



UNIVERSITY OF  
**TORONTO**

**University of Toronto Pension Plans**

**Annual Financial Report**

**For the Year Ended June 30, 2013**

# Highlights<sup>1</sup>

## As at July 1, 2013

### With Comparative Figures at July 1, 2012

At July 1, 2013 (millions of dollars)			
	<u>Accrued Liabilities</u>	<u>Market Value of Assets</u>	<u>Market Surplus (Deficit)</u>
<b><u>University of Toronto Pension Plan (RPP)</u></b>			
Going concern actuarial valuation	3,800.6	2,845.1	(955.5)
Solvency actuarial valuation <sup>2</sup>	4,159.0	2,844.1	(1,314.9)
Hypothetical wind-up actuarial valuation <sup>2</sup>	5,754.6	2,844.1	(2,910.5)
<b><u>University of Toronto (OISE) Pension Plan - RPP(OISE)</u></b>			
Going concern actuarial valuation	116.0	82.3	(33.7)
Solvency actuarial valuation <sup>2</sup>	130.8	81.9	(48.9)
Hypothetical wind-up actuarial valuation <sup>2</sup>	176.3	81.9	(94.4)
<b><u>Supplemental Retirement Arrangement (SRA)</u></b>			
Going concern actuarial valuation	132.9	113.7	(19.2)
<b><u>Pension Plan Reserve</u></b>		2.4	2.4

At July 1, 2012 (millions of dollars)			
	<u>Accrued Liabilities</u>	<u>Market Value of Assets</u>	<u>Market Surplus (Deficit)</u>
<b><u>University of Toronto Pension Plan (RPP)</u></b>			
Going concern actuarial valuation	3,631.0	2,515.8	(1,115.2)
Solvency actuarial valuation <sup>2</sup>	4,262.7	2,514.8	(1,747.9)
Hypothetical wind-up actuarial valuation <sup>2</sup>	5,618.3	2,514.8	(3,103.5)
<b><u>University of Toronto (OISE) Pension Plan - RPP(OISE)</u></b>			
Going concern actuarial valuation	117.8	76.5	(41.3)
Solvency actuarial valuation <sup>2</sup>	139.2	76.1	(63.1)
Hypothetical wind-up actuarial valuation <sup>2</sup>	178.2	76.1	(102.1)
<b><u>Supplemental Retirement Arrangement (SRA)</u></b>			
Going concern actuarial valuation	135.2	111.0	(24.2)
<b><u>Pension Plan Reserve</u></b>		2.4	2.4

<sup>1</sup> Going concern valuations assume that the plan is continuing to operate for the foreseeable future. Solvency and hypothetical wind-up valuations assume that the plan will be wound-up as at the valuation date. See pages 12 to 14 for a full discussion of the different types of valuations.

<sup>2</sup> The market value of assets are net of wind-up expenses which are estimated to be \$1.0 million for the RPP and \$0.4 million for the RPP(OISE).

## Highlights (continued)

As at July 1, 2013

With Comparative Figures at July 1, 2012

<b>Participants</b>	<b>July 1, 2013</b>	<b>July 1, 2012</b>
RPP	17,252	16,854
RPP(OISE)	251	259

<b>Contributions</b>	<b>For the year-ended</b>	
	<b>June 30, 2013</b>	<b>June 30, 2012</b>
Employer - Current service	94.8	92.9
Employer - Special payments	66.6	50.6
<b>Total Employer *</b>	<b>161.4</b>	<b>143.5</b>
<b>Total Employer - Current Service</b>	<b>44.7</b>	<b>40.0</b>

\* Employer contributions for the year-ended June 30, 2014 are estimated to be \$312.7 million, which include \$96.1 million current service funding and \$216.6 million special payment funding. Of the \$216.6 million special payment funding, \$66.6 million represents required going concern special funding and \$150.0 million represents additional lump sum payments to be made into the RPP prior to July 1, 2014, in line with the pension contribution strategy.

<b>Investment Earnings</b>	<b>For the year-ended</b>	
	<b>June 30, 2013</b>	<b>June 30, 2012</b>
Actual investment return **	12.1%	0.9%
Target return (4.0% plus CPI)	5.2%	5.5%

\*\* Returns are time-weighted, calculated in accordance with industry standards, and are net of investment fees and expenses.

<b>Going Concern Key Actuarial Assumptions</b>	<b>July 1, 2013</b>	<b>July 1, 2012</b>
Increase in consumer price index (CPI)	2.25%	2.50%
Increase in salaries	4.25%	4.50%
Discount rate on liabilities	6.00%	6.25%

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## Purpose of this Report

The Governing Council of the University of Toronto (the “University of Toronto” or the “University”) provides pension benefits to current and future retired members via three defined benefit pension plans:

- the University of Toronto Pension Plan (RPP).
- the University of Toronto (OISE) Pension Plan (RPP(OISE)).
- the Supplemental Retirement Arrangement (SRA), an unregistered arrangement that provides pensions above the maximum pension benefit allowed under the Income Tax Act, up to a University specified maximum salary of \$150,000.

The Governing Council of the University of Toronto is the legal administrator of the registered RPP and RPP(OISE), both of which are separate legal entities.

The Pension Committee of Governing Council is composed of 11 members of Governing Council and 9 members representing employee groups with members who participate in the pension plans. It has delegated authority<sup>1</sup> to act for Governing Council in respect of the administration of the pension plans except for matters which Governing Council or its Business Board are required by statute to approve; or which are reserved to Governing Council or the Business Board via the Pension Committee terms of reference, as amended from time to time by Governing Council.

Plan advisors are State Street Trust Company (custodian of assets), Aon Hewitt (actuaries), Ernst & Young LLP (external auditors) and University of Toronto Asset Management Corporation (“UTAM”, investment manager).

The Vice-President, Human Resources and Equity, is responsible for formulation of pension policy, member communication, benefits administration and negotiation of benefits. The Chief Financial Officer is responsible for the financial administration of the funds including liaison with the custodian, actuarial consultant, investment manager and external auditors.

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<sup>1</sup> *The Pension Committee performs the role with respect to pension plan administration that was previously delegated by the Governing Council to the Business Board. The general limitations on that delegated authority are identical to those that apply to the Governing Council’s delegation of authority to the Business Board.*

This report provides an evaluation of the financial health of the pension plans. It also provides the status of the pension liability, pension asset and pension deficit for the RPP and the RPP (OISE). Included in this report is the audited financial statements for the RPP and the RPP(OISE) at June 30, 2013 and relevant excerpts of actuarial reports.

## How a Defined Benefit Pension Plan Works

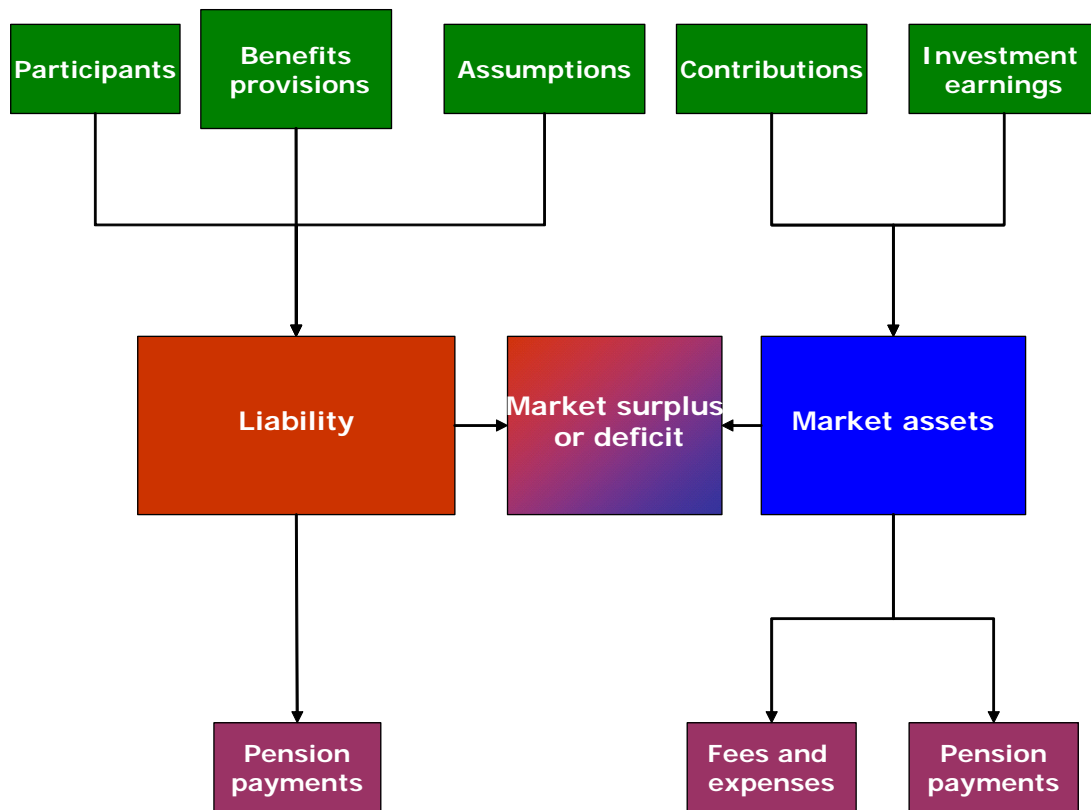
A pension plan is any arrangement by which an employer promises to provide retirement income to members. There are essentially two types of pension plans currently permitted under pension legislation in Ontario – a defined contribution plan and a defined benefit plan. A defined contribution plan provides pension benefits to each retired member on the basis of member and employer contributions and investment earnings on those contributions over time. The ultimate pension benefit depends on the amount of funding contributed and the investment earnings both before and after the date of retirement. The investment risk is borne by the member in a defined contribution plan.

A defined benefit pension plan provides pension benefits to each retiring member on the basis of defined percentages applied to salary and years of service. Members and the employer provide funding, and the member will ultimately receive pension benefits that result from the salary and years of service formula. The investment risk is borne by the employer in a defined benefit plan.

The University of Toronto pension plans are defined benefit plans. For each year that the member works and participates in the plan, an additional year of pensionable service is earned. At retirement, the number of years of pensionable service is multiplied by a percentage of the average of the highest 36 months of average earnings to determine the annual pension payable to that person. After retirement, pension payments are indexed at 75% of the consumer price index (CPI).

The objective of 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 plan engages an actuary to determine what the annual funding of the plan must be to ensure that this objective is met.

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.

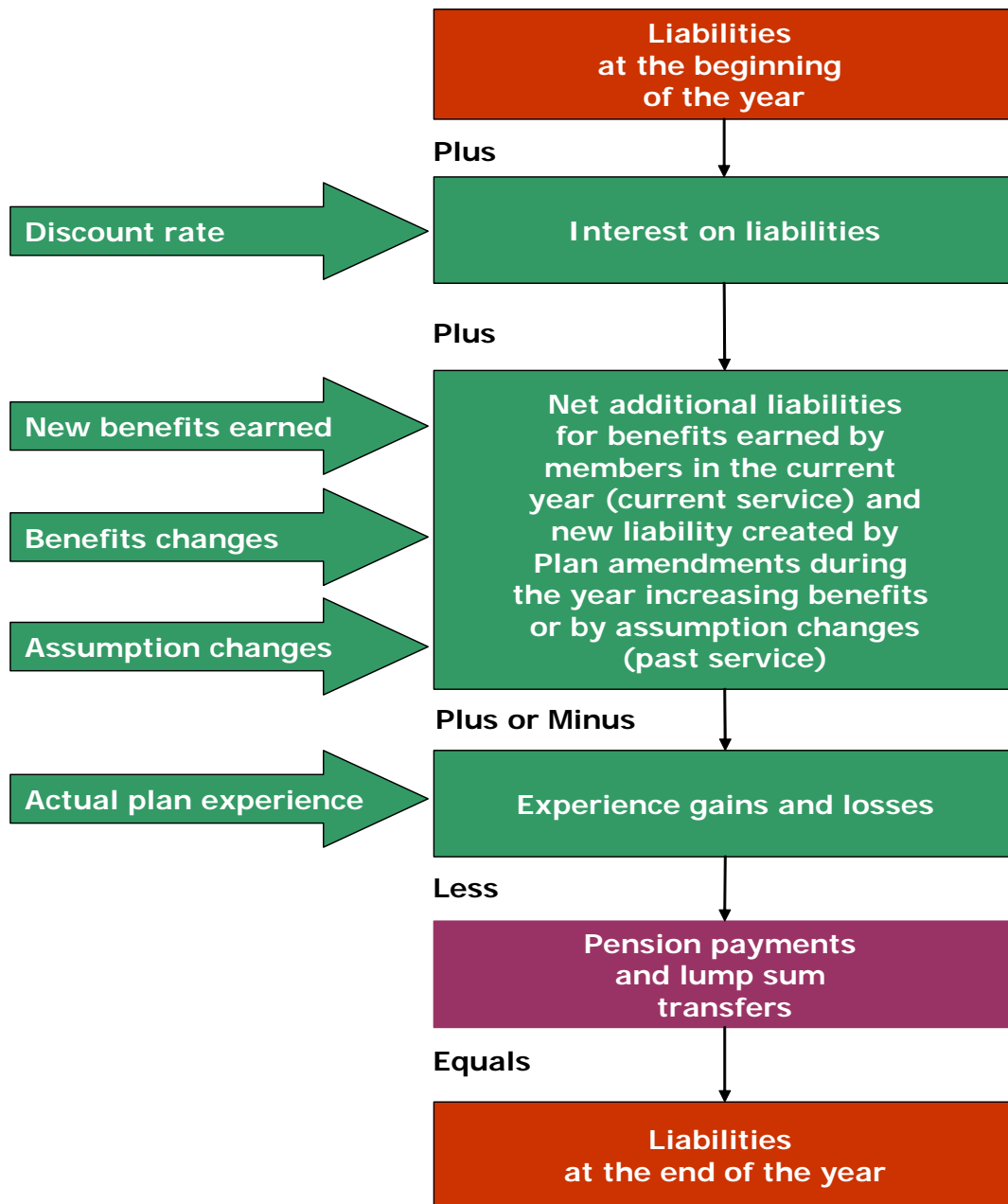


As you can see from the diagram, the difference between the estimated net present value of current and future pensions (the liabilities), and the amount of funds actually on hand (the market assets) is the market surplus or deficit.

## The Liability

The net present value of current and future pensions (the liability) depends on assumptions made about the members in the pension plan, including their length of service, their estimated salaries at retirement, the kinds of benefits they are receiving or will receive, and future inflation. The liability represents the discounted net present value of pension benefits earned for service up to the valuation date, based on those assumptions. The following table shows how liabilities change from year to year.





As shown above, liabilities change when:

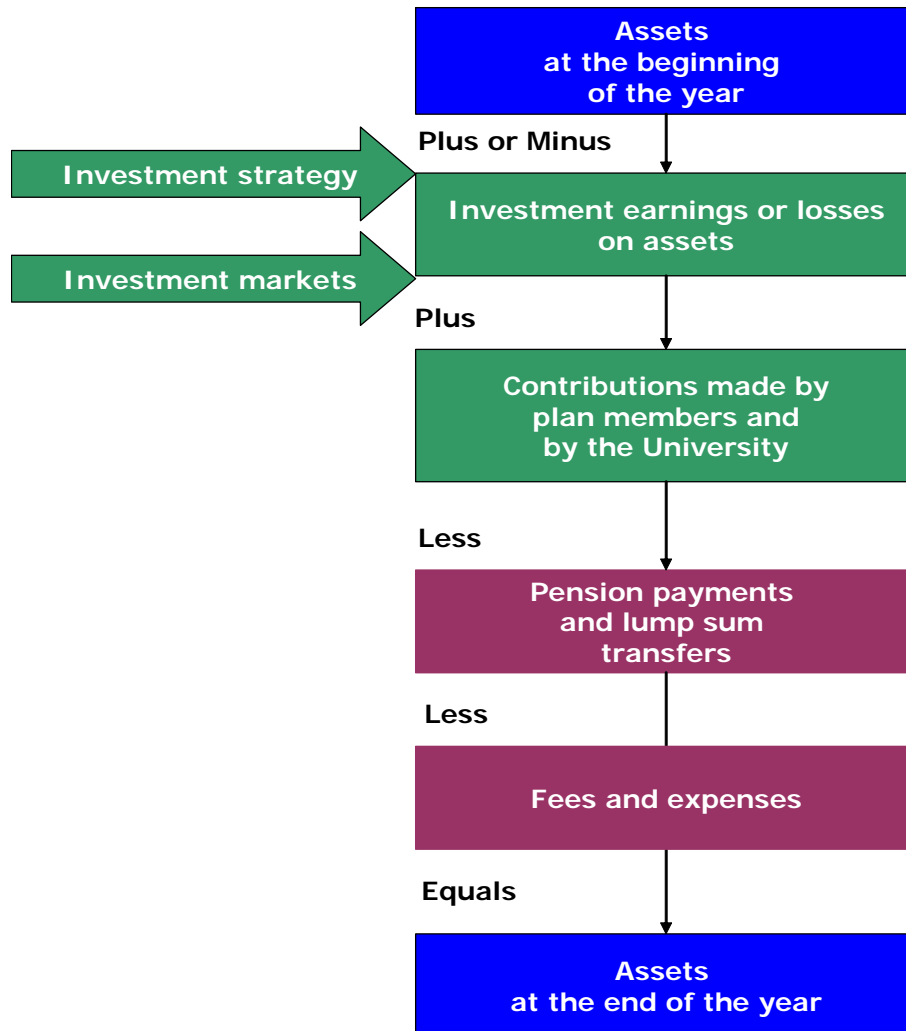
- members work an additional year, thus increasing their pension benefit at retirement. This is known as current service and increases the liability.
- members receive a larger pension benefit for the same salary and years of service through improvements to past service benefits. This increases the liability.
- new participants are added to the plan. This adds to the liability over time.

