UNIVERSITY OF
TORONTO

Pension Plan Actuarial Assumptions

Orientation Paper for Pension Committee Members

June 10, 2011

Table of Contents

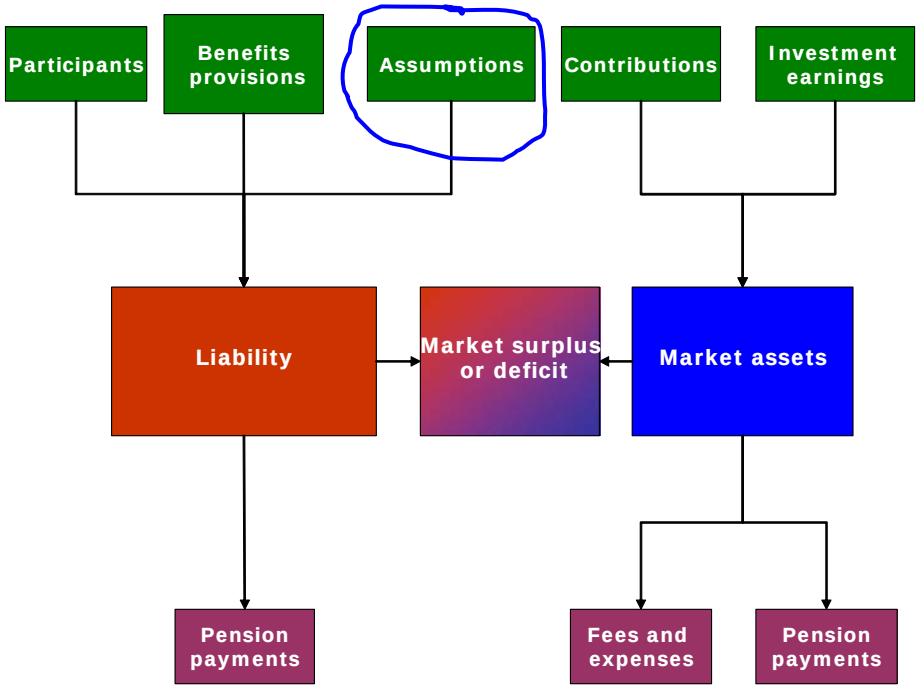
Purpose of Report

The purpose of this paper is to orient Pension Committee members regarding the actuarial assumptions currently in place for the actuarial valuation of the U of T pension plans. This paper discusses current going concern actuarial assumptions and their interdependencies, provides history on assumption changes since 1983, and makes comparisons with other pension plans where appropriate. It also describes the solvency and hypothetical wind-up assumptions, which are largely prescribed by regulation.

Introduction

A defined benefit pension plan provides pension benefits to each retiring member on the basis of defined percentages applied to salary and years of pensionable service. The main objective of managing a defined benefit pension plan is to ensure that there are sufficient resources to pay for the current pensions of retired members and to ensure that there will be sufficient funds to pay for the pensions of members who will retire in the future.

The challenge for defined benefit plans is to find a way to reasonably estimate the current net present value of what pensions will be paid to retired members over time (the liabilities) and to set aside money now to support payment of those pensions in future (the assets). The relationship is illustrated as follows:



No one knows what salaries will be for plan participants at retirement, and therefore, what their actual pension benefit will be, nor does anyone know how long plan participants will receive those benefits after retirement or what the cost of living adjustments will be after retirement. Actuarial assumptions are used to estimate the pension benefits that will be paid in the future to current and future retired members and to calculate the net present value of those benefits (the pension liability). There are several sets of assumptions, reflecting various valuations which make different assumptions about the continuation of the pension plan into the future, as follows:

Going Concern Valuation: this valuation assumes that the pension plan is ongoing. Assumptions therefore are long-term in nature. In particular the investment return assumption is a long-term rate over a long period of time.

Solvency Valuation: this valuation assumes that the pension plan will be wound up on the valuation date and utilizes current long-term interest rates. It assumes that benefits will be settled through purchase of annuities or payment of lump-sum values. However, indexation (inflation) after termination or retirement is excluded from this valuation.

Hypothetical Wind-Up Valuation: this valuation takes the solvency valuation and provides for the indexation that occurs before and after retirement. It also assumes that benefits will be settled through the purchase of annuities or payment of lump-sum values.

Actuarial Standards of Practice and Regulatory Requirements

The actuarial assumptions are underpinned by the actuarial standards of practice, and by the requirements of the Financial Services Commission of Ontario (FSCO) and the Canada Revenue Agency (CRA).

Actuarial Standards of Practice

Revised standards of practice are applicable to all valuations (for both funded and unfunded pension arrangements) with an effective date on or after December 31, 2010. For the going concern actuarial assumptions:

- The actuarial valuation assumptions are to be best estimate assumptions, with margins for adverse deviations no longer required, except as required by law or by the terms of the engagement.
- The discount rate assumption may reflect the expected return on plan assets or be based on fixed income yields.
- In setting the discount rate, the actuary may not anticipate any additional returns, net of fees, from an active management strategy except to the extent the actuary has reason to believe, based on relevant supporting data, that such additional returns will be consistently and reliably earned over the long term.
- The actuarial valuation will have to disclose the effect of a 1% reduction in the discount rate (this is something that is currently done for the *Pension Annual Financial Report*).

FSCO Requirements:

With the release of the new actuarial standards of practice, FSCO issued a public consultation document outlining its expectations for actuarial assumptions used in the preparation of an actuarial report to be filed with FSCO.

CRA Requirements on Economic Actuarial Assumptions

Revenue Canada Information Circular 72-13R8 (effective December 16, 1988) specified that for going concern valuations, there should be at least a 1% spread between the valuation interest rate and the assumed level of salary increases and at least a 3% spread between the valuation interest rate and the assumed increase in the CPI. Based on the premise that the assumption for the increase in Average Industrial Wage (AIW) would be 1% above the assumption for the increase in CPI, the spread between the valuation interest rate and the assumed AIW increase should be at least 2%.

Under Information Circular 72-13R7 in effect from 1982 through 1988, there was no gap required between the valuation interest rate and the assumed salary increase and the spread between the valuation interest rate and the assumed increase in CPI had to be at least 2%.

The guidelines set out in Information Circular 72-13R8 still apply today by virtue of paragraph 8502(j) of the *Income Tax Act* which states "…amount is based on reasonable assumptions as are acceptable to the Minister…"

In instances where the spreads are less than those set out above, further analysis needs to be performed to ensure the reasonableness of the assumptions used, such as the discount rate reflects the long-term expected rate of return of different asset classes in which the pension funds are invested in pursuant to the plan's investment policy. CRA will also look to the gain/loss analysis to ensure that there are no significant gains that are systematically developing over time which could be indicative of conservative assumptions.

Going Concern Actuarial Assumptions

Going concern actuarial assumptions are utilized to calculate the net present value of pension benefits (the liabilities). The going concern actuarial valuation assumes that the pension plan will continue indefinitely into the future. The going concern assumptions are therefore long-term in nature, attempting to predict various parameters over the long haul. Adjustments are therefore more in the nature of fine-tuning to adjust to long-term trends that emerge rather than reacting to short-term variations, which can be more abrupt and which often tend to be smoothed out over longer periods of time. Going concern actuarial assumptions are reviewed annually by the Plan Actuary together with the University's administration. Beginning with the July 1, 2011 valuation, the Pension Committee will approve the assumptions. The going concern actuarial assumptions ultimately selected and utilized in the going concern actuarial valuation are required to fit within a range of assumptions deemed appropriate by the Plan Actuary and the actuarial standards of practice. The going concern actuarial valuation itself is prepared annually and is filed with the Financial Services Commission of Ontario (FSCO) no less frequently than every three years. The next required filing for the University of Toronto registered pension plans is for the report as at July 1, 2011.

There are two types of going concern actuarial assumptions: demographic assumptions and economic assumptions:

- Demographic assumptions include retirement ages, mortality rates, withdrawal rates, disability rates and percentage of members with a spouse at retirement. Together they attempt to predict the composition of the retirement population and to estimate how long that population will receive pension benefits.

