Internal transfers:- **member ↔ member**

What you contribute is not directly coupled to what you receive.  
Hiring age, salary changes, tax rule changes, formula changes.  
(Apart from the longevity aspect of an annuity.)

(ii) External transfers: - **member ↔ employer**

Formula and assumption changes, tax rules, contribution holidays

(iii) Intergenerational transfers: - **one generation ↔ to another**

For example, unrealistic interest rate assumptions can hide a true deficit for decades, leaving it for the next generation of employees or employers (or government) to fund.

Given the above 'problems of the shared pension commons', problems that are intrinsic to DB pension plans, one must conclude that an equitable distribution of pension entitlements is unlikely and probably impossible in the DB world. The following study of the University of Toronto defined benefit pension plan experience illustrates and proves the point. While the focus here is only on the real return assumption, other assumptions in DB plans, like the salary increase assumption, inflation assumption, mortality table assumption, government regulation and cap assumptions, etc can result in similar liability and asset transfers.

#### **(6) Actuarial assumptions of unknowables, time leverage => dramatic consequences**

Please see the attached Appendix I, dated November 9, 2006.

This UTFa document shows historical UofT pension data, data and actual experience that leads to the conclusion in (3).

Table-1 and Chart-1 shows the dramatic and cumulative effect of past pension contribution holidays combined with the time-value of money. It shows that if the University had honoured its annual pension service costs, the UofT pension plan today would have an additional \$1.3 billion or so in assets, (in addition to the \$2.4 billion of actual assets as of July 1, 2006.)

This cumulative loss is a major pension issue that is not quantified in any DB pension literature I have seen. I can only surmise that nobody else has had the opportunity to go through twenty consecutive annual reports and compile the cumulative result. I believe this is a serious blind spot in pension analysis.

A major reason these contribution holidays were possible is that the employer was at liberty to change the real go-forward interest rate assumptions from 2.5% to 3.0%, then to 3.5% and finally to 4.0% (see Chart-2 in Appendix-I). When the employer changes the actuarial interest assumption it dramatically reduces the total pension plan liability, and that in turn creates the pension surplus. In effect the employer thus engineers a contribution holiday - because due to the resulting 'surplus' government regulation forbids further contribution. Therein lies the 'trust' and 'assumption' problem.

This actuarial creation of a notional or fictional surplus is clearly true yet the press and the literature do not address it. The normal mantra one hears is that the markets were good. Yes, that was also true in the 1990s but in truth that was a lesser overall contributor. Volatility in market returns both give as well as take back.

What should the real interest rate assumption be? 2.5% or 4.0%? I would argue that nobody knows going out 20 years or more. The safest (most risk free) number today would be the current government guaranteed real return bond yield, which is currently paying about 2% in Canada. Anything higher assumes a market risk and is not guaranteed (by government). To try for a higher return most pension plans invest in equities. But this risk implies the possibility of negative consequences. The truth is that real returns on equities could be negative for an extended period, as has been Japan's experience. Please see the detailed analysis of world wide and long term equity returns in the "Irrational Optimism"<sup>1</sup> paper. In their conclusion the authors note:

*"Common stocks cannot be regarded as safe in real terms even when the investor has a horizon of 20 years or more."*

I must agree with their conclusion that the recent experience for equity returns in North America is not the norm and cannot be sustained, not when the real annual per capita GDP growth in the industrialized world is only about 2%<sup>2</sup>. Yet most DB plans make the polyannish assumption that they can realize 4% or better as a real return.

Who pays and is accountable when this hidden 'DB deficit' chicken comes home to roost? Is it the future members of the DB plan? The employers? Should the Ontario Government guarantee the higher return – even though the Bank of Canada Real Return Bonds currently do not do so?

### **(7) We are not alone.**

Others have recognized the same and similar issues with defined benefit pension plans.

Keith Ambachtsheer in his January 2007 Letter, in which he discusses the PhD work of Theo Kocken<sup>3</sup>, concludes with the following text:

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<sup>1</sup> "Irrational Optimism, Elroy Dimson, Paul Marsh and Mike Staunton, London Business School and published in Financial Analysts Journal, Jan/Feb 2004; 60, 1 pg 15.

<sup>2</sup> See Table 1 in "Earnings Growth: the Two Percent Dilution" by William J. Bernstein and Robert D. Arnott in Financial Analysts Journal, Sept/Oct 2003; 59,5, pg 47.

<sup>3</sup> "Curious Contracts" a book by Theo Kocken, based on his PhD Thesis in Holland

*The term 'defined benefit plan' is an oxymoron. At best, we can hope to define and value the embedded options in most of these arrangements, but not the pension benefits themselves.*

*The still-common assertion that only the employers are risk-bearers in DB plans is just plain wrong in most 'real world' situations. Plan participants usually bear considerable risk in DB plans as the writers of default options and conditional indexation options.*

....

*So DB plans are curious contracts, indeed. This curiousness would be merely academic, except for the reality that outstanding DB pension contracts around the world amount to trillions of dollars involving many millions of participants. As Theo Kocken writes at the end of the book. .... "it makes you curious how it will all end".*

**(8) Question. Why do the Terms of Reference of the Ontario Expert Commission on Pensions assume:**

*The importance of maintaining and encouraging the system of defined benefit pension plans in Ontario.*

**(9) Do the current DB plans need constructive attention? Yes, of course.**

**(10) Can one DB pension policy size fit all DB shoes? I don't think so. For example:**

- (i) Government DB plans (shortfall \$ => print money?)
- (ii) Private Corporations DBs (shortfall \$ => dividends, profits, assets)
- (iii) Non-profit Public (UofT) DBs (shortfall \$ => only salaries and jobs?)

**(11) Other Issues in DB plans and in Academia? Explain briefly in presentation.**

- (i) Joint and or Partial Governance (administrative and financial)
- (ii) Fiduciary duty and intrinsic conflicts of interest
- (iii) Issue of ownership of 'legacy liabilities' in current DB plans
- (iv) Ontario "Roads" scholars need a TIAA-CREF type portable DC plan
- (v) Almost all academics in U.S. are in a DC pension plan.
- (vi) UBC has a DC plan and their exit pensions are greater than at UofT
- (vii) Going forward UofT should consider a new DC plan for new hires