- assumptions that forecast the amount of pension benefits to be paid in future (e.g. salary increase assumption) change. These changes may increase or decrease the liability.
- assumptions that discount future liabilities to the present change. Increases in the discount rate DECREASE the liability while decreases in the discount rate INCREASE the liability.
- actual experience in the plan (e.g. actual salary increases, terminations, longevity, etc.) results in actual benefit payments that are different from those expected according to the actuarial assumptions. Actual experience may increase or decrease the liability.

Liabilities also have interest calculated on them, just like any other discounted obligation that has to be paid in future. This interest is added to the liabilities and also increases them.

## **The Assets**

The amount of money that has actually been set aside (the assets) comes from only two sources: 1) contributions from members and from the University (including transfers in from other plans), and 2) investment earnings. The pension financial statements report the assets at fair value (which is essentially market value) at June 30. (The SRA assets are University assets which are reported in the University's financial statements at April 30 of each year and which are also valued at June 30 each year and included in a footnote in the SRA actuarial report.) The following table shows how assets change from year to year.



## The Surplus or Deficit

The difference between the liabilities and assets is a surplus if the assets exceed liabilities or a deficit if liabilities exceed assets. When the assets are valued at market value, the difference is a “market” surplus or deficit. Pension regulation also permits an “actuarial” surplus or deficit, whereby changes in market value are smoothed over more than one year instead of being recognized immediately. The actuarial surplus is used for certain requirements under the Pension Benefits Act. However, for our financial evaluation purposes, to assess the financial health of our plans, the market surplus or deficit is more useful, since it records all gains or losses immediately. This report focuses primarily on the market value of assets and the market deficit.

## Tools for Assessment of Pensions

The key tools for assessing the current financial health of the pension plans are actuarial reports and financial statements:

- **Pension financial statements** provide an audited confirmation of the fair value (essentially market value) of the pension assets contained in each registered plan, which is a separate legal entity, at the valuation date. The plan fiscal year for the RPP and RPP(OISE) is July 1 to June 30. Assets for each registered plan are valued at June 30 of each year and reported on the registered pension plan balance sheets, which are called the *statement of financial position*. The changes in assets from one year to the next are shown on the registered pension plan income statements, which are called the *statement of changes in net assets available for benefits*. (SRA assets are University assets, which are reported on the University's audited financial statements.) The changes in the pension liabilities from one year to the next are shown on the *statement of changes in pension obligations*.
- **Pension actuarial reports** estimate the net present value of the pension benefits based on assumptions, as noted earlier, and compare that net present value to the audited assets reported in the financial statements to determine the financial status of the plan at the valuation date. For all plans, the actuarial valuation date is July 1 of each year, incorporating the annual salary increases that become effective on that date.

Various financial reporting and regulatory requirements result in four types of valuations that make different assumptions and that produce very different results. Under these different types of valuations, the liabilities can change dramatically. However the assets are normally valued at fair value as of the date of valuation, with some very minor adjustments made to asset values for different types of valuations. Here are the similarities and differences between them.

### Going Concern Actuarial Valuation:

This valuation assumes that the pension plan is a going concern. This means that it is expected to be continuing to operate for the foreseeable future.

Assumptions that determine the net present value of the benefits are long-term. Assets are valued at the fair value as of the date of valuation as reported on the audited financial statements. This valuation is done for a single point in time, as of July 1 each year and is used for purposes of funding the pension plan.

**Solvency Actuarial Valuation:**

This valuation varies from the going concern valuation in that it assumes the plan will be wound-up on the valuation date and uses a market interest rate assumption. 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 the liability calculation, in accordance with regulation. This valuation utilizes the audited fair value of the assets as reported on the audited financial statements, and adjusts that audited value with a provision for hypothetical wind-up costs. It is done on the plan year, as of July 1 each year. To the extent there is a deficiency under a filed solvency valuation, additional funding may be required.

**Hypothetical Wind-up Actuarial 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 purchase of annuities or payment of lump sum values. And it also adjusts the audited fair value of the assets with a provision for hypothetical wind-up costs. It is done on the plan year, as of July 1 each year.

**Accounting Valuation:**

This valuation is done for accounting purposes and estimates numbers that are required to be included in the University's financial statements (not the pension financial statements). This valuation is done on the University's fiscal year end, April 30. Pension liabilities are valued using the funding assumptions utilized for the going concern valuation. SRA assets are not taken into account in the accounting valuation.

While it is important to be aware of the existence of these various valuations, and their purposes, this report assumes that the pension plans are going concerns and evaluates pension financial health using the going concern actuarial valuation. The following sections will show the status of the pension plans at July 1, 2013 and will apply the elements of defined benefit pension plans shown in the diagram on page 8 to the University pensions, with particular emphasis on the assumptions, the contributions, and the investment earnings, and their associated policies and strategies.

## Pension Status at July 1, 2013

At July 1, 2013, the going concern accrued liabilities<sup>1</sup> and market value of assets for the University of Toronto defined benefit plans were:

July 1, 2013	Going Concern Liabilities <sup>1</sup>	Market Value of Assets	Market Surplus (Deficit)	Market Surplus (Deficit) as % of Liabilities
RPP	3,800.6	2,845.1	(955.5)	(25%)
RPP(OISE)	116.0	82.3	(33.7)	(29%)
SRA	132.9	113.7	(19.2)	(14%)
Pension Reserve		2.4	2.4	
<b>Total</b>	4,049.5	3,043.5	(1,006.0)	(25%)

At July 1, 2012, the liabilities and assets for the University of Toronto defined benefit plans were:

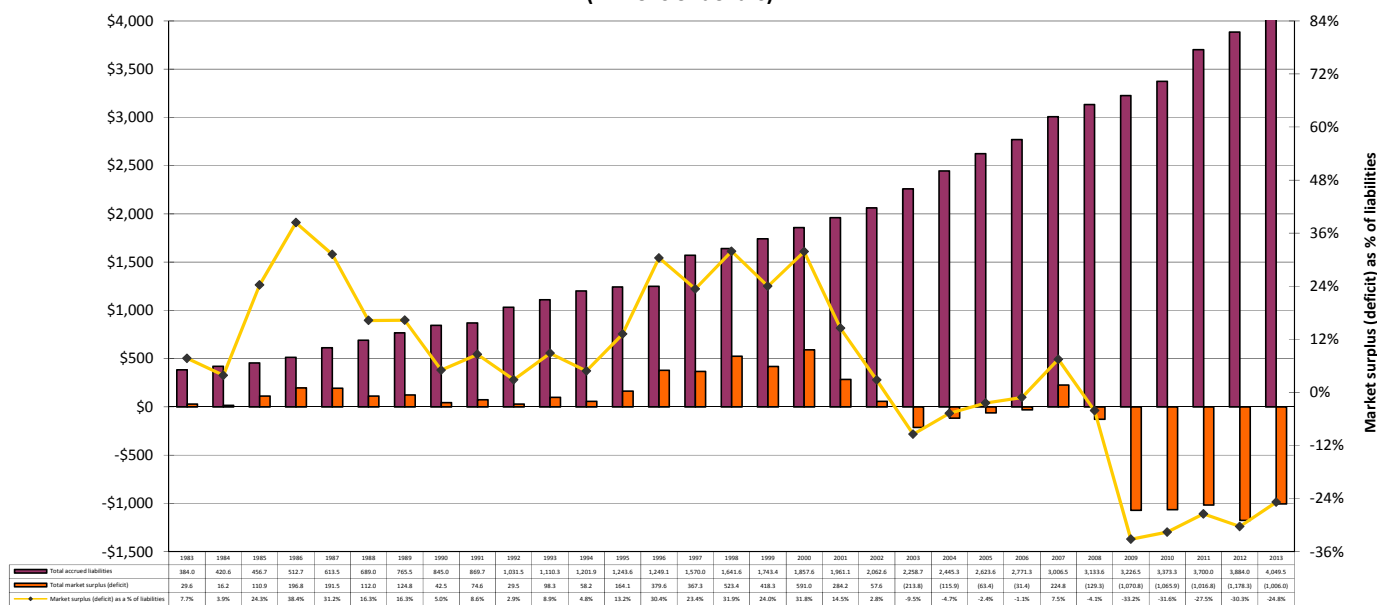
July 1, 2012	Going Concern Liabilities <sup>1</sup>	Market Value of Assets	Market Surplus (Deficit)	Market Surplus (Deficit) as % of Liabilities
RPP	3,631.0	2,515.8	(1,115.2)	(31%)
RPP(OISE)	117.8	76.5	(41.3)	(35%)
SRA	135.2	111.0	(24.2)	(18%)
Pension Reserve		2.4	2.4	
<b>Total</b>	3,884.0	2,705.7	(1,178.3)	(30%)

As you can see from the above tables, the overall financial health of pensions showed some improvement between July 1, 2012 and July 1, 2013 due mainly to a) investment returns of 12.1% that exceeded the target return of 5.2% for the period, and b) employer special payments totaling \$66.6 million, which were partly offset by actuarial assumption changes.

A longer history of combined results for the three plans is shown on the following chart.

<sup>1</sup> Using new assumptions for (1) Increase in the Consumer Price Index changes from 2.5% to 2.25%, (2) Increase in CPP Maximum Salary changes from 3.5% to 3.0%, Income Tax Maximum Pension changes from 3.5% to 3.0%; (3) Increase in Salaries changes from 4.5% to 4.25%; and (4) Discount Rate (Investment Return) changes from 6.25% to 6.0%.

**University of Toronto RPP, RPP(OISE) and SRA Combined  
Accrued Liabilities and Market Surplus (Deficit)  
as at July 1  
(millions of dollars)**



As you can see from the above chart, for the entire period from 1983 to 2002, the plans were in surplus. A deficit emerged in 2003 which was extinguished by 2007. Beginning in 2008, and much more pronounced in 2009, the impact of the global financial crisis was to reduce market returns significantly. The overall financial position of the plans was essentially unchanged between 2009 and 2010, improved somewhat in 2011 as a result of a rebound in markets and additional special contributions from the University, and in 2012, with markets underperforming target returns, the market deficit of the plans increased slightly. In 2013, the financial position of the plans improved again, mainly as a result of investment returns in excess of target returns.



## **IMPORTANT NOTE**

For the purposes of this report, we have added together the three plans so that the big picture can easily be discerned.

However, it is very important to note that each of the registered plans (RPP, RPP(OISE)) is a separate legal entity in which the assets are held in trust. Funds cannot be transferred between the two registered plans or from either of the registered plans to the SRA or the pension reserve.

SRA assets and pension reserve assets are not held in trust. For financial accounting purposes the University from time to time appropriates funds which are set aside as a “fund for specific purpose” in respect of the obligations under the SRA. In accordance with an Advance Income Tax Ruling, which the University has received, such assets do not constitute trust property, are available to satisfy University creditors, may be applied to any other purpose that the University may determine from time to time, are commingled with other assets of the University, and are not subject to the direct claim of any members.

Strategies that are put in place from time to time must take these important restrictions into account. Nevertheless, it is helpful to consider the registered plans, the SRA and the pension reserve together since the pension payment to any particular member may include two of these entities. Liabilities move back and forth between the RPP and the SRA depending on increases in the Income Tax Act maximum pension, increases in salaries and age at retirement.

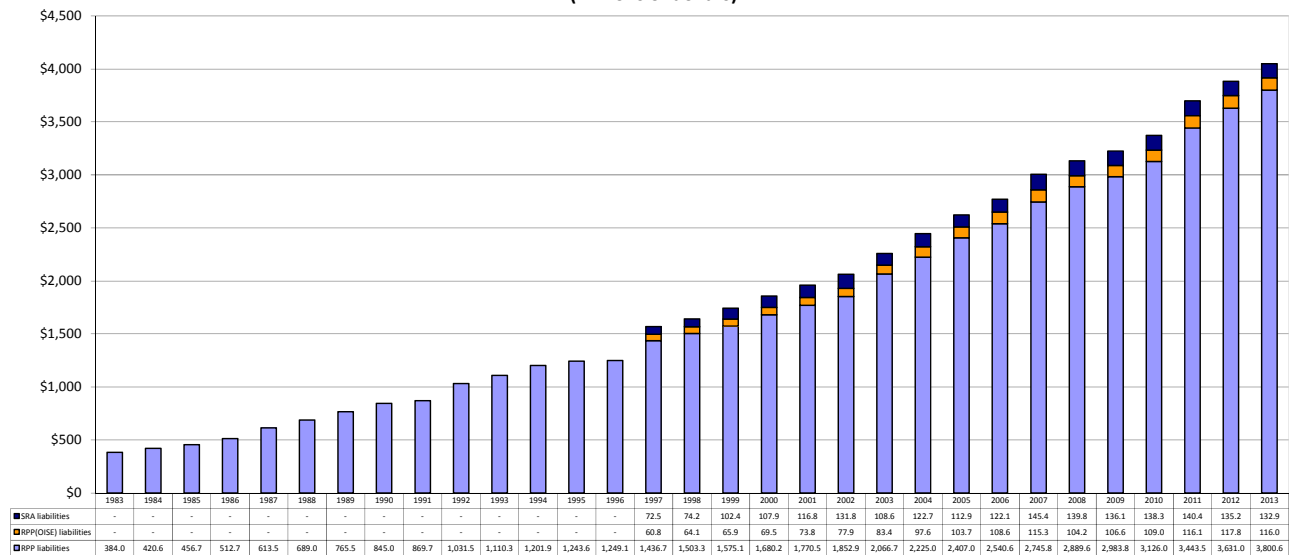
## Pension Liabilities

Going concern pension liabilities for the University of Toronto plans totaled \$4,049.5 million at July 1, 2013, comprising:

- \$ 3,800.6 million RPP pension liabilities
- \$ 116.0 million RPP(OISE) pension liabilities
- \$ 132.9 million SRA pension liabilities

The growth in those liabilities since 1983 is shown on the following chart.