- Economic assumptions attempt to predict the future salaries and therefore the future pensions that will be payable to pensioners, and calculate, through the interest rate assumption, how much money needs to put aside now to meet those future requirements in a self-sustaining manner. The key building block assumption is the inflation assumption which drives the other economic assumptions (increases in salaries, CPP maximum salary and ITA maximum benefit, cost-of-living adjustments for pensioners, and investment return).

Demographic Assumptions

Retirement Age

The retirement age assumption reflects plan provisions and the legislative/regulatory climate in Ontario. There is no mandatory retirement in Ontario. The Plan provides for a normal retirement date, as required by pension legislation, which is the June 30th coincident with or next following the 65th birthday. It also provides for an unreduced pension beginning at age 60 with different service requirements by employee group. It is important to note that the earlier the retirement age with an unreduced pension, the higher the liability incurred.

Academic Staff and Librarians

For Academic Staff and Librarians, retirement ages from age 60 (earliest unreduced retirement age) to age 70 (to reflect the end of mandatory retirement) are used, in accordance with the following table:

Retirement Rates for Academic Staff and Librarians

	Rates[1]	
Age	**10 or More Years of Pensionable Service**	**Less than 10 Year of Pensionable Service**
60	10%[2]	
61	5%	
62	5%	
63	5%	
64	5%	
65	50%	50%
66	25%	25%
67	50%	50%
68	50%	25%
69	75%	75%
70	100%	100%

Based on the above table, for 1,000 participants currently less than age 60 who will have at least 10 years of pensionable service by age 60, 27% are assumed to retire before age 65, 37% are assumed to retire at age 65 and 36% are assumed to retire after age 65.

[1] But no earlier than one year after the valuation date
[2] Applies at age 60, or, if later, first age at which participant is eligible for an unreduced pension

For Academic Staff and Librarians, the retirement age was set at 65.5 years from 1983 to 1996, reflecting the normal retirement provision. In 1997, it was changed to age 63.5 (with a 3% per year reduction) to reflect the continued renewal of the Voluntary Early Academic Retirement Program (VEARP). In 2006, it was changed to age 64 (but no earlier than one year after the valuation date) to reflect the permanent unreduced early retirement provision arising from the 2005 Agreement on Retirement Matters and in 2007 it was changed to the Table above, to capture the impact of the end of mandatory retirement in Ontario.

Administrative and Unionized Staff

For Administrative and Unionized Staff groups, a single point retirement age of 63 years is used to reflect the various unreduced early retirement provisions available at age 60 or later, with minimum requirements for pensionable service or age-plus-continuous service points.

For Administrative and Unionized Staff, the retirement age assumption was set at 65.5 years from 1983 to 1985, at 63.75 years from 1986 (at the time an unreduced pension at age 60 and 80 points was introduced) to 2005, and at age 63 beginning in 2006.

The following table shows the average age of retirement for those retirees in the July1, 2010 actuarial valuation who retired over the period from July 1, 2007 to June 30, 2010.

	Year		
	2007/2008	**2008/2009**	**2009/2010**
Academic Staff and Librarians			
Number of Retirements Included	49	64	55
Average Age at Retirement	64.8	65.3	65.3
Administrative and Unionized Staff			
Number of Retirements Included	128[1]	65	87
Average Age at Retirement	61.1	63.9	63.1

[1] Reflects closing of temporary early retirement provisions

Mortality Rates

The mortality rate assumption tries to predict the rate at which plan participants will die, either before or after retirement. It is important to note that an increase in life span increases plan liabilities.

The current assumption utilizes the 1994 Uninsured Pensioner Mortality Table (UP94) which is the prevalent table in use today for Canadian pension plans. It reflects the mortality experience as of 1994 for a large sample of North American pension plans. Applying projection scale AA to 2015 provides allowance for improvements in mortality after 1994.

Since 1983, the mortality table has changed several times. From 1983 to 1986, the 1971 Group Annuity Mortality Table, rated down 2 years, was used. From 1987 to 1996, the 1983 Group Annuity Mortality Table was used. From 1997 to 2006, the assumption was the 1994 Uninsured Pensioner Mortality Table, and beginning in 2007, this table was augmented with the mortality improvements noted above.

Some jurisdictions require a projection under Scale AA to 2020. Use of a generational projection for mortality improvements (i.e., mortality improvements projected to each future date) is becoming the norm and the standards for calculating commuted values adopted the use of the generational table effective February 1, 2011. The impact of adopting the generation table for the UofT Pension Plan is shown on page 26.

The following table shows the life expectancy at age 65 for the 1983 Group Annuity Mortality Table and the 1994 Uninsured Pensioner Mortality Table with mortality improvements projected to various dates:

	Life Expectancy at Age 65 (yrs)	
	Male	**Female**
1983 Group Annuity Table	16.7	21.3
1994 Uninsured Pensioner Table With Projection to 2015	19.1	21.6
1994 Uninsured Pensioner Table With Projection to 2020	19.4	21.8
1994 Uninsured Pensioner Table With Generational Projection		
Current Age 65	19.6	22.1
Current Age 60	20.0	22.3
Current Age 55	20.4	22.5
Current Age 50	20.8	22.7
Current Age 45	21.1	22.9
Current Age 40	21.5	23.1
Current Age 35	21.8	23.3
Current Age 30	22.7	23.5

The following table shows the expected versus actual retiree deaths over the period from July 1, 2007 to June 30, 2010:

Age	Exposure: Number of Pensioners Over Three-Year Period	Expected Deaths	Actual Deaths	Ratio of Actual to Expected Deaths
55–59	272	1	0	–
60–64	1,017	7	9	129%
65–69	2,540	33	25	76%
70–74	2,674	53	43	81%
75–79	2,206	73	47	64%
80–84	1,608	92	83	90%
85–89	917	86	70	81%
90–94	288	44	60	136%
95–99	88	21	23	110%
100–104	12	4	5	125%
	11,622	414	365	88%

Withdrawal Rates

The rates of termination of employment before retirement (as shown in the table below) represent an estimate of termination rates for a Plan of the size and workforce characteristics of this Plan. This assumption does not have as significant an impact on the valuation as in some other plans because of indexing in the deferral period.

Withdrawals per 1,000 Participants

Present Age	Rates	Present Age	Rates
20	100	45	17
21	100	46	16
22	100	47	15
23	100	48	14
24	100	49	13
25	100	50	12
26	90	51	11
27	80	52	10
28	71	53	9
29	63	54	8
30	56	55	7
31	50	56	6
32	45	57	5
33	40	58	4
34	36	59	3
35	32	60	2
36	30	61	1
37	28	62+	0
38	26		
39	24		
40	22		
41	21		
42	20		
43	19		
44	18		

The experience gains and loses attributable to this assumption indicate that it is conservative, partly offset by assuming that all terminated members elect a deferred pension.

Disability Rates

It is assumed that if an active Plan member becomes disabled, credited service continues to accrue until Normal Retirement Date, but employee contributions are waived. Since this benefit is substantially the same as the benefit that accrues to an active member, no disability assumption has been used. Use of an actual disability assumption in this case would reduce liabilities slightly but would have very little impact on the valuation.

Percentage of Participants Retiring With a Spouse

The Plan provides for a fully subsidized 60% joint-and-survivor pension. The assumptions for the percentage of members retiring with a spouse and the spousal age difference reflect Plan experience. It is assumed that 86.7% of plan participants have a spouse at retirement, and a female spouse is assumed to be 4 years younger than a male spouse.

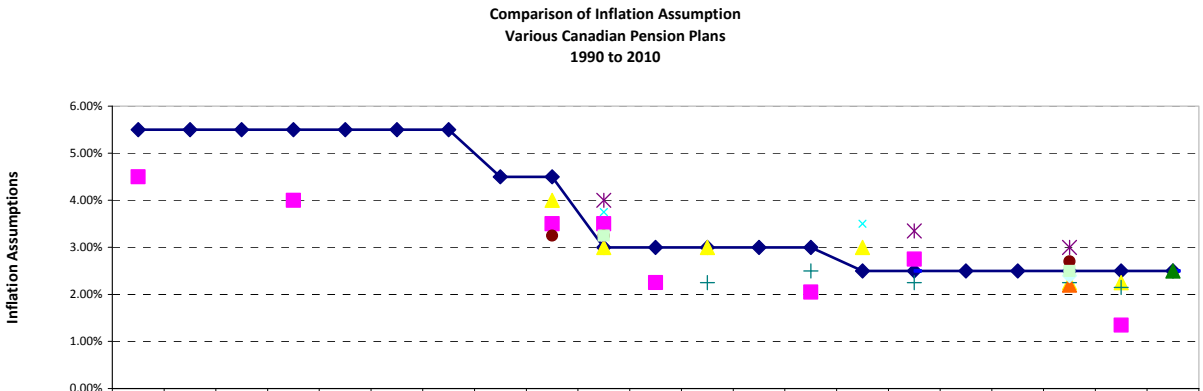
For the actuarial valuations as of July 1, 2008, 2009, and 2010 combined, approximately 75% of new retirements with a monthly pension had a joint-and-survivor form of payment. For male retirees, the spouse was on average 3.9 years younger. For female retirees, the spouse was on average 2.2 years older.

Economic Assumptions

Increase in Consumer Price Index

The objective of this assumption is to predict inflation. The current assumption of an inflation rate of 2.5% reflects a long-term rate of inflation at the upper end of the 1% to 3% band that the Bank of Canada has set for inflation. The other economic assumptions are built off the inflation rate, and their nominal rates reflect this rate. The inflation assumption is therefore, a key assumption in the valuation. An increase in CPI rate, by itself, increases the liabilities; however, it should not be viewed on its own, but rather in conjunction with the other economic assumptions (and will be discussed further in those sections).

This assumption has changed over time to reflect changes in the overall economic environment and a rate of inflation that has been falling over a long period of time. From 1983 to 1986 the rate was 5.75% per year. From 1987 to 1996 the rate was 5.5%. From 1997 to 1998 the rate was 4.5%. From 1999 to 2003 the rate was 3.0%. From 2004 to present the rate has been 2.5% per year. A comparison to other plans is shown below.



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
UofT	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	4.50%	4.50%	3.00%	3.00%	3.00%	3.00%	3.00%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
OTPP	4.50%			4.00%					3.50%	3.50%	2.25%			2.05%		2.75%				1.35%	
OMERS									4.00%	3.00%		3.00%			3.00%				2.25%	2.25%	
OPT										3.75%					3.50%						
BCTPP										4.00%						3.35%			3.00%		
UAPP									3.25%	3.25%									2.70%		
HOOPP												2.25%		2.50%		2.25%			2.25%	2.15%	
UW																2.50%					2.50%
CAAT																			2.20%		
PSSA																			2.40%		
PSPP										3.25%									2.50%		
UofO																					2.50%

Note: for presentation purposes, if the assumption is related to an actuarial valuation in the same calendar year (e.g. on Jan 1/98 or on December 31/98) both data points would be displayed in the same calendar year.

As you can see from the chart above, in the early comparison years, the U of T Pension Plan had a higher inflation assumption than the only other data comparison available to us, the Ontario Teacher's Pension Plan (OTPP). Beginning about 1998, with access to more comparisons, the U of T inflation assumption may be found in the mid range when compared to other major plans. (Appendix 2 contains the data illustrated in this chart).

Cost-of-Living Adjustments (COLA)

The pension plan provides for indexation on pension payments at July 1 each year at the greater of (a) and (b) below:

(a) the increase in the Consumer Price Index for Canada (CPI) for the previous calendar year minus 4.0%, or
(b) 75% of the increase in the CPI for the previous calendar year to a maximum CPI increase of 8%, plus 60% of the increase in CPI in excess of 8%.

The COLA assumption is set at 75% of the increase in CPI assumption. Currently that percentage is 1.875% (75% of 2.5%). The actual percentage has varied as the CPI assumption has changed.

Increase in CPP Maximum Salary

Plan members currently accrue annual pension benefits at the rate of 1.5% (Academic Staff and Librarians) or 1.6% (Administrative and Unionized Staff) of average salary up to the average Canada Pension Plan (CPP) maximum salary, and at 2% of average salary thereafter, up to a average salary maximum of $150,000 per year, for each year of pensionable service. It is important to note that an increase in the CPP maximum salary decreases the liability since it increases the proportion of pensionable service accumulated at 1.5% or 1.6% and correspondingly decreases the proportion of pensionable service accumulated at 2%.

The CPP maximum salary is increased each year by the percentage increase in the Average Industrial Wage and varies over time. This assumption attempts to predict that rate of increase and is the sum of the inflation assumption and an estimate of productivity growth. Our best estimate of productivity growth in the Canadian economy is currently 1.0%, which is consistent with historical growth. Therefore, this assumption is set at 3.5% per year reflecting the current CPI assumption of 2.5% plus 1.0% for productivity growth. This assumption has changed as follows over the years:

1983 to 1985:	12.5% per year fixed legislated increase
1986:	7.25% per year
1987 to 1996:	7.0% per year
1997 to 1998:	5.5% per year
1999 to 2003:	4.0% per year
2004 to present:	3.5% per year

Increase in *Income Tax Act* Maximum Benefit Limit

The maximum pension under the *Income Tax Act* is determined at the federal level. The current assumption from the July 1, 2010 actuarial valuation is $2,494.44 per year of service in 2010, increasing by 3.50% per annum thereafter which is the assumed percentage increase in the Average Industrial Wage. For 2011, the ITA maximum pension is $2,552.22, an increase of 2.3% from 2010. An increase in the ITA maximum pension increases the liability in the registered pension plans and correspondingly decreases the liability in the unregistered Supplemental Retirement Arrangement (SRA).

This assumption has changed over the years to try to predict the increases that would be put in place over time by the federal government, as follows:

To 1986: No maximum pension applied
1987: Flat until 1994; 7.0% thereafter
1995: Flat until 1998, 7.0% thereafter.
1996: Flat until 2005; 5.5% thereafter
1999: Flat until 2005; 4.5% thereafter
2004: Fixed limits until 2005; 3.5% thereafter
2005: Fixed limits until 2009; 3.5% thereafter

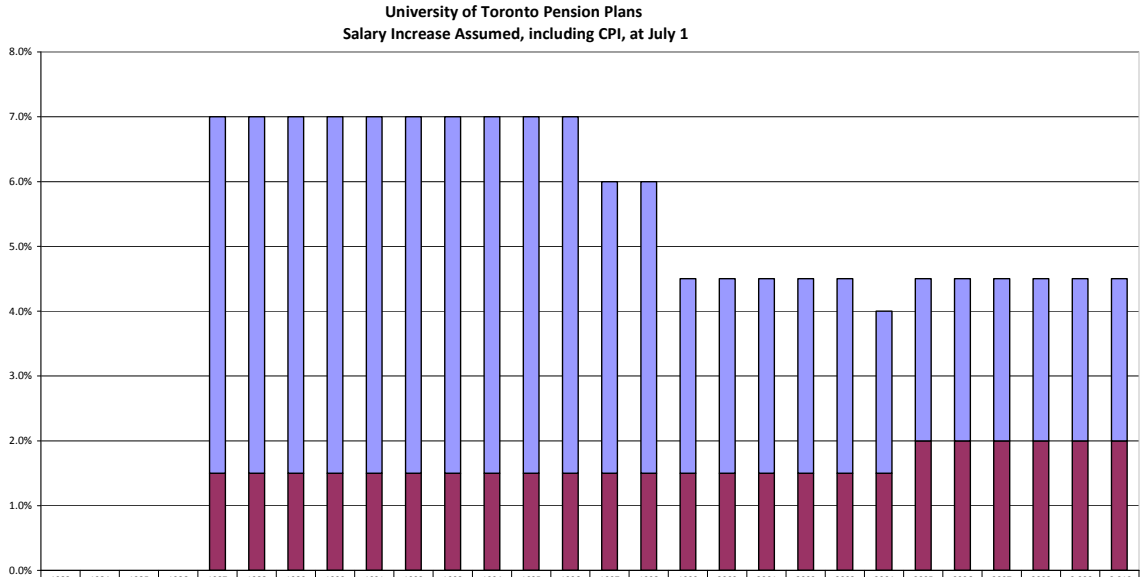
The federal government sent conflicting signals over the years, indicating that it would raise the limit, and then not doing so several times. In fact the limit was held at essentially the same level of $1,722.22 per year of pensionable service for the period from 1976 to 2003. This was a key reason why the SRA was introduced in 1997 to provide pension benefits above the ITA maximum pension up to a salary of $150,000 (scaled in from $135,000 to $150,000) per annum. At the time the SRA was introduced, the ITA maximum pension was reached at a highest average salary of approximately $98,000. With the ITA maximum pension in 2011, the highest average salary at which the maximum pension is reached has risen to approximately $139,000. If the current rate of increase is sustained, it is expected that the ITA maximum pension will be reached at a highest average salary above $150,000 by 2014/2015, thus eliminating the need for the SRA for future benefits.