**Going Concern Pension Liabilities  
RPP, RPP(OISE) and SRA  
at July 1  
(millions of dollars)**

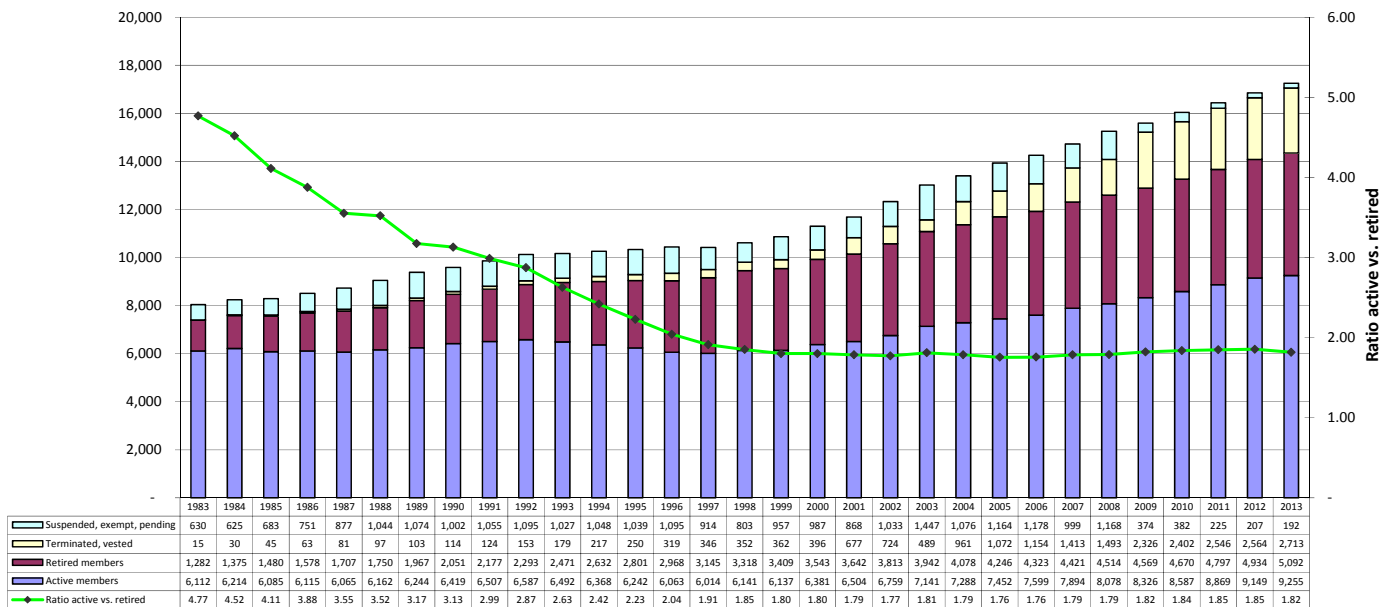


As noted earlier, pension liabilities are valued at July 1 and are dependent on a number of factors. The following sections will examine the impact of these factors on the total going concern pension liabilities for the University of Toronto plans.

## Pension Liabilities Participants

The RPP is a growing plan, with member participation increasing over time. An increase in the number of plan participants adds to pension liabilities over time. At July 1, 2013, total member participation was 17,252.

**RPP  
Member Participation  
at July 1**

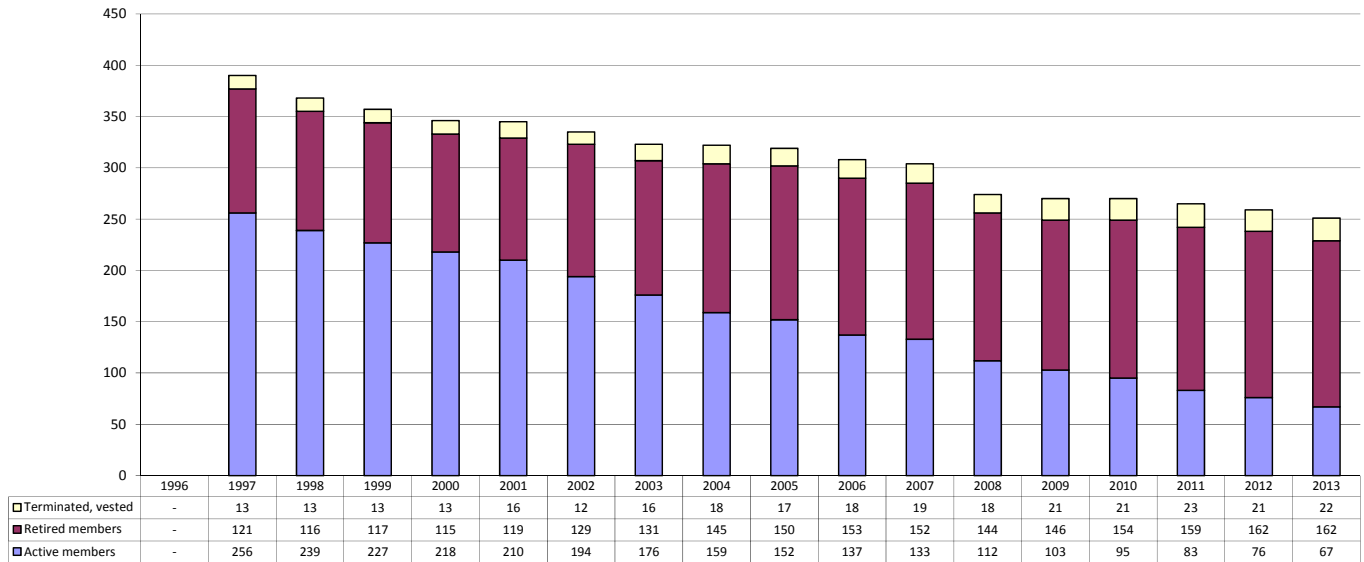


The continued growth in active membership helps to maintain a stable duration<sup>1</sup> of liabilities, with the ratio of active to retired liabilities remaining relatively constant. It also supports the growth of cash flow into the plan due to increasing contributions from both participants and the University.

<sup>1</sup> Duration is a weighted-average sensitivity measure which calculates the average length of time to the payment of benefits.

The RPP(OISE) is a closed plan, and has been closed to new entrants since 1996 when the Ontario Institute for Studies in Education merged with the University of Toronto's Faculty of Education. All new employees who are eligible for the University's pension plan become members of the RPP. Therefore, the RPP(OISE) has a declining participation that totaled 251 at July 1, 2013.

**RPP(OISE)  
Member Participation<sup>1</sup>  
at July 1**



<sup>1</sup> Including partial wind-up members up to 2007. The partial wind-up distribution was approved by the Financial Services Commission of Ontario on October 1, 2007, and partial wind-up members have been excluded since 2008.

## **Pension Liabilities**

### **Pension Benefit Provisions**

The pension benefit is the provision of retirement income to participants in the pension plan. It is calculated on the basis of defined percentages ("benefit rates") applied to the salary and years of pensionable service for each plan participant. Pension benefits are the same for the members in any particular member group, and the SRA provides coverage for all members whose salary exceeds the Income Tax Act maximum pension, regardless of whether they have service in the RPP or the RPP(OISE).

Benefits improvements arise from negotiations with member groups and from mediation and arbitration and are not normally determined unilaterally. Pension benefits are the same for the RPP and the RPP(OISE), with the SRA providing pensions above the Income Tax Act maximum benefit in support of both plans.

Key benefit provisions are as follows:

#### **Benefits**

**accrual:** Pension benefits accrue at the rate of 1.5% of highest average salary up to the average CPP maximum salary (1.6% for USW members, various other unions and non-unionized administrative staff) plus 2.0% of highest average salary in excess of the average CPP maximum salary to a maximum of \$150,000 per annum.

#### **Retirement**

**dates:** The normal retirement date is the June 30 following the 65<sup>th</sup> birthday. Retirement is possible within 10 years of the normal retirement date, with a minimum of 2 years of service, with a reduction of 5% per annum between actual retirement and normal retirement. No reduction is applied once members reach 60 years of age, and meet certain service requirements, which vary by staff group. There is no longer a requirement to retire at age 65.

## **Cost of living**

**adjustments:** The pension benefits of retired members are subject to cost of living adjustments equal to the greater of a) 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% and b) the increase in the Consumer Price Index for Canada (CPI) for the previous calendar year minus 4.0%. The first cost of living adjustment is made at date of retirement.

An improvement in the benefit being provided to current retired members and/or to be provided to future retired members results in an increase to the pension liabilities. **There were no new benefits improvements during the year ended June 30, 2013.**

When benefits improvements are agreed, they may be implemented in various ways – for active participants only, or for both retired and active participants, on current service only or on both current and past service. When provided for current service, they require current service contributions from members and the University on a go forward basis. When provided for past service as well as current service, they require current service contributions and funding of past service costs as well. Benefits improvements to retired persons, such as augmentation, generate past service costs. There are only two ways of funding defined benefit pension plans, including benefits improvements – contributions and investment earnings. These elements of defined benefit plans will be discussed in later sections of this report.

As noted earlier, the SRA provides defined benefits for members with salaries in excess of the highest average salary at which the Income Tax Act maximum pension is reached (currently just under \$147,000) to a capped maximum salary of \$150,000 per year. For many years, the Income Tax Act maximum pension was fixed, resulting in growing membership in the SRA. Beginning in 2004, the Income Tax Act maximum pension started to increase at a fixed rate through 2009 and then, in 2010, at the rate of increase in national real wages. Therefore, beginning in 2004, participation in the SRA fluctuates depending upon the relationship between salary

increases for member plan participants and the increase in the Income Tax Act maximum pension.

Over time, provided that government policy remains unchanged and the Income Tax Act maximum pension continues to increase at the rate of increase in national real wages, and provided that the RPP and RPP(OISE) retain maximum salaries at \$150,000, participation in the SRA is expected to decline, eventually to zero once the Income Tax Act maximum pension is reached at a salary of \$150,000. At the current rates of increase, this would be expected to occur in 2014. The liabilities in the SRA decreased from \$135.2 million in 2012 to \$132.9 million in 2013 due to pension payments exceeding new accruals under the plan.

## Pension Liabilities Assumptions

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 to current and future retired members in the future. Those estimated pension benefits are then discounted to the present time, using an interest discount rate to calculate the net present value.

Changes in actuarial assumptions impact the value of the liabilities. Some changes increase liabilities while other changes decrease liabilities and some assumptions are interrelated in their impact on the value of the liabilities.

Actuarial assumptions are approved annually by the Pension Committee. The same actuarial assumptions are in place for all three pension plans. Key actuarial assumptions at July 1, 2013 are as follows (see appendix 3 for a full list).

Assumption	Description	Impact of assumption change on liabilities
<b>Retirement age</b>	<i>Academic staff and librarians</i> – retirement rates from ages 60 to 70, but not earlier than one year after valuation date, subject to early retirement provisions, if applicable. <i>Administrative Staff, unionized administrative staff, unionized staff and research associates</i> – age 63, subject to early retirement provisions.	The earlier the retirement age with an unreduced pension, the higher the liability.



<b>Mortality rates:</b>	1994 Uninsured Pensioner Mortality Table with fully generational mortality improvements under scale AA	Increases in life span increase liabilities.
<b>Increase in Consumer Price index (CPI):</b>	2.25% per annum ( <i>previous valuation used 2.50% per annum</i> ).	An increase in CPI alone increases liabilities, but should be considered in concert with salary increases and discount rate.
<b>Cost of living adjustments:</b>	1.6875% per annum (75% of CPI) ( <i>previous valuation used 1.875% per annum</i> ).	An increase in cost of living adjustments increases liabilities.
<b>Increase in CPP maximum salary:</b>	3.00% per annum ( <i>previous valuation used 3.50% per annum</i> ).	An increase in CPP maximum salary decreases liability since pensionable service is accumulated at 1.5% or 1.6% up to the CPP maximum salary and at 2.0% over that maximum.
<b>Increase in <i>Income Tax Act</i> maximum benefit limit:</b>	\$2,696.67 in 2013 increasing by 3.00% per annum thereafter (assumes a highest average maximum salary of \$146,967 in 2013 increasing by 3.00% per annum thereafter).	An increase in the Income Tax Act maximum pension increases the liability in the RPP and decreases the liability in the SRA.
<b>Increase in Salaries:</b>	4.25% per annum (2.25% CPI plus 2.0% merit and promotion/progression) ( <i>previous valuation used 4.5% per annum</i> ).	An increase in the total assumption, whether impacted by CPI or by merit and promotion/progression, increases liabilities.

<b>Interest rate (Discount rate on liabilities):</b>	6.00% per annum (2.25% CPI plus 3.75% real investment return) ( <i>previous valuation used 6.25% per annum</i> ).	An increase in the interest rate, whether through an increase in CPI or real return, DECREASES liabilities. Conversely, a decrease in the interest rate INCREASES liabilities.
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It is very important to note that these assumptions are **long-term** assumptions. In other words, they predict the results over a very long-term horizon.

Each year, the actuarial valuation records the actual results and compares them to the assumptions. These variances, over time, provide a rationale for ongoing adjustments to the assumptions. Consistent variances in one direction, either negative or positive, suggest that an assumption needs to be changed. When actuarial assumptions do change, they tend to be adjusted in very small increments, rather than in the larger swings that can be experienced in the short and medium term.

For 2013, the assumption regarding increases in CPI was changed from 2.5% to 2.25% to reflect a downward trend in both current and expected inflation. This assumption affects the assumptions for cost-of-living adjustments, CPP maximum salary increases, ITA maximum pension increases, salary increases, and nominal investment return. As a result, each of these assumptions will also be reduced by 0.25%. A further modest reduction from 1.0% to 0.75% in estimated growth in national real wages is also recommended, which further impacts the CPP maximum salary increase and ITA maximum pension increase assumptions.

As a result of the above assumption changes, the following going concern assumptions were used in 2013:

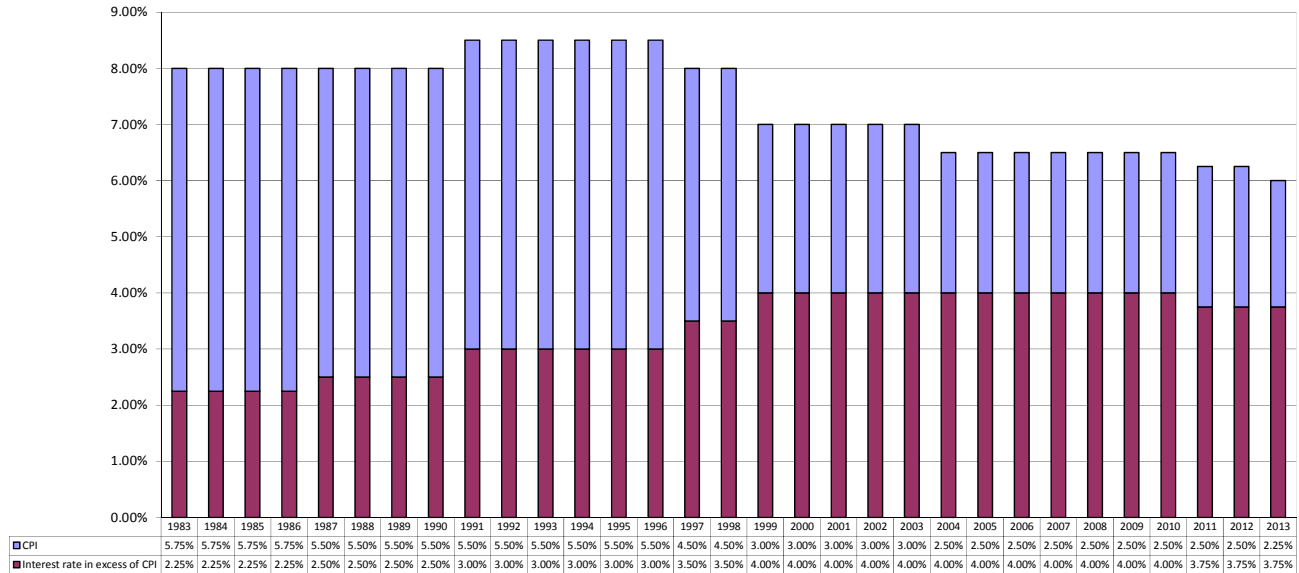
- *Increase in CPI* changes to 2.25% from 2.5%;
- *Cost-of-living Adjustments* remains at 75% of increase in CPI, but the percentage change to 1.6875% (75% of 2.25%) from 1.875% (75% of 2.5%);

- *Increase in CPP Maximum Salary* changes to 3.0% (made up of 2.25% increase in CPI + 0.75% estimated growth in national real wages) from 3.5%;
- *Increase in ITA Maximum Pension* changes to 3.0% (made up of 2.25% increase in CPI + 0.75% estimated growth in national real wages) from 3.5%;
- *Increase in Salaries* changes to 4.25% (made up of 2.25% CPI plus 2.0% merit and promotion / progression) from 4.5%; and
- *Discount Rate (Investment Return)* changes to 6.0% (made up of 2.25% CPI plus 3.75% real investment return) from 6.25%.

### **Discount Rate on Liabilities**

The following chart illustrates the history of this assumption from 1983 and shows that the discount assumption had remained quite steady over the past several years with the only variation coming from changes in CPI. For purposes of the actuarial report, a 4.0% real return discount assumption had been in place for many years. Effective July 1, 2011 the discount rate on liabilities was reduced to 6.25% from 6.50%, reflecting a reduction in the real return discount assumption from 4.00% to 3.75% (the CPI assumption remaining at 2.50%), with the discount rate assumption remaining at 6.25% in 2012. Effective July 1, 2013 the discount rate on liabilities was reduced to 6.00% from 6.25%, reflecting a deduction in the increase in the CPI from 2.50% to 2.25%.

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

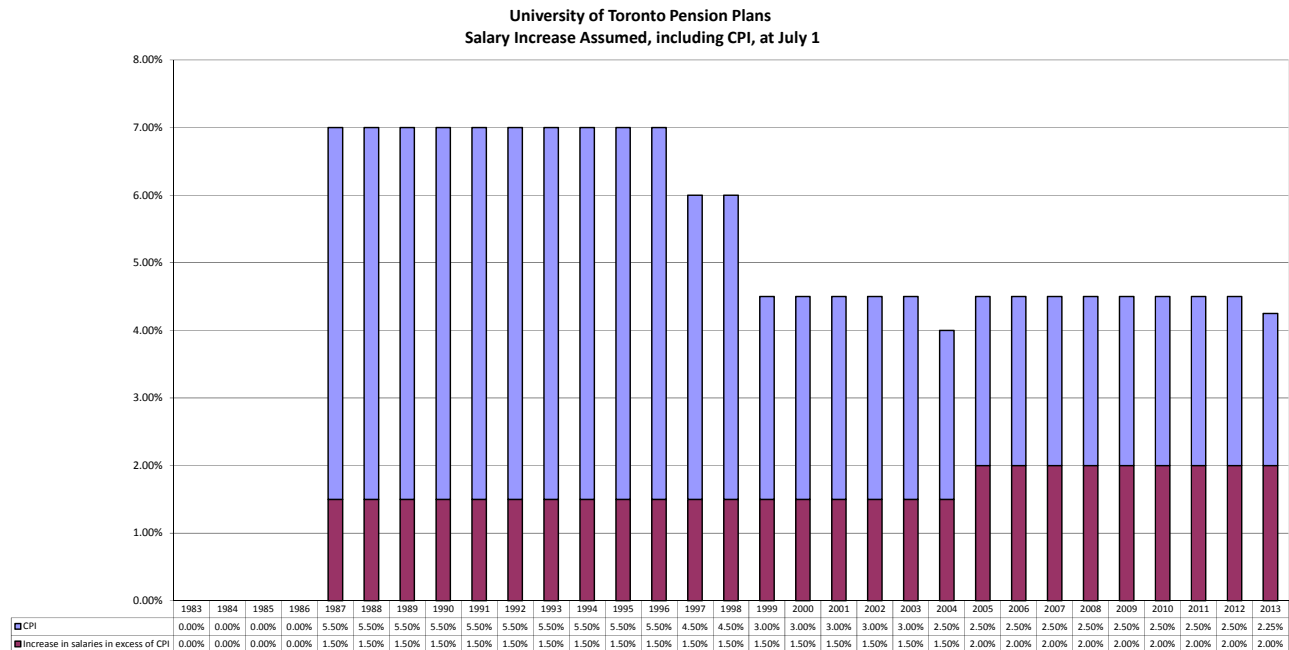


The significance of this assumption is that the liabilities represent the discounted net present value of future pension payments, and the discount rate is used to discount the pension payments to the present. The lower the discount rate, the higher the liabilities and the higher the funding needed for the defined benefit pension. Or another way of looking at this, the lower the expected investment earnings, the more funding that has to come from contributions.

### Salary increase assumption

Until last year, and with the exception of 2004, the salary increase assumption has remained steady at 4.5% since 1999. In 1997 and 1998, the assumption was 6%, and between 1987 and 1996 the assumption was 7%. This assumption attempts to predict what salary increases will be over the long term, and thus what will be the 36 months of highest average earnings for each plan participant at retirement. The percentage increase in salary in excess of CPI was adjusted in 2005 to reflect ongoing salary settlements that, including merit and promotion/progression, are trending higher than 4.00%. Although the inflation assumption was reduced, the salary settlements themselves did not seem to decline. Therefore, the 4.50% total percentage assumption was re-established in 2005 and remained in effect through 2012. In 2013, the salary increase assumption was

changed to 4.25% from 4.50% to reflect the change in the increase in the CPI from 2.50% to 2.25%.



## 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 with Generational Projections using projection scale AA* for all University of Toronto pension plans. It was put in place effective July 1, 2011. No change is proposed for 2013 to the mortality rate tables; however, it is likely that a change will be proposed for 2014 as a result of the draft *Report on Canadian Pensioners Mortality* released by the Canadian Institute of Actuaries (CIA) in July 2013.

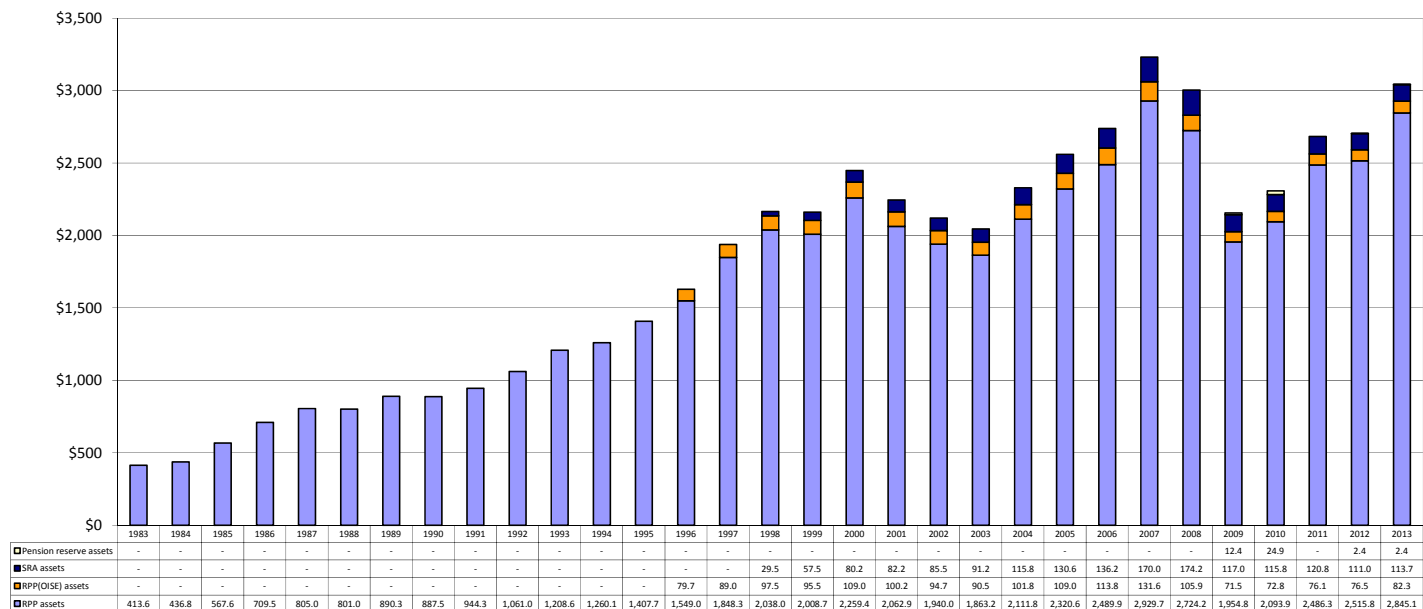
## Pension Assets

Total assets for the three pension plans and the pension reserve were \$3,043.5 million at June 30, 2013, comprising:

\$2,845.1 million	RPP pension assets
\$ 82.3 million	RPP(OISE) pension assets
\$ 113.7 million	SRA university assets
\$ 2.4 million	Pension reserve university assets

The change in those assets since 1983 is shown on the following chart.

**Market Value of Pension Assets <sup>1,2</sup>**  
**at June 30**  
**(millions of dollars)**



<sup>1</sup> Including partial wind-up members in RPP(OISE) assets in years up to 2007

<sup>2</sup> Pension reserve assets of \$25.0 million were transferred to the RPP in 2011.

The RPP and RPP(OISE) represent separate legal trusts containing pension assets, and their financial statements are attached in appendix 4. The SRA assets and pension reserve assets are University funds that are not held in trust. This report considers contributions to the SRA and the pension reserve but does not focus on investment earnings of those funds. The SRA is invested together with the

University's endowments under those policies. The investment issues for the SRA, however, are similar to those for pension assets.

As noted earlier, there are only two ways of funding a defined benefit pension plan – contributions and investment earnings. Contributions, plus investment earnings, minus the fees and expenses incurred in administering the pension plans and earning investment returns, and minus the payments to retired members result in the pension assets that are on hand and set aside to meet the pension liabilities.

It is important to note that there is a strong relationship between contributions and investment earnings. Since the amount that must be set aside in assets is driven by the pension liabilities, the key question on the asset side is:

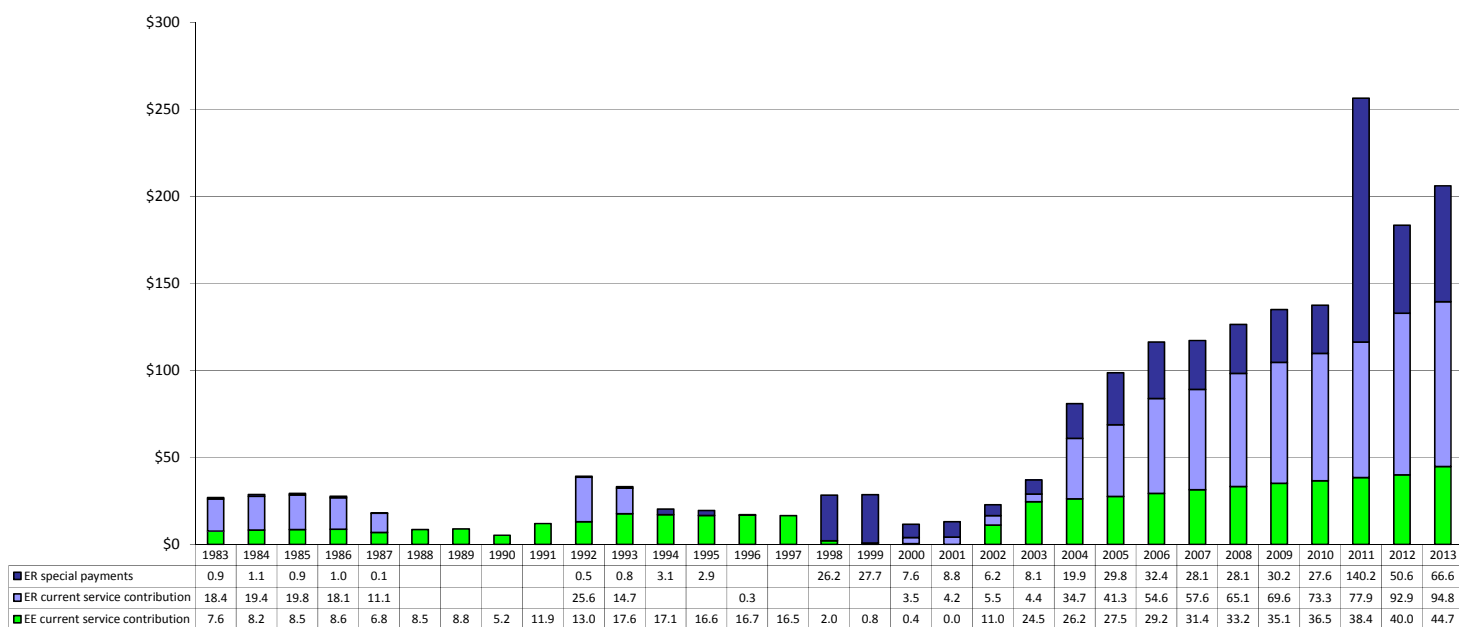
**How much of the pension funding should be targeted to come from contributions and how much should be targeted to come from investment earnings?**

The higher the investment earnings that can be generated, the lower the contributions needed to be provided by members and by the University. However, there are significant risks inherent in investment markets and the higher the return that is targeted, the higher the risk of losing money is likely to be. The next two sections will examine the role of contributions and investment earnings and the following two sections will discuss fees and expenses and payments.

## Pension Assets Contributions

The University of Toronto pension plans are defined benefit **contributory** plans. As noted earlier, there are only two ways of funding a defined benefit pension plan – contributions and investment earnings. This section focuses on the contributions that have been made by the University and by employees. The following chart shows the contributions made by the University and by employees since 1983.

**Contributions by Source (Employee and Employer) Across All Plans<sup>1,2</sup>**  
for the year ended June 30  
(millions of dollars)



<sup>1</sup> Voluntary Early Academic Retirement Program (VEARP) contributions included in ER special payments.

<sup>2</sup> ER special payments in 2011 exclude the \$25.0 million transfer of pension reserve assets to the RPP (for total ER special payments to the RPP of \$165.2 million) since increases to pension reserve assets had already been included as contributions in previous years for the purposes of the Pension Report.

**Contributions** are to be made by members and by the employer to fund pension benefits earned in the current year, also known as the current service cost. The member share of those contributions is determined by formula, with the employer contribution representing the difference between the total current service contribution required (actuarially determined) and the portion paid by members.



**Contributions** by employers are not permitted under the Income Tax Act (Canada) into registered plans when there is an actuarial surplus greater than 25% of accrued liabilities (changed from 10% in 2010).

**Contributions** by employers are required to fund any going concern deficits over 15 years. These special payment contributions are in addition to regular current service contributions.

**Contributions** by employers are required to fund any solvency deficits over 5 years. These special payment contributions are in addition to regular current service contributions. (The Province of Ontario has established a temporary solvency funding relief program that makes provision to vary this requirement – described later in this section).

During most years from the late 1980's to 2002, the RPP had a sufficiently high actuarial surplus that no employer contributions were permitted except for two years where a partial contribution was permitted, and four years (1990-1994) where a full contribution was permitted. Members experienced a pension contribution holiday from 1997 to 2002. The University redirected \$88.1 million of its contribution holiday to fund the SRA over the 5 year period following its establishment in 1997, which included current service contributions and special payments to fund past service. The RPP(OISE) was in surplus throughout the period.

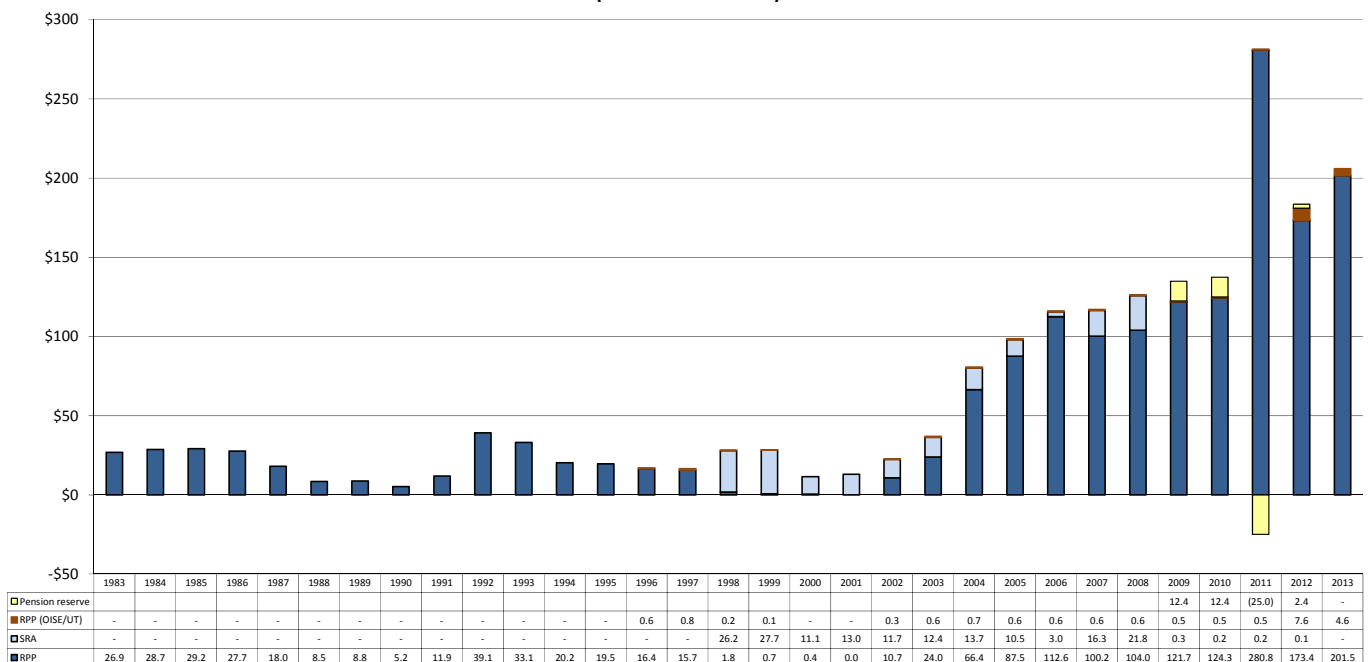
After 2002, due in large part to poor investment markets, the surplus declined significantly. The University adopted a new pension contribution strategy, approved by the Business Board in January 2004, with the objective of providing smoothed funding to deal with these deficits over a multi-year period, while permitting stable, predictable funding via the University's operating budget and while taking the Income Tax Act funding constraint into account. The key elements of the 2004 pension contribution strategy were as follows:

- Members and the University contribute 100% annual current service contributions (no contribution holidays).
- The SRA would be "funded" on the same basis as the registered pension plans, that is over 15 years.