The difficulty in predicting the increase in the ITA maximum pension and the signals sent by the federal government in the 1990's that were not translated into actual increases contributed to pension surpluses in those years that were higher than they would otherwise have been (since the assumption predicted a higher maximum pension than what actually materialized in the liabilities).

At the present time, no change is being contemplated in the assumption of a 1% increment over inflation.

Increase in Salaries

This assumption attempts to predict salary increases in the future. It has two components: an across to board component which is captured by the CPI increase assumption, and a progression-through-the-ranks/merit/grid step component. Currently, the salary increase assumption is 4.5%, made up of 2.5% inflation and 2.0% for the progression-through-the-ranks/merit/grid step component. Over the years, this assumption has changed, both to reflect changes in inflation and to reflect changes in the allowance above inflation, as shown in the following graph:



	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2,009	2,010
CPI	-	-	-	-	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	4.5%	4.5%	3.0%	3.0%	3.0%	3.0%	3.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Increase in salaries in excess of CPI	-	-	-	-	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%

Note: From 1983 to 1986 a graded salary scale was used.
Data source: Actuarial reports and financial statements 1983-2010.

As you can see from the chart above, the salary assumption was 7.0% per year from 1987 to 1996, 6.0% per year in 1997 and 1998, 4.5% per year from 1999 to 2003, and 4.0% in 2004. Beginning in 2005 the salary increase assumption was adjusted back to a total of 4.5%; the allowance above inflation was changed from 1.5% to 2.0% to do this. It is important to note that an increase in the salary assumption, taken by itself, whether impacted by CPI or by merit and promotion, increases the liabilities. However, changes in the salary increase assumption tend to occur at the same time as changes in other economic assumptions, such as the investment return assumption, and the various changes must be considered in their totality when considering the overall impact on liabilities. (See Summary of Historical Changes).

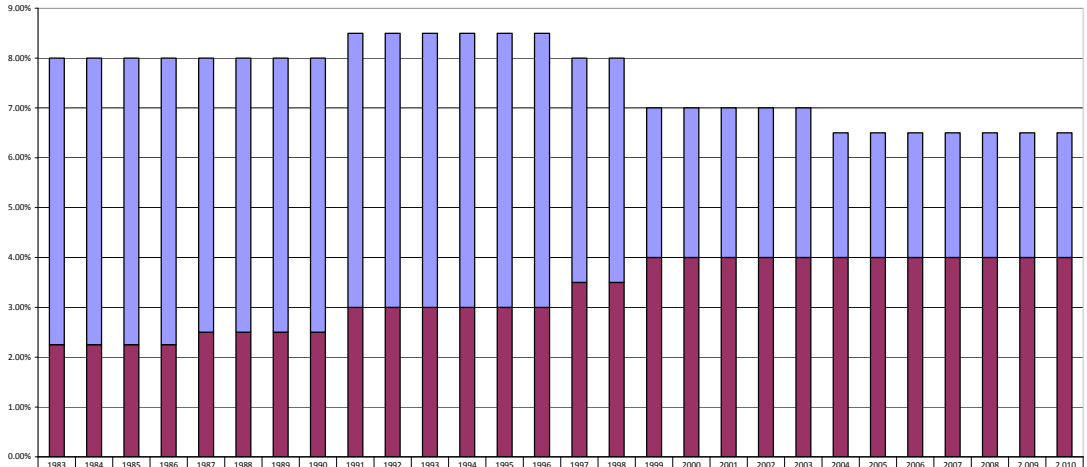
It is not appropriate to compare this assumption to other pension plans since it attempts to capture U of T salary increases.

Investment Return (also known as interest rate)

The investment return, or interest rate assumption, as it is also known, attempts to predict the investment returns on pension assets in future. It is utilized to discount the pension liabilities to net present value, thereby calculating what pool of assets, invested today, is needed to meet the stream of pension payments in the future.

The Pension Master Trust Investment Policy currently sets a real investment return target of at least 4.0% after investment fees and expenses, with the return volatility risk target of 10% overriding and constraining the return target. The asset/liability study underpinning this target was most recently updated in 2007 (another study is currently being conducted). The real investment return assumption is currently set to equal 4%. The nominal investment return assumption has two components, the CPI assumption and the real investment return assumption.

University of Toronto Pension Plans
Interest Rate Assumed on Investments, including CPI, at July 1

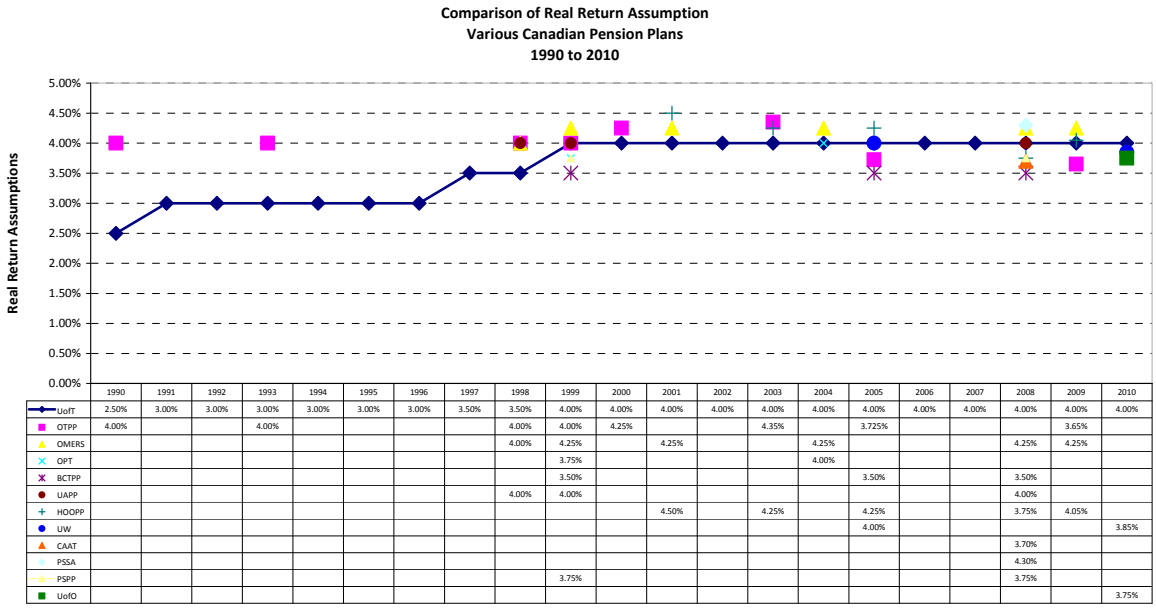


	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2,009	2,010
CPI	5.75%	5.75%	5.75%	5.75%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	4.5%	4.5%	3.0%	3.0%	3.0%	3.0%	3.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Interest rate in excess of CPI	2.25%	2.25%	2.25%	2.25%	2.5%	2.5%	2.5%	2.5%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.5%	3.5%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%

Data source: actuarial reports and financial statements.

As you can see from the chart, the real investment return assumption was set at 2.25% per year from 1983 to 1986, at 2.5% per year from 1987 to 1990, at 3.0% per year from 1991 to 1996, at 3.5% in 1997 and 1998, and at 4.0% per year from 1999 to the present. As noted earlier, CRA policy requires a minimum 3% return above inflation unless otherwise justified. Once inflation is taken into account, the nominal rate has moved from 8.0% from 1983 to 1990, to 8.5% for 1991 to 1996, back to 8.0% for 1997 and 1998, then down to 7.0% for 1999 to 2003, and then to 6.5% from 2004 to the present.

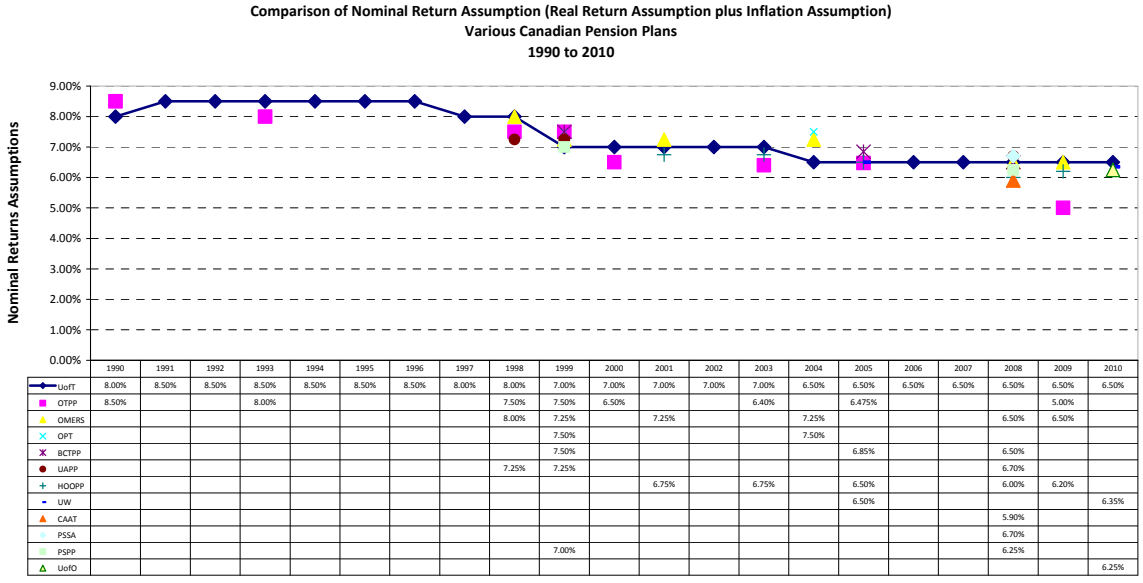
Comparison to other pension plans also shows changes in both the real return and nominal return assumption over the years. The next graph compares the U of T pension plans to other major pension plans with respect to both real returns and nominal returns (Appendix 2 contains the data presented in these charts).



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
UofT	2.50%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.50%	3.50%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
OTPP	4.00%			4.00%					4.00%	4.00%	4.25%			4.35%		3.725%				3.65%	
OMERS									4.00%	4.25%		4.25%			4.25%				4.25%	4.25%	
OPT										3.75%					4.00%						
BCTPP										3.50%						3.50%			3.50%		
UAPP									4.00%	4.00%									4.00%		
HOOPP												4.50%		4.25%		4.25%			3.75%	4.05%	
UW																4.00%					3.85%
CAAT																			3.70%		
PSSA																			4.30%		
PSPP										3.75%									3.75%		
UofO																					3.75%

Note: for presentation purposes, if the assumption is related to an actuarial valuation in the same calendar year (e.g. on Jan 1/98 or on December 31/98) both data points would be displayed in the same calendar year.

As you can see from the chart above, in the early comparison years, the real investment return assumption for the U of T plans sits below the only other comparator, OTPP. Beginning in 1998, with the availability of more comparison points, the U of T Pension Plan is in the mid range with respect to the real return assumption. It is very important to also evaluate the overall nominal return assumption. The following chart compares the nominal U of T Pension Plan assumption to the other plans.



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
UofT	8.00%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.00%	8.00%	7.00%	7.00%	7.00%	7.00%	7.00%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
OTPP	8.50%			8.00%					7.50%	7.50%	6.50%			6.40%		6.475%				5.00%	
OMERS									8.00%	7.25%		7.25%			7.25%				6.50%	6.50%	
OPT										7.50%					7.50%						
BCTPP										7.50%						6.85%			6.50%		
UAPP									7.25%	7.25%									6.70%		
HOOPP												6.75%		6.75%		6.50%			6.00%	6.20%	
UW																6.50%					6.35%
CAAT																			5.90%		
PSSA																			6.70%		
PSPP										7.00%									6.25%		
UofO																					6.25%

Note: for presentation purposes, if the assumption is related to an actuarial valuation in the same calendar year (e.g. on Jan 1/98 or on December 31/98) both data points would be displayed in the same calendar year.

As you can see from the above chart, the nominal investment return assumption for the U of T plans is very much in line with other major pension plans over the entire period from 1990 to the present.

Interest Rate on Participant Contributions

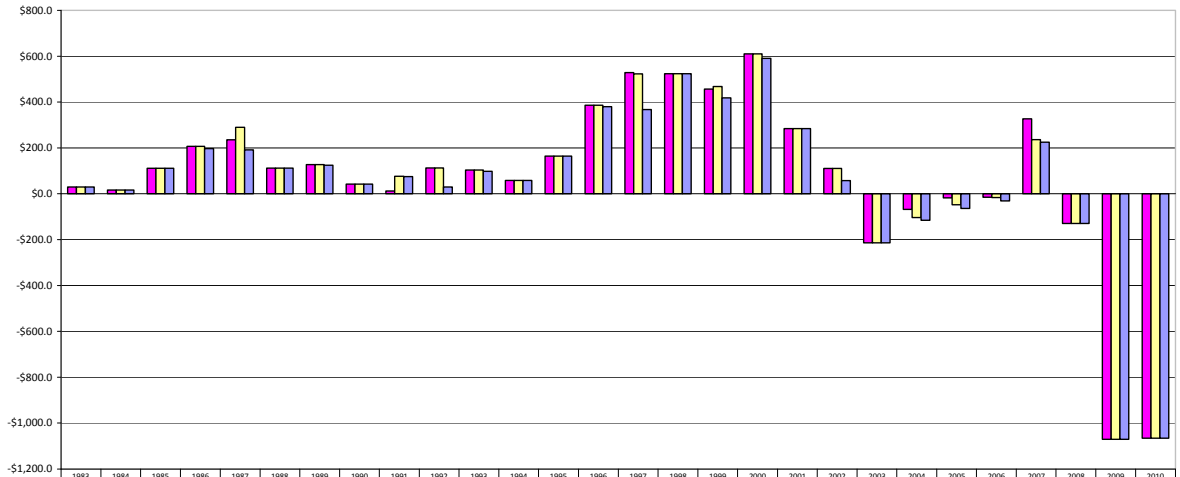
Interest is credited annually on participant contributions at the greater of the increase in CPI plus 2.0%, and the minimum rate prescribed by the *Pension Benefits Act* (Ontario), (i.e., interest rate on 5-year personal fixed term deposits; CANSIM series V122515). For valuation purposes, interest is credited at the valuation interest rate (currently 6.5%), building in a slight degree of conservatism.