- The University would allocate special payments of no less than \$26.4 million (increased to \$27.2 million to reflect subsequent benefits enhancements) to deal with the RPP and SRA deficits by way of a smoothed budget allocation over 15 years. This smoothed approach provided for higher payments than required in the earlier years, with the intent of protecting against solvency issues and providing for budget predictability within the University’s operating fund.
- If some, or all, of the special payment amount is not needed or permitted to be made into the RPP under the Income Tax Act, it must be set aside and reserved outside the RPP.

The following chart shows the allocation of contributions by plan since 1983.

**Allocation of Contributions (both Employer and Employee) by Plan <sup>1</sup>**  
**for the year ended June 30**  
**(millions of dollars)**



<sup>1</sup> Pension reserve assets were transferred to the RPP in 2011. Since additions to the pension reserve in 2009 and 2010 were shown as contributions in those years, the transfer of pension reserve assets to the RPP in 2011 is shown as a negative contribution to the pension reserve in that year, and a positive contribution to the RPP.

This contribution strategy delivered additional funding to the pension plan to deal with the deficit that had emerged in 2003 and, through the requirement to maintain the \$27.2 million per annum special payments budget even after the deficit

was extinguished, made provision for a base funding level in the event of future deficits.

Beginning in 2008, and much more pronounced in 2009, the impact of the global financial crisis was to reduce market returns significantly, necessitating an overhaul of the pension contribution strategy to address the resulting large deficit. Rapidly falling interest rates also impacted solvency calculations, necessitating government action around solvency funding regulations.

In 2010 the Province of Ontario put in place a two stage process that is intended to provide institutions in the broader public sector (which includes universities) with an opportunity to make net solvency payments over a longer period than would otherwise be required. The University has been accepted to stage 1 of this process, which means that required special payments are known for the period July 1, 2011 through June 30, 2015, absent any plan changes that would require that actuarial valuations be filed with the Financial Services Commission of Ontario during the intervening period.

To qualify for stage 2 of this process, the Government expected institutions to negotiate with plan members, and their representatives, ways to enhance the long term sustainability of defined benefit pension plans. The University has put into place member contribution increases to meet the conditions required for acceptance to stage 2 of the process. The Government also requires that during the relief period, and for a significant period of time following the relief period, contribution holidays would be restricted and any benefit improvements would require accelerated funding.

The pension contribution strategy was significantly revised to address the deficit and to reflect the Government's temporary solvency relief program. This revised pension contribution strategy, including a plan for funding the pension deficit, was approved by the Business Board on May 3, 2012 based on actuarial results to July 1, 2011 and assumptions about future years to 2030. The key elements of the current pension contribution strategy are as follows:

- Members and the University make 100% of required current service contributions into the registered pension plans each year.

- University pension plan current service contributions are to be no less than 10.77% of the capped participant salary base.
- In the event that legislation or regulation prohibits some or all of the University current service contributions from being deposited into the registered pension plans, those contributions will be reserved for pensions outside the registered pension plans.
- Supplemental Retirement Arrangement (SRA):
  - No further current service or special payment contributions will be made into the SRA.
  - The balance of the SRA assets will be deposited into the registered pension plan(s) by June 30, 2014 (see point below regarding second lump sum payment).
  - SRA payments to current and future pensioners will be made by the University.
- A second lump sum payment in the amount of \$150 million will be made into the registered pension plans before July 1, 2014, utilizing SRA assets (see above) and approved internal borrowing as required.
- Up to \$150 million of internal borrowing for pensions (Note: the Business Board approved internal borrowing for pensions of up to \$150 million on January 31, 2011. Inclusion of this item again here is for completeness).
- Letters of Credit will be utilized to address the net solvency special payments to the fullest extent permitted by legislation and regulation.
- Increase Operating Fund Special Payments Budget:
  - To an amount deemed sufficient to meet the plan's special payment funding requirements, currently estimated to be \$97.2 million per annum.
  - To fund special payments into the registered pension plans and other costs related to this pension contribution strategy such as borrowing repayment costs, SRA pension payments for pensioners, letter of credit fees, and Pension Benefit Guarantee Fund (PBGF) fees.
  - Maintain that higher budget, currently estimated at \$97.2 million, until the pension deficit is extinguished.
  - Maintain the annual special payments budget at \$27.2 million per annum, even after the deficit and other costs related to this strategy have been extinguished.
  - Maintain the Pension Reserve structure.

The full text of the Pension Contribution Strategy can be found on the governing council website at:

<http://www.governingcouncil.utoronto.ca/AssetFactory.aspx?did=8516>.

Under current solvency relief regulations, the solvency deficit as of July 1, 2014 would have to be amortized over 10 years based on qualifying for stage 2 of the process. Under the proposed amended solvency relief regulations, the University would also have the option to elect an additional 3-year period during which the minimum special payment is the interest on the solvency deficit. After the 3-year period, any solvency deficit at that time would be amortized over 7 years (the remaining period in the original 10-year period). This proposal is still in the consultation stage. The impact on the University has not yet been assessed, and will be addressed as part of the updated pension contribution strategy in early 2014.

### **Update on pension contribution strategy:**

What has been the impact on the pension contribution strategy of the actual results to July 1, 2013? With respect to going concern results, there has been an actual nominal investment return of 12.1% as compared to 6.25% assumed by the strategy. Given the nature of the Government's solvency relief program, there is no impact on the going concern special payments for 2012, 2013 or 2014.

Any possible impact on the net solvency payment is much harder to gauge. A key requirement for acceptance to stage 2 of the temporary solvency relief program in its current form was an increase in member contributions. The University has put in place the required increases to member contributions, thus meeting the requirements for stage 2 acceptance and thus meeting the fundamental assumption in the pension contribution strategy with respect to solvency payments. However, whether or not universities will be permitted to deal with net solvency payments via letters of credit is still uncertain. And interest rates continue to be volatile, making it very hard to predict what the solvency deficit might be at July 1, 2014, and therefore what the net solvency payments might be beginning July 1, 2015, even with acceptance to stage 2. In addition, as mentioned above, the proposed amendments to the solvency funding relief regulations could delay required solvency payments for an additional 3 years, though any solvency payments at the end of that 3-year

period would have to be amortized over the remaining 7 years. Also, as per the pension contribution strategy, the University plans to contribute \$150 million in additional special payments to the registered pension plans by July 1, 2014 utilizing SRA assets and internal borrowing. Finally, as mentioned previously, it is likely that a change will be proposed for 2014 to the mortality rates assumption as a result of the draft *Report on Canadian Pensioners Mortality* released by the Canadian Institute of Actuaries (CIA) in July 2013. Canadians are living longer and this should be reflected in the mortality tables being used for our pension plans. The University will be working with our actuaries to review the final recommendations of the CIA, as well as conduct research on the mortality experience specific to our pension plans. The result will likely be mortality rate tables that will reflect increasing life spans and, therefore, increased liabilities.

## Pension Assets

### Investment Earnings

As noted earlier, pension assets arise from only two sources of funding – contributions (including transfers in) and investment earnings. These sources of funding must pay for the fees and expenses incurred in administering and investing the pension plans, payments to retired members and lump sum transfers.

Investment earnings are dependent on several elements:

- how much risk are we willing to take to try to achieve an acceptable level of investment earnings, understanding that the higher the investment earnings we want, generally speaking, the higher the risk of loss we are going to have to tolerate and plan for?
- what investments do we make – the investment strategy, including the asset mix – to try to achieve investment earnings?
- how are investment markets performing, in Canada and around the world?

The registered pension plans are invested through the unitized pension master trust which combines for investment purposes the assets of the RPP and the RPP(OISE). The pension master trust was created on August 1, 2000 to provide the two funds' assets with the same economies of scale, diversification and investment performance.

Investment risk and return objectives are established on the basis of actuarial modeling that evaluates the likely outcome of various investment strategies under a large variety of market conditions. The Financial Services Commission of Ontario requires annual review of the investment policies and procedures and their confirmation or amendment as appropriate.

The Pension Fund Master Trust Statement of Investment Policies and Procedures<sup>1</sup> ("policy"), approved by the Pension Committee on June 5, 2013, stipulated a real investment return of at least 4.0% over 10-year periods, while taking on an appropriate amount of risk to achieve this target, but without undue

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<sup>1</sup> see <http://www.finance.utoronto.ca/Assets/Finance+Digital+Assets/policies/PFMTSIPG.pdf> for the most recent policy.

risk of loss. Additional risk protection strategies in place include the 0.25% real difference between the 3.75% real discount rate and the 4.0% target real investment return.

The University owns the University of Toronto Asset Management Corporation (UTAM). The University has formally delegated to UTAM the authority for management of pension master trust investments. UTAM reports on the investments under management to the University Administration and to the Pension Committee.

Strategic counsel on asset management is obtained from an independent blue-ribbon Investment Advisory Committee, which meets regularly.

The pension master trust investment strategy was established, and designed, to deliver the desired performance based on a long-term horizon as stipulated by the policy and its return and risk targets, against which investment performance should be evaluated.

While a longer term perspective is important, it is also useful to regularly assess the pension master trust short term returns compared to the objective set by the University. In this regard, performance is assessed, as stated above, versus the 4% real return (net of fees and expenses) objective. Performance is also measured against the Reference Portfolio<sup>1</sup> benchmark that was revised during 2012. The Reference Portfolio represents a “shadow” portfolio which is believed to be appropriate to the pension master trust’s long-term horizon and risk profile and yet capable of achieving the return objective. The principle underlying its composition requires exposures which are: low-cost, simple and passive; representative of the investable market; and, appropriate to the objectives of the University.

Given the current environment, it is believed that a Reference Portfolio that is limited to 60% equity exposure (and the associated level of risk) may have difficulty achieving the 4% real return objective. It is currently projected that it would earn about 3.5% real return. In order to achieve the 4.0% real return objective,

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<sup>1</sup> *Until April 30, 2012 the Reference Portfolio comprised 35% Cdn Universe Bonds, 5% Cdn Real Return Bonds, 30% Cdn Equities, 15% US Equities (half currency hedged), and 15% International Equities (half currency hedged). Beginning May 1, 2012, the new reference portfolio benchmark comprised 60% Equities (16% Cdn, 18% US, 16% EAFE, and 10% Emerging Markets), 20% Credit, and 20% rates, hedging 75% of developed markets’ currency exposures and 0% of emerging markets currency exposure.*



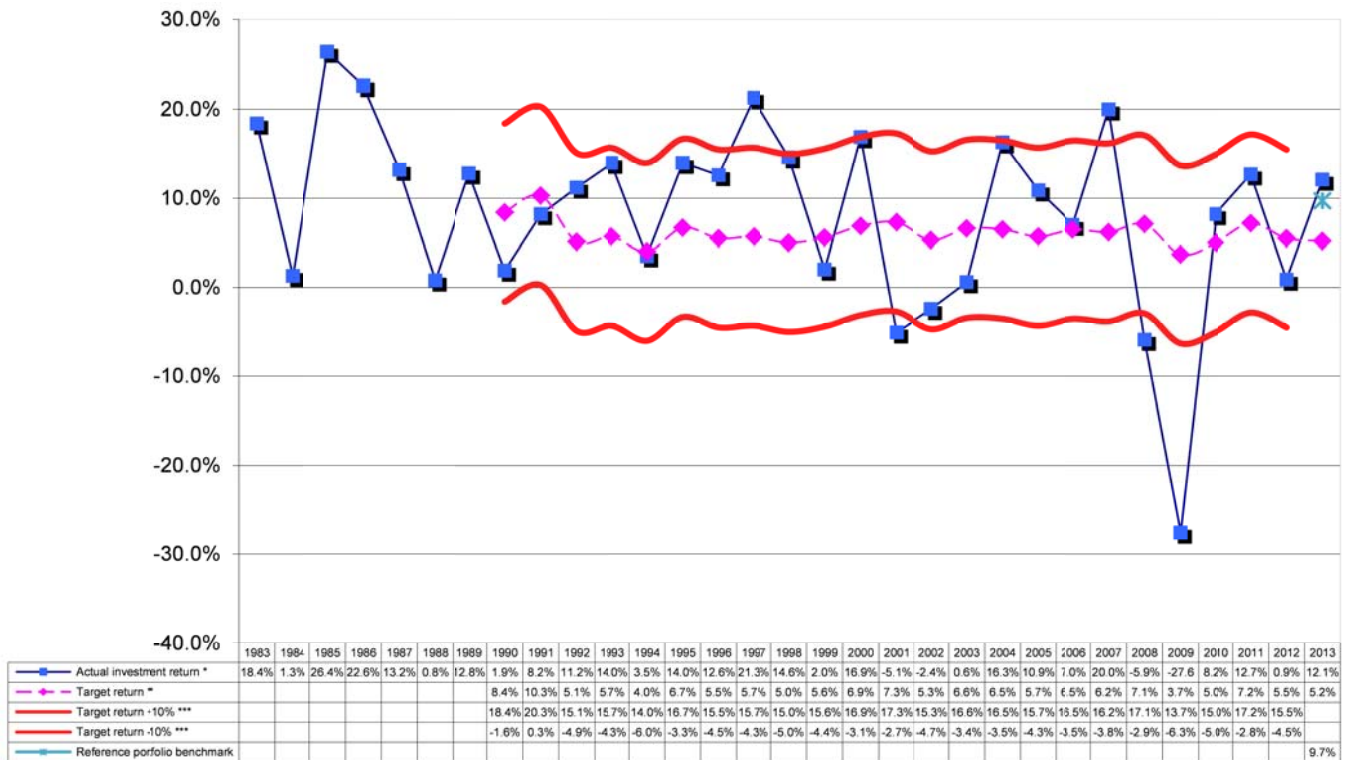
successful active management is required. This includes altering asset class weights, adding assets and strategies not included in the Reference Portfolio and hiring top tier managers, etc. while ensuring that such changes do not result in the assumption of undue risk.

Given this decision to allow an active management approach as defined above, it is prudent to establish a pension master trust-level risk limit, integrating market risk and credit risk within which UTAM has discretion to make and implement investment decisions with the objective of earning returns above the Reference Portfolio. This pension master trust-level risk limit is defined as the risk determined for the Reference Portfolio plus 75 basis points (0.75%).

The one-year return to June 30, 2013 for the pension master trust was 12.1%, net of all investment-related fees and expenses, which was above the University's target return of 5.2% (4.0% real return plus 1.2% CPI) due to positive capital markets conditions. In local currency terms, major developed market equities advanced during the year, with the TSX gaining 7.9%, the U.S. S&P 500 20.6%, the U.K. FTSE 15.8%, the German DAX 24%, the French CAC 20%, while the MSCI Emerging Markets equities index gained 6.0%. However fixed income, as represented by the DEX Universe, lost 1.1%.

The following charts show the actual, nominal returns, compared to the pension plan target return, and compared to the 10% risk corridor that was in place until the March 2012 update to the Pension Fund Master Trust Statement of Investment Policies and Procedures. The first chart shows the nominal one-year returns from 1983 (and target returns from 1990 to 2012) and the second chart shows the actual ten-year rolling average returns from 1983 (and the target ten-year rolling average returns between 1999 and 2012).

## Pension Master Trust 1-Year Annual Rates of Return



\* Returns are time-weighted, calculated in accordance with industry standards, are net of investment fees and expenses, and exclude returns on private investment interests prior to 2008.

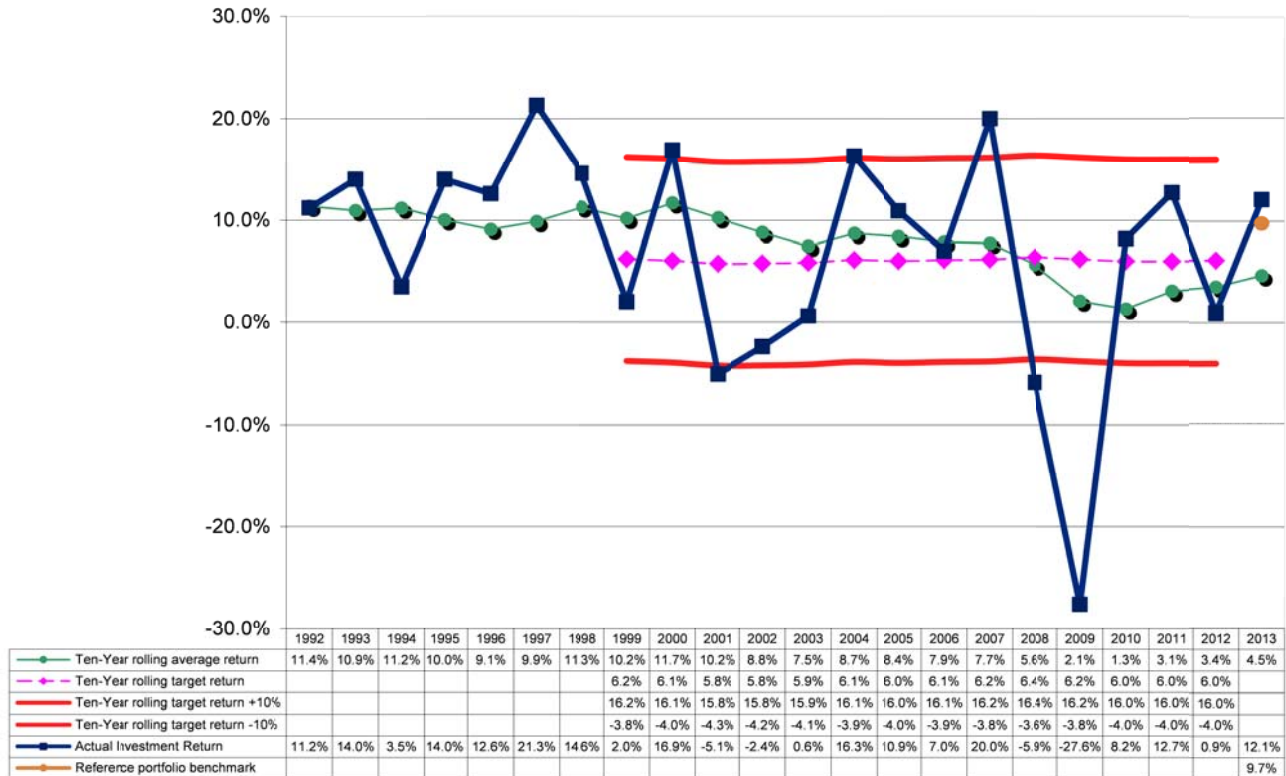
\*\* 4% plus CPI

\*\*\* Beginning in 2013, investment performance will be compared to a new reference portfolio benchmark return. The return objective remains a real investment return of at least 4.0% over 10-year periods; however, this objective assumes an appropriate amount of risk is taken to achieve this target without taking undue risk of loss, which has changed from a risk objective of annual standard deviation of 10.0% or less in nominal terms over 10-year periods.

If we look at the long-term investment history of the pension plan since 1990 (we have also included returns between 1983 and 1989 for information), and if we ascribe to the same +/-10% corridor to nominal returns for the entire period from 1990 to 2012 as those in place for the master trust since 2003, we find the following: over the 23-year period, the returns for 18 (78%) of the years were within the 10% risk corridor, and those for 5 (22%) of the years were outside the risk corridor (2 above and 3 below). For the 19-year period from 1990 to 2008, the average annual actual return was 8.2% compared to an average annual target return of 6.3%. If we include the years 2009 through 2012, a 23-year period, the average annual actual return was 6.2% compared to the average annual target return of

6.1%. Over the period since 1990, actual returns have slightly exceeded the University target return of CPI + 4%. In 2013, the actual return was 12.1%, which exceeded the 5.2% new reference portfolio benchmark return for the year.

**Pension Master Trust  
Ten-Year Rolling Average Returns with Annual Returns**



If we look at the ten-year rolling averages, we find that for the entire period from 1999 to 2007, the actual 10-year average returns were at or above the University's target return, and that all years were within the 10% risk factor.

However, if we concentrate on the more recent past, returns are more variable, as expected when a shorter period is studied. From 2004 to 2007 UTAM investment performance was excellent, outperforming the target real return and exceeding benchmarks. Results were within the target range except in 2007, when they exceeded the top of the corridor. In 2008, the global financial crisis ensued and the master trust suffered a negative return of 5.9%, although the result was still within the risk corridor. In 2009, the bottom fell out of global markets, and the result was a negative return of 27.6%, although the 10-year return remained

positive and within the corridor. During 2010 and 2011, all major financial markets rebounded from the meltdown experienced in 2008 and 2009. In 2012, the master trust had a return of 0.9% which was below the target return, however the 10-year return increased slightly from the previous year. Beginning in 2013, the actual returns are compared to the new reference portfolio benchmark returns. In 2013, the actual investment return of 12.1% exceeded the reference portfolio benchmark return of 5.2%.

A detailed review of the investment performance, which is managed and measured on a calendar basis by UTAM, is available on the UTAM website at [www.utam.utoronto.ca](http://www.utam.utoronto.ca). Please see the next section for a discussion of fees and expenses.

## Pension Assets Fees and Expenses

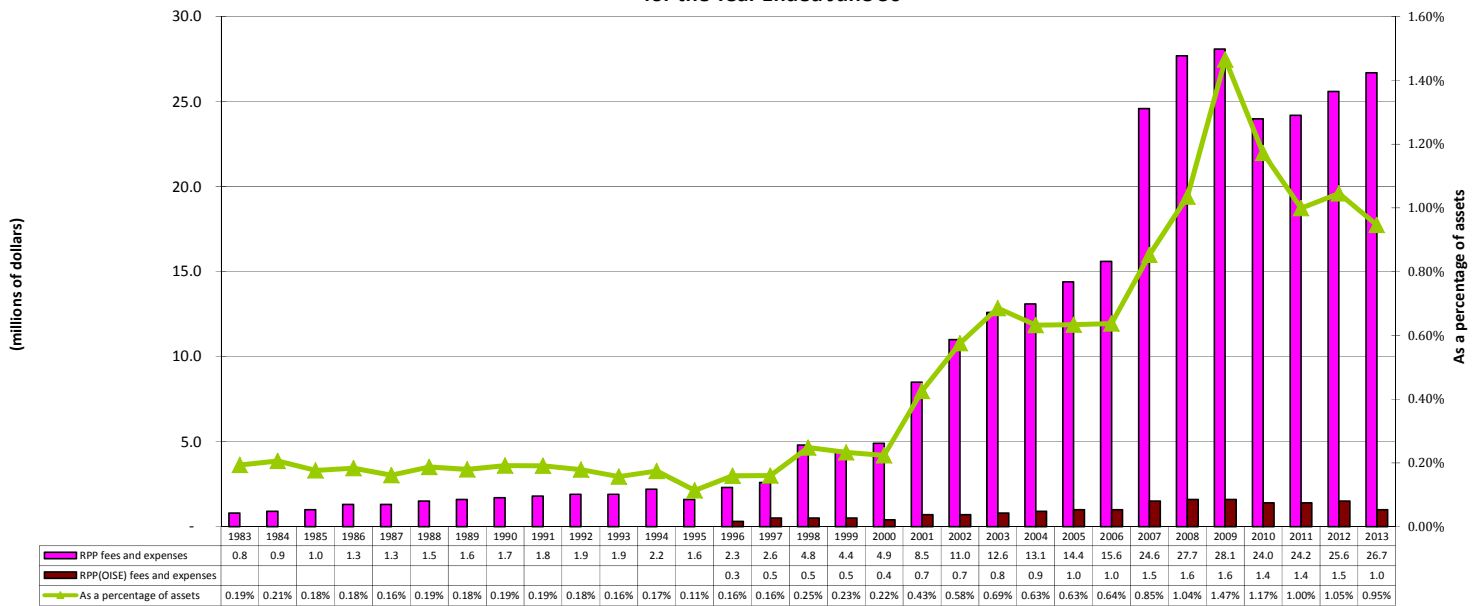
It costs money to manage, administer and invest pension plan assets. There are several categories of fees, including those for pension administration services (e.g. recordkeeping, calculation of benefits, payments to retired members), custody of pension assets, and investment of pension funds. The fees and expenses incurred for the pension master trust (excluding the SRA which is managed together with University endowments) for the year ended June 30, 2013 were as follows, for the RPP and RPP(OISE), in millions of dollars:

	<u>RPP</u>	<u>RPP(OISE)</u>	<u>2013 Total</u>	2012 Total
Investment management fees - external managers	20.4	0.6	21.0	21.2
Investment management costs - UTAM	2.6	0.1	2.7	2.8
Transaction fees <sup>1</sup>	1.0	0.0	1.0	0.3
Pension administration services	0.7	0.1	0.8	0.8
University of Toronto administrative costs	0.5	0.1	0.6	0.6
Actuarial and administration fees	0.4	0.1	0.5	0.6
Custodial costs	0.4	0.0	0.4	0.5
Other fees	0.7	0.0	0.7	0.3
<b>Total</b>	<b>26.7</b>	<b>1.0</b>	<b>27.7</b>	27.1

<sup>1</sup> Increase due to the introduction of the new emerging market asset class as a result of the adoption of the Reference Portfolio in May 2012.

The following chart provides a historical perspective on the fees and expenses.

**University of Toronto Registered Pension Plans  
Fees and Expenses as a Percent of Assets  
(excluding SRA)  
for the Year Ended June 30**



The management expense ratio (MER) is a standard investment industry ratio which compares the costs of investment management, both direct and indirect, to the total assets under management. The MER includes expenses incurred by UTAM and all investment management fees. It excludes other pension administration costs such as external audit fees, records administration, actuarial fees and University of Toronto administrative fees. It also uses the average annual market values for the year. The MER for the pension master trust was 0.89% in 2012-13, a decrease from 0.96% in 2011-12.

External investment management fees, which represent just over 77% of total master trust fees in 2013 (78% in 2012), are normally related to the size of assets under management. During 2013, RPP and RPP(OISE) assets under management increased from \$2,592.3 million to \$2,927.4 million. The one-year return of the pension master trust ending June 30, 2013 net of all investment-related expenses was 12.1%, which was above the University's target return of 5.2% (i.e. CPI + 4.0%). Total external investment management fees fell slightly to \$21.0 million in 2013 from \$21.2 million in 2012.

A question of obvious interest is why total fees and expenses for the RPP and RPP(OISE) increased in percentage terms during the period from 2000 to 2003, and

during the period 2007 to 2009. This was due to several factors. Investment management for the pension plans changed between 2000 and 2003 from a balanced fund type strategy, to an active professional investment strategy managed by UTAM since 2000. In addition, the investment strategy also placed increasing emphasis on alternative assets such as hedge funds and private investment interests, which generally have higher investment management fees than traditional investments such as public fixed income or public equities. It is anticipated that despite their higher management fees, alternative assets will generate higher investment returns in the long-run as well as diversify portfolio risk. It is also important to note that, prior to 1997, the University absorbed pension costs that were subsequently charged to the pension plans when such pension costs were more fully identifiable.

It is important to note that fees and expenses cannot be evaluated on their own, but need to be viewed in the context of the underlying assets' return potential in the long-term. Fees and expenses as a percentage of assets, as can be seen from the previous chart, decreased from 1.05% in 2012 to 0.95% in 2013, mainly due to an increase in the market value of pension assets while fees and expenses increased only slightly during the year. While it is desirable to have positive and high investment returns each year, it is important to bear in mind that there will be variability in returns from one year to another due to general market cycle and conditions, but perhaps more importantly, that the investment strategy is crafted for a long-term horizon that aligns with the pension master trust's 10-year target objectives.

For more information on fees and expenses refer to note 6 of the University of Toronto Pension Plan financial statements (page 97 of this report), and note 6 of the University of Toronto (OISE) Pension Plan financial statements (page 118 of this report).

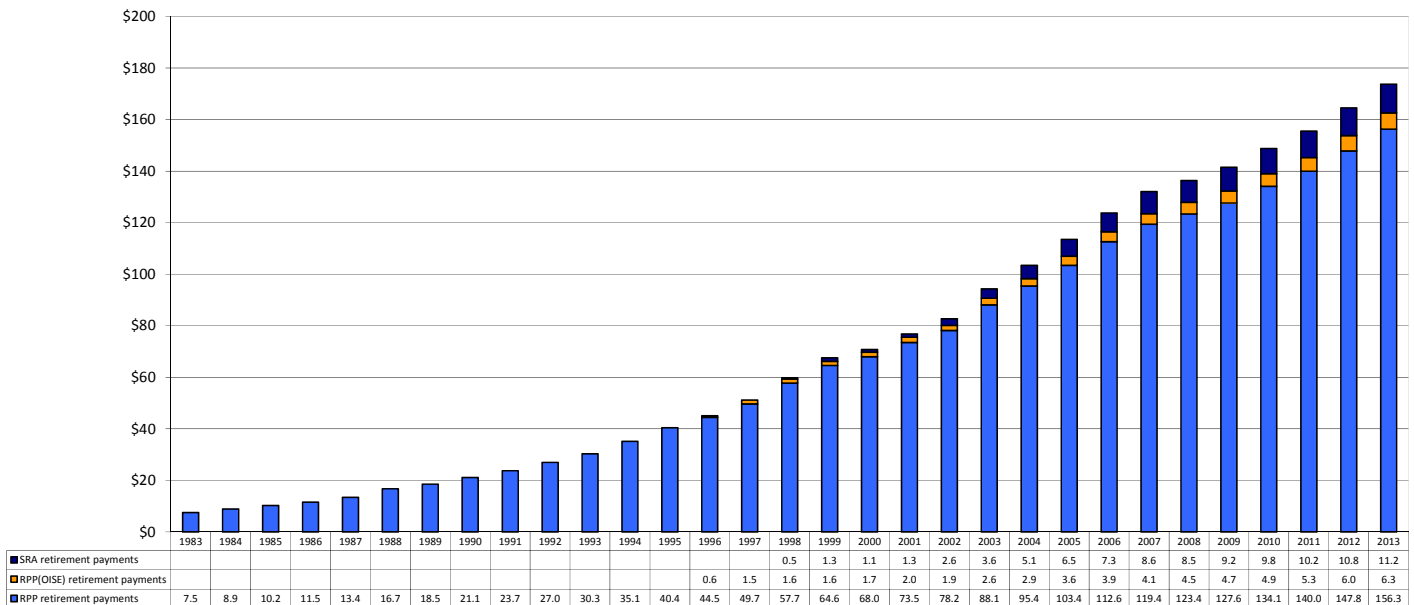
## Pension Assets Payments

The section on participants showed that the number of retired members in the RPP has increased from 1,282 in 1983 to 5,092 in 2013, an increase of 297.2%; the number of retired members in the RPP(OISE) has increased from 121 in 1997 to 162 in 2013, an increase of 33.9%. Payments to retired members reflect this increase in numbers as well as the cost of living adjustments and augmentations that have occurred in certain years for certain member groups.

The dollar value of payments for the three plans has increased from \$7.5 million in 1983 to \$173.8 million in 2013.

The rate of increase in payments is higher than the rate of increase in the number of members mainly due to pension indexation, augmentation of existing pension payments and higher starting pensions for more recently retired members reflecting higher average earnings.