Summary of Historical Changes and Changes under Consideration

Historical Changes

The previous section discussed each going concern actuarial assumption individually and indicated how that assumption changed over time. The purpose of this section is to consider the set of assumption changes that occurred in various time periods to give a better understanding of, and historical perspective on, the relationship between the various changes that occurred in specific years. To enable reconciliation between the surplus/deficit before and after changes, it was also necessary to include the impact of benefit changes on surplus under the plans, which amounted to $539.6 million over the 1983 to 2010 period under study. It is important to note that while the numbers associated with those benefit changes made in years in which assumption changes were also made will be mentioned to complete the reconciliation, benefit changes made in years in which assumption changes were not also made will not be referenced below. The following chart shows the market surplus/deficit each year from 1983 through 2010 before and after assumption and plan (benefit) changes.

Impact on Surplus (Deficit) of Changes in Assumptions and Changes to the Plans at July 1 (millions of dollars)



	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Before assumption and plan changes	29.6	16.2	110.9	206.7	234.9	112.0	127.2	42.5	12.3	112.8	103.6	58.2	164.1	386.0	528.5	523.5	456.8	610.4	284.2	110.5	(213.8)	(68.0)	(17.8)	(14.8)	327.4	(129.3)	(1,070.8)	(1,065.9)
After assumption changes	29.6	16.2	110.9	206.7	289.9	112.0	127.2	42.5	76.4	112.8	103.6	58.2	164.1	386.0	523.1	523.5	467.6	610.4	284.2	110.5	(213.8)	(103.9)	(47.6)	(15.9)	236.1	(129.3)	(1,070.8)	(1,065.9)
After assumption and plan changes	29.6	16.2	110.9	196.8	191.5	112.0	124.8	42.5	74.6	29.5	98.3	58.2	164.1	379.6	367.3	523.4	418.3	591.0	284.2	57.6	(213.8)	(115.9)	(63.4)	(31.4)	224.8	(129.3)	(1,070.8)	(1,065.9)

Data source: Actuarial reports and financial statements 1983-2010.

As you can see from the chart, assumption changes were made in 1987, 1991, 1997, 1999, 2004, 2005, 2006 and 2007. Also, changes to the assumed start date for increases in the ITA maximum pension, which are not shown separately on the above graph, occurred throughout this period, in 1987, 1995, 1996, 2004, and 2005. The continued deferral by the federal government of the start date for the indexation of the ITA maximum pension (which was tied to the continued deferral of the increase in RRSP limits) generated a significant increase in the surplus.

Changes as of July 1, 1987

The Pension Plan was in an excess surplus position as of July 1, 1987 before any assumption changes and plan improvements. The Pension Plan had also been in an excess surplus position as of July 1, 1986. In 1987, significant benefit improvement were introduced as a result of negotiations with the Faculty Association, with the intent that they would be funded from the surplus. Also, the Plan Actuary had been appointed in 1983 and undertook the first major review of actuarial assumptions effective July 1, 1987. In 1987, the following actuarial assumption changes were made:

- The real rate of return assumption was increased from 2.25% to 2.50% per year.

- The inflation assumption was reduced from 5.75% to 5.5% per year.

- The salary increase assumption prior to the July 1, 1987 actuarial valuation was a graded schedule that started at 10.1% per year at ages less than 30 and graded down to 7.7% per year at ages 55 and over. Combined with an assumed inflation rate of 5.75% per year, the increase above inflation ranged from 4.35% down to 1.95%. For the July 1, 1987 actuarial valuation, the salary increase assumption was changed to a flat 7.0% per year, comprising the newly adjusted inflation rate of 5.5%, plus 1.5% allowance above inflation.

- Prior to July 1, 1987 there was no maximum pension applied under the actuarial valuation even though there was a Revenue Canada maximum pension in effect. This was the assumption made under a prior Plan Actuary. That decision to not include a maximum pension for valuation purposes was likely made on the basis that the maximum pension would be periodically increased (there was no specific provisions for an increase in the then Revenue Canada rules, but that would not have been an unreasonable expectation at the time). The 1985 Federal Budget proposed a specific formula for the increase that was reflected in the July 1, 1987 valuation. Even if this change had not been made for the July 1, 1987 actuarial valuation, it would have been required at a subsequent date.

- The mortality table was strengthened.

The assumption changes collectively increased the market surplus by $55 million from $234.9 million to $289.9 million and reduced the University current service cost by $6.4 million or 2.6% of the participant salary base (the application of the Revenue Canada maximum pension had the most significant impact on the current service cost).

The benefit improvements reduced the market surplus by $98.4 million, resulting in a market surplus after assumption and benefit changes of $191.5 million and increased the University current service cost by $7.5 million or 3.0% of the participant salary base. The resulting University current service cost at July 1, 1987 was about $25 million per year.

Changes as of July 1, 1991

In 1991, the real return assumption was increased from 2.5% to 3.0% per year, to reflect ongoing improvements in actual investment returns. The impact of this change was to increase the market surplus by $64.1 million from $12.3 million to $76.4 million and reduce the University current service cost by $5.3 million or 1.6% of the participant salary base. Benefit improvements reduced the market surplus by $1.8 million to $74.6 million and did not impact the current service cost.

Changes as of July 1, 1997

The Pension Plan had a significant excess surplus even before the assumption changes. In 1997 the real rate of return assumption was changed from 3.0% per year to 3.5% per year. However, the nominal interest rate was reduced from 8.5% per year to 8.0% per year, the mortality rates and retirement age assumptions were strengthened and the assumed rate of increase in the CPP maximum salary was lowered, resulting in more of the projected salary being subject to the 2% benefit rate. The market surplus was reduced by $5.4 million from $528.5 million to $523.1 million as a result of the assumption changes. The assumption change reduced the University current service cost by $0.7 million or 0.2% of the participant salary base.

There were also numerous benefit improvements in 1997. Amongst the benefit improvements made in 1997, the University introduced the unregistered Supplemental Retirement Arrangement (SRA) to deal with the ongoing problem with the ITA maximum pension, along with a five-year plan to develop a pool of assets to fund it. The initial past service liability for the SRA was $72.5 million. As a result of the benefits improvements, including the introduction of the SRA, the market surplus was reduced by $155.8 million from $523.1 million to $367.3 million. The initial University current service cost with respect to the SRA was $2.9 million or 0.8% of the participant salary base. The other benefit improvements increased the University current service cost by $0.4 million, or 0.1% of the participant salary base

It is important to note that the real investment return earned by pension assets over the period from July 1, 1987 to June 30, 1997 was 6.7% per year, as compared to the real return assumption which was 2.5% per year from 1987 to 1990, 3.0% per year from 1991 to 1996, and 3.5% in 1997.

Changes as of July 1, 1999

The Pension Plan had a significant excess surplus. The real rate of return assumption was increased from 3.5% to 4.0% per annum. (As noted above the real investment return earned by pension assets over the period from July 1, 1987 to June 30, 1997 was 6.7% per year.) However, the nominal interest rate was

reduced from 8.0% to 7.0% per annum, reflecting a 1.5% reduction in the inflation assumption. There were also benefit improvements that were funded from surplus.

The assumption change increased the market surplus by $10.8 million from $456.8 million to $467.6 million and reduced the University current service cost by $1.4 million, or 0.4% of the participant salary base. The benefits improvements reduced the market surplus by $49.3 million to $418.3 million and increased the University current service cost by $1.4 million or 0.4% of the participant salary base.

Changes as of July 1, 2004

As at July 1, 2004 all of the economic assumptions were reduced by 0.5%. The real rate of return remained at 4.0%; however, the nominal rate of return was reduced from 7.0% to 6.5% per year. The combined impact from the changes in actuarial assumptions was an increase of $35.9 million in the market deficit from $68.0 million to $103.9 million and an increase in the University current service cost of $1.2 million or 0.3% of the participant salary base. The benefit improvements added $12.0 million to the market deficit, bringing it to $115.9 million.

Changes as of July 1, 2005

The salary increase assumption was changed from CPI plus 1.5% to CPI plus 2.0% to reflect the higher increases in salary being experienced. This increased the market deficit by $29.8 million from $17.8 million to $47.6 million and the current service cost by $1.1 million or 0.2% of the participant salary base. There were also benefit improvements that increased the market deficit by $15.8 million to $63.4 million.