**University of Toronto Pension Plans  
Retirement Payments for the year ended June 30  
(millions of dollars)**





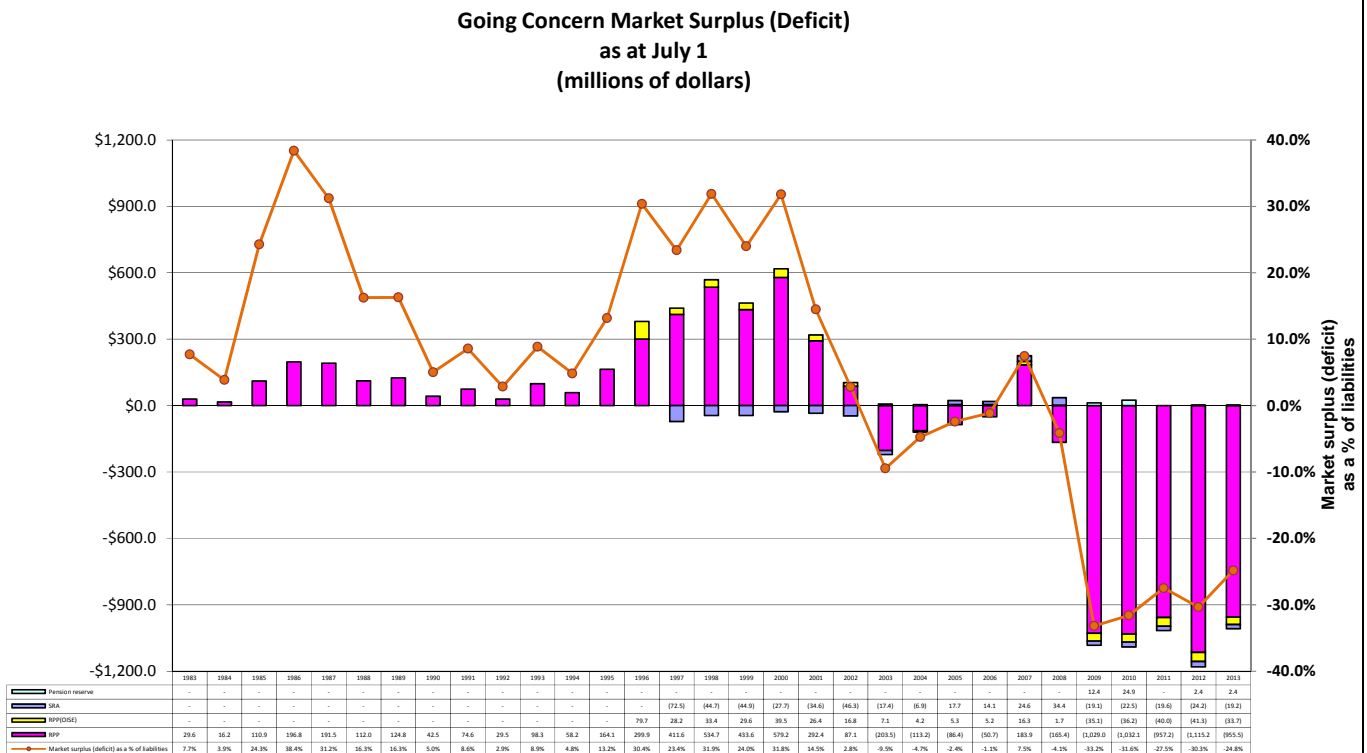
## Pension Market Deficit

Going concern pension liabilities minus pension assets at market value result in the net funded status of the pension plans, the market surplus or market deficit. The going concern market deficit at July 1, 2013 totaled \$1,006.0 million, comprising:

\$ (955.5) million	RPP market deficit
\$ (33.7) million	RPP(OISE) market deficit
\$ (19.2) million	SRA market deficit
\$ 2.4 million	Pension reserve university assets

As noted earlier, funds cannot be transferred between the two registered plans or from either of the registered plans to the SRA or the pension reserve. Funds can be transferred from the SRA or the pension reserve into either of the registered plans.

The change in the market surplus or deficit since 1983 is shown on the following chart:



Since 1983, the RPP position has varied from a surplus high of \$579.2 million in 2000 to a deficit low of \$1,115.2 million in 2012. The current market deficit of \$955.5 million is due in large part to the unprecedented level of investment losses resulting from the global financial and economic crisis, which increased the market deficit from \$165.4 million in 2008 to \$1,029.0 million in 2009. In 2010, the deficit increased slightly to \$1,032.1 million, improved in 2011 to a deficit of \$957.2 million (the net result of actuarial assumption changes offset by a \$150 million lump sum contribution and investment returns of 12.7%), increased to \$1,115.2 million mainly as a result of investment returns of only 0.9% in 2012 while pension liabilities continued their upward trend, and then improved in 2013 to a deficit of \$955.5 million, the net result of investment returns of 12.1% and special contributions of \$66.6 million partly offset by actuarial assumption changes.

The RPP(OISE) plan moved to a market deficit position in 2009 after being in a surplus position for many years<sup>1</sup>. The plan deficit position worsened slightly in 2010 mainly due to the increase in plan liabilities offset by an improved financial environment, worsened in 2011 mainly due to the increase in plan liabilities (primarily the result of changes to plan assumptions) offset by improved investment earnings, the deficit increasing further in 2012 with a continued increase in liabilities which was only slightly offset by investment earnings which were below target, and then improved in 2013 mainly due to investment returns above target partly offset by actuarial assumption changes.

The SRA was established in 1997, with a five year funding plan. Subsequent benefit enhancements affecting SRA funding were also funded over five years. In 2004, SRA funding was put on the same basis as the registered plans (deficits funded over 15 years). The current position in the SRA is a deficit of \$19.2 million. The surplus/deficit changes with the variation in where liabilities are recorded, reflecting the impact of the Income Tax Act maximum pension.

The financial position of all of the plans has worsened since 2008, moving from a small deficit overall, representing about 4% of liabilities to a much larger deficit overall representing about 25% of liabilities in 2013. As noted earlier, the

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<sup>1</sup> A partial wind-up distribution was approved by the Financial Services Commission of Ontario on October 1, 2007.

Ontario Government has put in place a two stage process that is intended to provide institutions in the broader public sector (which includes universities) with an opportunity to make net solvency payments over a longer period than would otherwise be required. The University has been accepted to stage 1 of this process and expects to qualify for stage 2 given the increases being made to member contribution rates. A revised contribution strategy reflecting plans to deal with the pension deficit was approved by the Business Board on May 3, 2012. As stated earlier, the proposed amendments to the solvency funding relief regulations could delay required solvency payments for an additional 3 years, though any solvency payments at the end of that 3-year period would have to be amortized over the remaining 7 years. This will be addressed as part of the updated pension contribution strategy in early 2014.

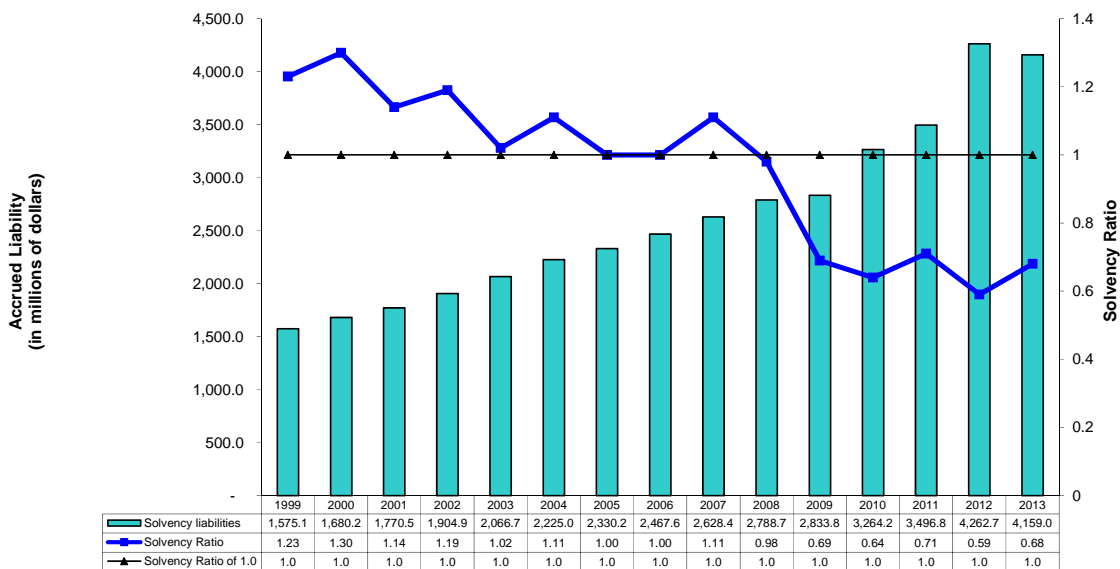
The market surplus (deficit) varies with the type of actuarial valuation and with the assumptions used to estimate the liabilities. The following section shows the impact of solvency and hypothetical wind-up assumptions on the surplus or deficit.

## The Role of Solvency and Hypothetical Wind-up Valuations

As noted earlier, we are legally required to calculate the solvency and hypothetical wind-up actuarial valuations, which have different assumptions from the going concern valuation. The solvency valuation essentially determines the status of a pension plan as if it were to be wound up on the valuation date and requires that the liabilities be discounted at current market rates, rather than at long-term rates, but without indexing.

The RPP solvency ratio (the ratio of assets to solvency liabilities) improved from 0.59 at July 1, 2012 to 0.68 at July 1, 2013. As of July 1, 2013, the plan had a solvency deficit of \$1.31 billion versus a solvency deficit of \$1.75 billion as of July 1, 2012. The main reasons for the current solvency deficit of the RPP include the unprecedented investment losses during 2008 and 2009, a continuing decline in interest rates that has resulted in a continuing decline in the discount rates that must be used to value solvency liabilities, and lengthening life spans which has required an update to the table used for the mortality rates assumption in 2011.

**RPP**  
**Solvency Ratio and Solvency Liability (without Escalated Adjustments)**  
**as at July 1**



As stated previously, the solvency ratio refers to the ratio of solvency assets to solvency liabilities (excluding indexation). A solvency ratio of 1.0 or higher means that at a particular point in time there is a solvency excess. A solvency ratio of less than 1.0 indicates that at a particular point in time there is a solvency deficit. If the solvency ratio is less than 0.85 at the time the valuation is filed with the regulators, an actuarial valuation must then be filed annually until such a point when the solvency ratio is above 0.85. Otherwise, valuations must be filed at least triennially. However, as a result of qualifying for stage 1 of the temporary solvency relief funding process, the effective date of the next required actuarial valuation to be filed with the regulators is July 1, 2014.

The hypothetical wind-up valuation extends the solvency valuation by adding in the indexing and incorporating early retirement windows. On a hypothetical wind-up basis, the RPP market deficit would be \$2.91 billion <sup>1</sup>.

The RPP(OISE) solvency ratio was 0.63 at July 1, 2013, an increase from a solvency ratio of 0.55 at July 1, 2012.

The RPP solvency ratio of 0.68 at July 1, 2013 would normally trigger large net solvency payments over a five year period. As noted earlier, the Ontario Government has put in place a two stage process that is intended to provide institutions in the broader public sector (which includes universities) with an opportunity to make net solvency payments over a longer period than would otherwise be required. The University has been accepted to stage 1 of this process and has put into place member contribution increases to meet the conditions required for acceptance to stage 2 of the process. As described earlier in this document (page 35), a revised pension contribution strategy reflecting plans to deal with the pension deficit was approved by the Business Board on May 3, 2012.

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<sup>1</sup> *There are in fact capacity constraints within the Canadian group annuity market that make it very unlikely that the indexed liabilities for a plan of this size could be settled through the purchase of indexed annuities. Based on Educational Notes prepared by the Canadian Institute of Actuaries, in such cases, the actuary may make a reasonable hypothesis on the manner in which benefits may be settled on wind-up. That could include a modification on the benefits provided such as converting from floating to fixed indexation. If such a change was made for this Plan with indexation fixed at 75% of the expected inflation underlying long-term Government of Canada bonds at the time of wind-up, the market would treat this as a non-indexed annuity with a fixed escalator. The impact would be to reduce the wind-up liabilities by approximately \$0.71 billion.*

Under the proposed amended solvency relief regulations, the University would also have the option to elect an additional 3-year period during which the minimum special payment is the interest on the solvency deficit. After the 3-year period, any solvency deficit at that time would be amortized over 7 years (the remaining period in the original 10-year period). This proposal is still in the consultation stage. The impact on the University has not yet been assessed, and will be addressed as part of the updated pension contribution strategy in early 2014.

## Conclusion

Both the overall economic and financial climate and the regulatory landscape continue to be very uncertain with respect to pensions. Interest rates continue to be at historic lows, affecting investment returns and risk taking, and making it much more difficult to achieve investment returns. This is reflected in the pension deficit, which has only marginally improved since 2009 even though significant contributions have been made into the pension plans and investment returns have been above target in three of the last four years. The market deficit for the three plans combined has decreased from 30% of liabilities at July 1, 2012 to 25% of liabilities at July 1, 2013 due primarily to investment returns exceeding the target return for the period and employer special payments partly offset by actuarial assumption changes. The solvency ratio or the RPP has improved from 0.59 to 0.68, due to an increase in the prescribed interest rate from 3.05% per annum at July 1, 2012 to 3.50% per annum at July 1, 2013, and investment returns exceeding the target return in 2013.

From a going concern perspective, the current strategy of increased member contributions, which enhance the sustainability of the pension plans by providing additional funding to the plans, and the pension contribution strategy, which provides significant additional University funding to address the deficit, continue to be reasonable.

From a solvency perspective, continued low interest rates makes more difficult the Government's efforts to deal with this regulatory issue through its temporary solvency relief program. Proposed amendments to the solvency funding relief regulations could delay required solvency payments for an additional 3 years, though any solvency payments at the end of that 3-year period would have to be amortized over the remaining 7 years. University administration will be updating the pension contribution strategy in early 2014, taking into account these amendments.

## **Appendix 1**

### **Pension Contribution Strategy**

The pension contribution strategy approved by the Business Board on May 3, 2012 may be found at the following link:

<http://www.governingcouncil.utoronto.ca/AssetFactory.aspx?did=8516>



## **Appendix 2**

### **Pension Fund Master Trust - Statement of Policies and Goals**

The Pension Fund Master Trust Statement of Policies and Procedures approved by the Pension Committee on June 5, 2013 may be found at the following link:

<http://www.finance.utoronto.ca/Assets/Finance+Digital+Assets/policies/PFMTSIPG.pdf>

**Appendix 3**  
**RPP Actuarial Report (Excerpts)**

**Actuarial Report (Excerpts)**

University of Toronto Pension Plan (RPP)

As of July 1, 2013

## Summary

(Thousands of Dollars)	As of July 1, 2012	As of July 1, 2013
<b>Going Concern Valuation Results</b>		
<b><i>Past Service – Market Value of Assets</i></b>		
Market Value of Assets	\$ 2,515,770	\$ 2,845,138
Less: Accrued Liability	<u>3,630,969</u>	<u>3,800,650</u>
Surplus/(Unfunded Accrued Liability)	\$ (1,115,199)	\$ (955,512)
<b><i>Past Service - Actuarial Value of Assets</i></b>		
Actuarial Value of Assets	\$ 2,893,135 <sup>1</sup>	\$ 3,036,688
Less: Accrued Liability	<u>3,630,969</u>	<u>3,800,650</u>
Surplus/(Unfunded Accrued Liability)	\$ (737,834)	\$ (763,962)
<b><i>Current Service</i></b>		
Total Current Service Cost	\$ 135,894	\$ 140,741
Less: Required Participant Contributions <sup>2 3</sup>	<u>41,825</u>	<u>51,307</u>
University Current Service Cost	\$ 94,069	\$ 89,434
As a % of Participant Salary Base (Capped at \$150,000)	12.31%	11.33% <sup>4</sup>
Participant Salary Base (Capped at \$150,000)	\$ 764,024	\$ 789,196

<sup>1</sup> Actuarial value of assets capped at 115% of market value of assets

<sup>2</sup> Includes participant contributions made by University on behalf of disabled participants

<sup>3</sup> Does not include change in required participant contributions coming into effect after the valuation date

<sup>4</sup> Estimated to be 10.82% of participant salary base (capped at \$150,000) after all increases in required participant contributions come into effect, resulting in the University's share of the total current service cost being 60.5% and the participants' share of the total current service cost being 39.5%.