Changes as of July 1, 2006:

Assumption changes in 2006 were essentially immaterial in terms of impact on the funded status of the plans, changing it by $1.1 million from a deficit of $14.8 million to a deficit of $15.9 million. Benefit improvements then increased the deficit by $15.5 million to $31.4 million.

Changes as of July 1, 2007

A projection of mortality improvement was added to the mortality table and retirement rates were introduced for Academic Staff and Librarians. These changes reduced the market surplus by $91.3 million from $327.4 million to $236.1 million and increased the University current service cost by $3.7 million or 0.6%

of the participant salary base. Benefit improvements reduced the market surplus by $11.3 million to $224.8 million.

It is important to note that for the period July 1, 1997 through June 30, 2007, the actual real return earned by the pension assets was 5.7% per year, as compared to the real return assumption of 3.5% in 1997 and 1998, and 4.0% per year thereafter.

No assumption changes were introduced in 2008, 2009 or 2010. The assumptions were reviewed in each of those years.

Changes Under Consideration

We are currently conducting the annual review of all the actuarial assumptions for the July 1, 2011 actuarial valuation. Sensitivity analysis has been prepared for two possible changes – to the mortality rates and to the real investment return assumption. We are also conducting an asset/liability study to assess what should be the real investment return target going forward. The following chart shows the impact of these two possible changes on the University of Toronto Pension Plan (RPP) as at July 1, 2010. In reviewing this chart it is important to note that it assumes the current employee contribution formula, whereby the member share of contributions is determined by formula, with the employer contributions representing the difference between the total contributions required (current service plus any special payments required) and the portion paid by members.

University of Toronto Pension Plan (RPP) Only

Impact of Change in Actuarial Assumptions as of July 1, 2010	Current Assumptions ($000's)		Changes to Generational Mortality ($000's)		Changes to Generational Mortality and 6.25% Nominal Rate/3.75% Real Rate ($000's
Accrued liability	3,125,978		3,174,781		3,282,787
		48,803		108,006	
University current service cost (assumes current employee contribution formula)	77,666 (10.98%		80,903 (11.44%)		87,284 (12.34%)
		3,237 (0.46%)		6,381 (0.90%)	
Member contributions (assumes current employee contribution formula)	37,155 (5.25%)		37,155 (5.25%)		37,155 (5.25%)

As you can see from the above chart, the impact of the changes under consideration would be to increase accrued liabilities by $48.8 million for the mortality rate change and by $108.0 million for a 0.25% reduction in the real interest rate, and to increase the required employer current service contributions by $3.2 million for the mortality change and by $6.4 million for a 0.25% reduction in the real interest rate, assuming the current employee contribution formula. The market deficit would also increase, requiring additional special payments, beyond those addressed in the preliminary funding and financing strategy. That preliminary strategy must be updated to reflect the actual July 1, 2011 actuarial valuations results. If we decide to proceed with either or both of the changes outlined above, the funding and financing strategy as at July 1, 2011 would also reflect those changes.

As noted earlier, we are continuing to review the actuarial assumptions and, depending on the outcome of that review, may recommend changes to one or more of the assumptions for the July 1, 2011 going concern actuarial valuation.

Solvency and Hypothetical Wind-Up Actuarial Assumptions

The solvency and hypothetical wind-up assumptions are used to value pension liabilities using an underlying core assumption that the pension plan will be wound up as of the valuation date and that annuities will be purchased for plan members. This is a very different assumption basis than the going concern basis which assumes that the pension plan will continue to exist indefinitely into the future.

The solvency and wind-up calculations are required under Ontario pension regulation, even though the University of Toronto, like other universities, expects to be around for a very long time, and even though universities in many other provincial jurisdictions are exempted from solvency and wind-up calculations for this reason. The actuarial assumptions themselves are mostly prescribed. The following table compares key assumptions under the going concern, solvency, and hypothetical wind-up basis.

Actuarial Assumptions

As of July 1, 2010

	Going Concern	Solvency	Wind-Up
Basis For Valuation	Plan continuing	Plan winding up (with indexation benefits **excluded**)	Plan winding up (with indexation benefits **included**)
Discount Rate Basis	Expected long-term rate of return on pension fund based on asset mix	Annuity purchase rates and market interest rates for commuted values based on **nominal** Government of Canada bonds	Annuity purchase rates[1] and market interest rates for commuted values based on **real** Government of Canada bonds
Discount Rate	6.50% per year	Annuity purchase: 4.29% per year Commuted values: 3.70% per year for 10 years; 5.10% per year thereafter	Annuity purchase: 2.01% per year Commuted values: 2.40% per year for 10 years; 3.20% per year thereafter
Future Salary Increases (including merit and promotion)	4.50% per year	Not applicable	Not applicable
Inflation	2.50% per year	Not applicable (since indexation not valued)	Rates above are net of 75% of inflation
Retirement Ages	Range of retirement ages based on plan experience which reflects plan provisions and elimination of mandatory retirement	Earliest possible retirement age which generates the highest value based on plan provisions and legislated "grow-in" provisions	Earliest possible retirement age which generates the highest value based on plan provisions and legislated "grow-in" provisions
Morality Rates	1994 Uninsured Pensioner Mortality Table, with mortality improvements under Scale AA to 2015	1994 Uninsured Pensioner Mortality Table, with mortality improvements under Scale AA to 2020	1994 Uninsured Pensioner Mortality Table, with mortality improvements under Scale AA to 2020

[1] Limited market available for the purchase of indexed annuities especially for a pension plan of this size

As you can see from the above chart, one key difference in assumption between the going concern and solvency bases is that utilized for the discount rate, which reflects the investment (interest rate) return. The going concern discount rate assumption is currently (July 1, 2010) 6.5%, made up of a 4% real return plus 2.5% CPI, which is the assumption about what investment returns will be **over the long term**. By contrast, the current (July 1, 2010) solvency discount rate assumption reflects an annuity purchase rate of 4.29%, which is the current interest rate at which annuities can be purchased. This would make sense if annuities were to be purchased at that date, but does not make sense for a plan that will continue into the foreseeable future. The hypothetical wind-up discount rate assumption is even lower, at 2.01%, reflecting the wind-up valuation's inclusion of indexation in its liability calculation. These lower rates reflect the current very low interest rates in the Canadian economy and in other economies. The use of current long-term interest rates in the solvency and wind-up valuations is the reason why those surplus/deficit numbers fluctuate widely in the short-term. It is telling that a 2% increase in interest rates would cut the current solvency deficit by about half. By contrast it would not affect the going concern surplus/deficit calculation.

Summary and Conclusions

The liabilities of the UofT pension plans are valued annually utilizing several sets of assumptions. Going concern assumptions attempt to predict demographic and economic parameters over a long period of time into the future. Changes in these assumptions at any given moment are therefore generally small, and represent fine-tuning of assumptions to reflect emerging long-term trends. Those assumptions are set within ranges established by the Plan Actuary, who in turn, sets these ranges in accordance with the actuarial standards of practice and regulatory requirements. At this time, most assumptions are considered to reflect long-term trends; however, two assumptions are currently under consideration for possible revision, and, if current short-term circumstances appear to be emerging as longer term trends, changes may be made to the mortality table or investment return assumption. The annual review of actuarial assumptions for the July 1, 2011 valuation, which is ongoing, may also identify the need to fine-tune some other assumptions.

Solvency and hypothetical wind-up assumptions, on the other hand, attempt to calculate what assets would be required as at the valuation date, to purchase annuities for or pay lump-sum values to plan members, thus winding down the plan. Those assumptions are largely prescribed by Ontario regulation, and are heavily affected by current market conditions, most particularly interest rates. Those assumptions vary each year with current market conditions.

Appendix 1

Summary of Going Concern Actuarial Assumption Changes
Registered Pension Plan
1983 to 2010

Increase in CPI

- 1983 (to 1986) – 5.75%
- 1987 (to 1996) – 5.5%
- 1997 (to 1998) – 4.5%
- 1999 (to 2003) – 3.0%
- 2004 (to present) – 2.5%

COLA

- 1992 (to 1996) – 4.125% (75% of CPI of 5.5%)
- 1997 (to 1998) – 3.375% (75% of CPI of 4.5%)
- 1999 (to 2003) – 2.25% (75% of CPI of 3.0%)
- 2004 (to present) – 1.875% (75% of CPI of 2.5%)

Increase in CPP Maximum Salary

- 1983 (to 1985) – 12.5% (fixed legislated increase)
- 1986 – 7.25%
- 1987 (to 1996) – 7.0%
- 1997 (to 1998) – 5.5%
- 1999 (to 2003) – 4.0%
- 2004 (to present) – 3.5%

Increase in *Income Tax Act* Maximum Benefit Limit

- to 1986 – No maximum pension applied
- 1987 – Flat until 1994; 7.0% thereafter
- 1995 – Flat until 1998, 7.0% thereafter
- 1996 – Flat until 2005; 5.5% thereafter
- 1999 – Flat until 2005; 4.5% thereafter
- 2004 – Fixed limits until 2005; 3.5% thereafter
- 2005 – Fixed limits until 2009; 3.5% thereafter

Increase in Salaries

- 1983 (to 1986) – From 1983 to 1986 a graded salary scale was used.
- 1987 (to 1996) – 7.0% [CPI of 5.5%; Increase in salaries in excess of CPI of 1.5%]
- 1997 (to 1998) – 6.0% [CPI of 4.5%; Increase in salaries in excess of CPI of 1.5%]
- 1999 (to 2003) – 4.5% [CPI of 3.0%; Increase in salaries in excess of CPI of 1.5%]
- 2004 – 4.0% [CPI of 2.5%; Increase in salaries in excess of CPI of 1.5%]
- 2005 (to present) – 4.5% [CPI of 2.5%; Increase in salaries in excess of CPI of 2.0%]

Investment Return

- 1983 (to 1986) – 8.0% [CPI of 5.75%; real return assumption of 2.25%]
- 1987 (to 1990) – 8.0% [CPI of 5.5%; real return assumption of 2.5%]
- 1991 (to 1996) – 8.5% [CPI of 5.5%; real return assumption of 3.0%]
- 1997 (to 1998) – 8.0% [CPI of 4.5%; real return assumption of 3.5%]
- 1999 (to 2003) – 7.0% [CPI of 3.0%; real return assumption of 4.0%]
- 2004 (to present) – 6.5% [CPI of 2.5%; real return assumption of 4.0%]

Retirement Age – Faculty and Librarians

- 1983 (to 1996) – 65.5
- 1997 (to 2005) – 63.5 (reduced 3% per year)
- 2006 – 64.0
- 2007 (to present) – Table A, subject to Early Retirement Provisions

Retirement Age – Administrative and Unionized Staff

- 1983 (to 1985) – 65.5
- 1986 (to 2005) – 63.75
- 2006 (to present) – 63.0, subject to early retirement provisions

Retirement Age – Terminated Vested

- 1983 (to present) – 65.5

Mortality Rates

- 1983 (to 1986) - 1971 Group Annuity Mortality Table rated down 2 years
- 1987 (to 1996) – 1983 Group Annuity Mortality Table
- 1997 (to 2006) – 1994 Uninsured Pensioner Mortality Table
- 2007 (to present) – 1994 Uninsured Pensioner Mortality Table, with mortality improvements under scale AA projected to 2015

Percentage Married

- (1983 – present) – 86.7%; female spouse assumed to be 4 years younger than male spouse

Withdrawal Rates

- (1983 – present) – No change in withdrawal rate table

Appendix 2
Comparison of Inflation, Nominal Return and Real Return Assumptions of Other Major Pension Plans

(Prepared by Aon Hewitt from Public Information)

University of Toronto Pension Plan – Comparison of Actuarial Assumptions

The document compares the actuarial assumptions for inflation, nominal return and real return used by the University of Toronto Pension Plan at various points in time to the assumptions used by other major pension plans. The data used is from publicly available actuarial reports from websites and as such, information on only some of the pension plans is available for a given year.

The pension plans included are as follows:

- Ontario Teachers' Pension Plan (OTPP)*
- Alberta Universities Academic Pension Plan (UAPP)*
- University of Waterloo Pension Plan (UW)
- University of Ottawa (UofO)
- Ontario Municipal Employees' Retirement System (OMERS)*
- Healthcare of Ontario Pension Plan (HOOPP)*
- Ontario Public Service Pension Plan (PSPP)
- OPSEU Pension Trust (OPT)*
- Colleges of Applied Arts and Technology Pension Plan (CAAT)*
- Federal Public Service Superannuation Act (PSSA)
- B.C. Teachers' Pension Plan (BCTPP)*

The above pension plans cover a wide range of actuarial firms.

* Jointly-sponsored pension plan

Valuation Date	Plan	Inflation Assumption	Nominal Return Assumption	Real Return Assumption
July 1, 1990	UofT	5.50%	8.00%	2.50%
January 1, 1990	OTPP	4.50%	8.50%	4.00%
July 1, 1993	UofT	5.50%	8.50%	3.00%
January 1, 1993	OTPP	4.00%	8.00%	4.00%
July 1, 1998	UofT	4.50%	8.00%	3.50%
January 1, 1998	OTPP	3.50%	7.50%	4.00%
December 31, 1998	OMERS	4.00%	8.00%	4.00%
December 31, 1998	UAPP	3.25%	7.25%	4.00%
July 1, 1999	UofT	3.00%	7.00%	4.00%
January 1, 1999	OTPP	3.50%	7.50%	4.00%
January 1, 2000	OTPP	2.25%	6.50%	4.25%
December 31, 1999	OMERS	3.00%	7.25%	4.25%
December 31, 1999	UAPP	3.25%	7.25%	4.00%
December 31, 1999	PSPP	3.25%	7.00%	3.75%
December 31, 1999	OPT	3.75%	7.50%	3.75%
December 31, 1999	BCTPP	4.00%	7.50%	3.50%
July 1, 2001	UofT	3.00%	7.00%	4.00%
December 31, 2001	HOOPP	2.25%	6.75%	4.50%
December 31, 2001	OMERS	3.00%	7.25%	4.25%
July 1, 2004	UofT	2.50%	6.50%	4.00%
January 1, 2003	OTPP	2.05%	6.40%	4.35%
January 1, 2005	OTPP	2.75%	6.475%	3.725%
December 31, 2003	HOOPP	2.50%	6.75%	4.25%
December 31, 2005	HOOPP	2.25%	6.50%	4.25%
December 31, 2004	OPT	3.50%	7.50%	4.00%
December 31, 2004	OMERS	3.00%	7.25%	4.25%
January 1, 2005	UW	2.50%	6.50%	4.00%
December 31, 2005	BCTPP	3.35%	6.85%	3.50%

Valuation Date	Plan	Inflation Assumption	Nominal Return Assumption	Real Return Assumption
July 1, 2008	UofT	2.50%	6.50%	4.00%
January 1, 2008	CAAT	2.20%	5.90%	3.70%
March 31, 2008	PSSA	2.40%*	6.70%*	4.30%*
December 31, 2008	UAPP	2.70%	6.70%	4.00%
December 31, 2008	PSPP	2.50%	6.25%	3.75%
December 31, 2008	OMERS	2.25%	6.50%	4.25%
December 31, 2008	HOOPP	2.25%	6.00%	3.75%
December 31, 2008	BCTPP	3.00%	6.50%	3.50%
January 1, 2009	OTPP	1.35%	5.00%	3.65%
July 1, 2009	UofT	2.50%	6.50%	4.00%
December 31, 2009	HOOPP	2.15%	6.20%	4.05%
December 31, 2009	OMERS	2.25%	6.50%	4.25%
January 1, 2010	UW	2.50%	6.35%	3.85%
January 1, 2010	UofO	2.50%	6.25%	3.75%

* Ultimate rates