## Summary (continued)

(Thousands of Dollars)	As of July 1, 2012	As of July 1, 2013
<b>Solvency Valuation Results</b>		
Solvency Assets <sup>1</sup>	\$ 2,514,770	\$ 2,844,138
Solvency Liability—Without Escalated Adjustments	<u>4,262,724</u>	<u>4,159,040</u>
Solvency Excess/(Deficit)	\$ (1,747,954)	\$ (1,314,902)
Solvency Ratio	0.59	0.68
<b>Hypothetical Wind-Up Valuation Results</b>		
Wind-Up Assets <sup>1</sup>	\$ 2,514,770	\$ 2,844,138
Wind-Up Liability—With Escalated Adjustments	<u>5,618,319</u>	<u>5,754,646</u>
Wind-Up Excess/(Deficit)	\$ (3,103,549)	\$ (2,910,508) <sup>2</sup>
Transfer Ratio	0.45	0.49 <sup>2</sup>

<sup>1</sup> Net of provision of \$1,000,000 for estimated wind-up expenses

<sup>2</sup> (\$2,202,232) or 0.56 if escalated adjustments are fixed based on expected inflation at date of wind-up, to reflect capacity constraints in group annuity market for floating rate indexed annuities

## Summary (continued)

(Thousands of Dollars)	As of July 1, 2012 <sup>1</sup>	As of July 1, 2013 <sup>12</sup>
<b>Going Concern Funding Requirements</b>		
Required Participant Contributions	\$ 41,825	\$ 51,307
University Current Service Cost	\$ 92,905 <sup>3</sup>	\$ 93,599 <sup>4</sup>
Plus: Special Payments to Amortize Unfunded Liability	<u>63,516</u>	<u>63,516</u>
Total University Contributions	\$ 156,421	\$ 157,115
As a % of Participant Salary Base (Capped at \$150,000)	20.63%	19.91%
<b>Personnel Data</b>		
Active and Disabled Participants	9,149	9,255
Retired Participants	4,934	5,092
Terminated Vested Participants	2,564	2,713
Suspended, Exempt or Pending Status	<u>207</u>	<u>192</u>
Total	16,854	17,252

<sup>1</sup> On basis of solvency funding relief granted on February 16, 2012

<sup>2</sup> After change in actuarial assumptions

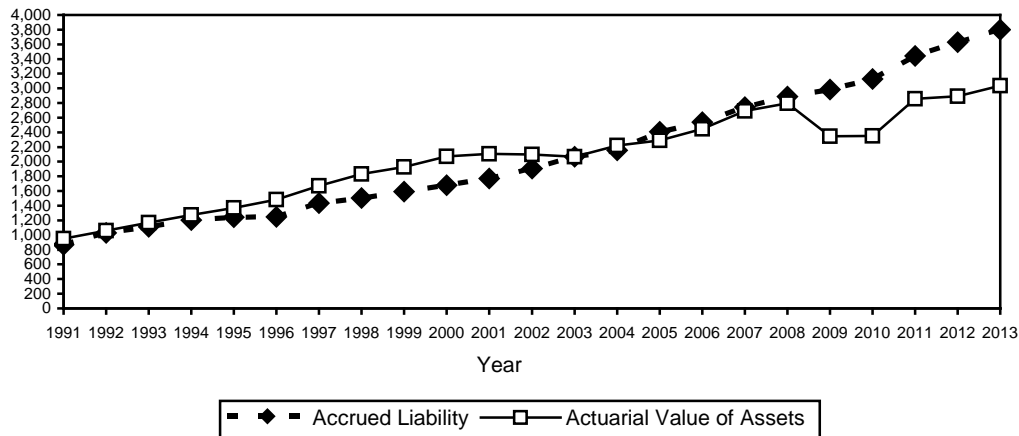
<sup>3</sup> 12.16% of Participant Salary Base (capped at \$150,000) in accordance with July 1, 2011 actuarial valuation

<sup>4</sup> 11.86% of Participant Salary Base (capped at \$150,000) in accordance with July 1, 2011 actuarial valuation

## Summary (continued)

### History of Accrued Liability and Surplus/(Deficit)

Millions of Dollars



Year	Actuarial Value of Assets (AVA)	Accrued Liability (AL)	Surplus/(Deficit)	Surplus/(Deficit) as a Percentage of AL
(millions of dollars)				
1991	\$ 949.4	\$ 869.7	\$ 79.8	9.2%
1992	\$ 1,061.0 <sup>1</sup>	\$ 1,031.5 <sup>1</sup>	\$ 29.4 <sup>1</sup>	2.9%
1993	\$ 1,169.3	\$ 1,110.3	\$ 59.1	8.3%
1994	\$ 1,271.7	\$ 1,201.9	\$ 69.9	5.8%
1995	\$ 1,370.5	\$ 1,243.6	\$ 126.9	10.2%
1996	\$ 1,484.3	\$ 1,249.1 <sup>2</sup>	\$ 235.2 <sup>2</sup>	18.8%
1997	\$ 1,671.4	\$ 1,436.7 <sup>3</sup>	\$ 234.7 <sup>3</sup>	16.3%
1998	\$ 1,830.6	\$ 1,503.3	\$ 327.4	21.8%
1999	\$ 1,927.2 <sup>4</sup>	\$ 1,593.6 <sup>4</sup>	\$ 333.6 <sup>4</sup>	20.9%
2000	\$ 2,072.0	\$ 1,680.2	\$ 391.9	23.3%
2001	\$ 2,108.2	\$ 1,770.5	\$ 337.7	19.1%
2002	\$ 2,098.9	\$ 1,904.9 <sup>5</sup>	\$ 194.1 <sup>5</sup>	10.1%
2003	\$ 2,068.9	\$ 2,066.7	\$ 2.2	0.1%
2004	\$ 2,155.8	\$ 2,225.0	\$ (69.2) <sup>6</sup>	(3.1%)
2005	\$ 2,289.8	\$ 2,407.0	\$ (117.2) <sup>7</sup>	(4.8%)
2006	\$ 2,447.3	\$ 2,540.6 <sup>8</sup>	\$ (93.4) <sup>8</sup>	(3.7%)
2007	\$ 2,690.0	\$ 2,745.8 <sup>9</sup>	\$ (55.8) <sup>9</sup>	(2.0%)
2008	\$ 2,797.1	\$ 2,889.6	\$ (92.5)	(3.2%)
2009	\$ 2,345.8 <sup>10</sup>	\$ 2,983.8	\$ (638.0)	(21.4%)
2010	\$ 2,349.9	\$ 3,125.9	\$ (776.0)	(24.8%)
2011	\$ 2,856.1 <sup>11</sup>	\$ 3,443.5 <sup>11</sup>	\$ (587.4)	(17.1%)
2012	\$ 2,893.1	\$ 3,630.9	\$ (737.8)	(20.3%)
2013	\$ 3,036.7	\$ 3,800.7 <sup>12</sup>	\$ (764.0)	(20.1%)

<sup>1</sup> After plan amendments and restatement of actuarial value of assets

<sup>2</sup> After six-year deferral of the increase in the maximum pension limit

<sup>3</sup> After plan amendments and change in actuarial assumptions

<sup>4</sup> After plan amendments for all staff groups (interim cost certificate) and change in assumptions

<sup>5</sup> After plan amendments

<sup>6</sup> After plan amendments and change in actuarial assumptions

<sup>7</sup> After plan amendments and change in actuarial assumptions

<sup>8</sup> After plan amendments (and related assumptions changes)

<sup>9</sup> After plan amendments and change in actuarial assumptions

<sup>10</sup> After reflecting maximum value of 120% of market value

<sup>11</sup> After change in actuarial assumptions and asset valuation method

<sup>12</sup> After change in actuarial assumptions

## Assets and Liabilities

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### Going Concern Valuation Results (Thousands of Dollars)

The going concern valuation results are shown below with the Accrued Liability broken down by participant category:

#### Past Service

Actuarial Value of Assets	\$ 3,036,688
---------------------------	--------------

Less: Accrued Liability

Active and Disabled Participants	\$ 1,895,568
Retired Participants	1,777,748
Terminated Vested Participants	121,770
Suspended, Exempt or Pending Status	<u>5,564</u>

Total	<u>\$ 3,800,650</u>
-------	---------------------

Surplus (Unfunded Accrued Liability)	\$ (763,962)
--------------------------------------	--------------

As a % of Accrued Liability	(20.1%)
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Market Value of Assets	\$ 2,845,138
------------------------	--------------

Deferred Asset Gain (Loss)	\$ (191,550)
----------------------------	--------------

#### Current Service

Total Current Service Cost	\$ 140,741
----------------------------	------------

Less: Required Participant Contributions	<u>51,307<sup>1</sup></u>
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University Current Service Cost	\$ 89,434
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As a % of Participant Salary Base (With \$150,000 Pay Cap)	11.33%
--	--------

Participant Salary Base (With \$150,000 Pay Cap)	\$ 789,196
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As a % of Capped Participant Salary Base Under Assumed Retirement Age <sup>2</sup>	11.88%
--	--------

Capped Participant Salary Base Under Assumed Retirement Age	\$ 752,588
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<sup>1</sup> Includes participant contributions made by University on behalf of disabled participants; does not reflect increase in required participant contributions coming into affect after the valuation date

<sup>2</sup> Excludes salary for members of the administrative staff, unionized administrative staff and unionized staff who are not included in Current Service Cost since they are over the assumed retirement age of age 63

## Assets and Liabilities (continued)

### Solvency and Hypothetical Wind-Up Valuation Results

(Thousands of Dollars)	Solvency Valuation	Hypothetical Wind-Up Valuation
(1) Market Value of Assets	\$ 2,845,138	\$ 2,845,138
(2) Less: Estimated Wind-Up Expenses	<u>1,000</u>	<u>1,000</u>
(3) Assets Net of Wind-Up Expenses	\$ 2,844,138	\$ 2,844,138
(4) Solvency/Wind-Up Liability		
Active and Disabled Participants	\$ 2,104,029	\$ 3,000,511
Retired Participants	1,905,473	2,471,984
Terminated Vested Participants	143,974	276,587
Suspended, Exempt or Pending Status	<u>5,564</u>	<u>5,564</u>
Total	<u>\$ 4,159,040</u>	<u>\$ 5,754,646</u>
(5) Surplus/(Deficiency), (3) – (4)	\$ (1,314,902)	\$ (2,910,508)
(6) Solvency Ratio, (1)/(4)	0.68	N/A
(7) Transfer Ratio, (1)/(4)	N/A	0.49

As provided under the Regulations to the *Pension Benefits Act* (Ontario), the Solvency Liability excludes the liabilities associated with escalated adjustments (future indexing). Reflecting future escalated adjustments in the Hypothetical Wind-Up Valuation increases the liabilities by \$1,595,606,000

The assumptions used to determine the Solvency Liability are summarized on page 49 of this report. Note that the interest rates-with escalated adjustments reflect the value of future indexation of pensions during both the preretirement and postretirement periods.

In our opinion, the value of Plan assets, less a reasonable allowance for wind-up expenses, would be less than the actuarial liabilities (including escalated adjustments) by \$2,910,508,000 if the Plan were wound-up on the valuation date, assuming that there is a competitive market for inflation-indexed annuities.

There are in fact capacity constraints within the Canadian group annuity market that make it very unlikely that the indexed liabilities for a plan of this size could be settled through the purchase of indexed annuities. Based on Educational Notes prepared by the Canadian Institute of Actuaries, in such cases, the actuary may make a reasonable hypothesis on the manner in which benefits may be settled on wind-up. That could include a modification on the benefits provided such as converting from floating to fixed indexation. If such a change was made for this Plan with indexation fixed at 75% of the expected inflation underlying long-term Government of Canada bonds at the time of wind-up, the market would treat this as a non-indexed annuity with a fixed escalator. The impact would be to reduce the wind-up liabilities by approximately \$708,276,000.



## Experience

### **Reconciliation of Going Concern Surplus/(Deficit)** (Thousands of Dollars)

	<b>2012/2013</b>
Surplus/(Unfunded Liability) at Beginning of Year	\$ (737,834)
Less: University Current Service Cost	93,676
Plus: University Current Service Cost Contributions	93,676
Plus: University Special Payments	63,516
Plus: Interest at 6.25% per annum	(44,160)
Plus: Expected Recognition of the July 1, 2012 Deferred Asset Gain/(Loss)	<u>(100,238)</u>
Equals: Expected Surplus/(Unfunded Liability) at End of Year, Before Experience Gains/(Losses)	\$ (818,716)
Plus: Increase/(Decrease) Due to: Gains/(Losses):	
Return on Assets	36,400
Indexation of Benefits	21,105
Increase in Salaries	6,847
Increase in Income Tax Act Maximum Pension	12,371
Increase in CPP Maximum Salary	(1,683)
Termination Experience	2,042
Retirement Experience	2,980
Mortality Experience	(16,535)
All Other Sources	<u>(987)</u>
Equals: Surplus/(Unfunded Liability) at End of Year, Before Changes in Assumptions/Methods	\$ (756,176)
Plus: Increase/(Decrease) Due to Change in Actuarial Assumptions	<u>(7,786)</u>
Equals: Surplus/(Unfunded Accrued Liability) at End of Year	\$ (763,962)

## Experience (continued)

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### **Comments Regarding Experience from July 1, 2012 to July 1, 2013**

#### **Return on Assets**

The total return after expenses based on the actual market value of assets after allowing for the full amount of capital appreciation during the year, assuming contributions and benefit payments take place in the middle of the year, was 12.0%. The assumed rate of return for actuarial valuation purposes was 6.25% per annum resulting in a gain of \$145,600,000 on a market value basis. The gain on the actuarial value of assets (net of the expected recognition of the July 1, 2012 deferred asset gain/(loss)) is equal to 25% of the gain on the market value of assets, or \$36,400,000.

#### **Indexation of Benefits**

Benefit entitlements for retired and terminated vested participants were increased by 0.62% at July 1, 2013 under the regular indexation formula. The increase was lower than the 1.875% increase anticipated under the actuarial assumptions, resulting in an actuarial gain of \$21,104,500.

#### **Increase in Salaries**

The assumed salary increase used for the July 1, 2012 actuarial valuation was 4.5% per year. Actual salary increases varied by staff group but on average were lower than assumed, resulting in an actuarial gain of \$6,847,200.

#### **Income Tax Act Maximum Pension**

The increase in the *Income Tax Act* maximum pension from 2012 to 2013 was 1.9%. This was lower than the expected 3.5% per year, resulting in an actuarial gain of \$12,370,900.

#### **CPP Maximum Salary**

The increase in the CPP Maximum Salary from 2012 to 2013 was 2.0% which was lower than the expected 3.5% per year, resulting in an actuarial loss of \$1,682,700.

#### **Termination Experience**

Termination experience since July 1, 2012 was higher than expected under the valuation assumptions. This resulted in an actuarial gain of \$2,042,000.

#### **Retirement Experience**

Retirement ages for retirements since July 1, 2012 were slightly later than expected under the valuation assumptions. This resulted in an actuarial gain of \$2,979,900.

#### **Mortality Experience**

Mortality rates since July 1, 2012 were lower than expected under the valuation assumptions. This resulted in an actuarial loss of \$16,535,200.

#### **All Other Sources**

Other factors such as personnel changes and data adjustments, etc., deviated from expected, resulting in a net actuarial loss of \$987,000.

# Actuarial Assumptions

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## Going Concern Valuation

### Demographic Assumptions

Retirement Age

#### **Academic Staff and Librarians**

In accordance with Table A following, but no earlier than one year after valuation date, subject to early retirement provisions.

#### **Administrative Staff, Unionized Administrative Staff, Unionized Staff and Research Associates**

Age 63, subject to early retirement provisions

#### **Terminated Vested Participants**

Age 65½<sup>1</sup>.

Mortality Rates

1994 Uninsured Pensioner Mortality Table, with fully generational mortality improvements under Scale AA.

Withdrawal Rates

Table B following.

Disability Rates

None assumed.

Percentage With Spouse

86.7%; female spouse assumed to be 4 years younger than male spouse.

### **Economic Assumptions**

Increase in Consumer Price Index (CPI)

2.25% per annum (previous valuation used 2.50% per annum).

Cost-of-Living Adjustments

1.6875% per annum (75% of CPI) (previous valuation used 1.875% per annum).

Increase in CPP Maximum Salary

3.00% per annum (previous valuation used 3.50% per annum).

Increase in *Income Tax Act* Maximum Pension

\$2,696.67 in 2013; increasing by 3.00% per annum thereafter.

Increase in Salaries

4.25% per annum (previous valuation used 4.50% per annum). (2.25% CPI + 2.00% merit and promotion/progression).

Discount Rate

6.00% per annum (previous valuation used 6.25% per annum). (2.25% CPI + 3.75% real return, net of all fees).

Interest Rate on Participant Contributions

3.00% per annum.

Loading for Administrative Expenses

Implicit in investment return.

<sup>1</sup> Reflects that Normal Retirement Date is June 30<sup>th</sup> coincident with or following age 65

## Actuarial Assumptions (continued)

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### Going Concern Valuation (continued)

#### Methods

Valuation of Assets

The actuarial value of assets has been determined by writing up the prior year's actuarial value and net cash flow at the valuation interest rate and then adjusting the result 25% toward market value. The Actuarial Value of Assets is limited to 115% of the Market Value of Assets.

Actuarial Cost Method

Unit credit cost method.

**RPP (OISE) Actuarial Report (Excerpts)**

**Actuarial Report (Excerpts)**

University of Toronto (OISE) Pension Plan (RPP (OISE))

As of July 1, 2013

## Summary

Summary (Thousands of Dollars)	As of July 1, 2012	As of July 1, 2013
<b>Going Concern Valuation Results<sup>1</sup></b>		
<b>Past Service – Market Value of Assets</b>		
Market Value of Assets	\$ 76,493	\$ 82,293
Less: Accrued Liability	<u>117,768</u>	<u>116,018</u>
Surplus/(Unfunded Accrued Liability)	\$ (41,275)	\$ (33,725)
<b>Past Service – Actuarial Value of Assets</b>		
Actuarial Value of Assets	\$ 87,967 <sup>2</sup>	\$ 88,416
Less: Accrued Liability	<u>117,768</u>	<u>116,018</u>
Surplus/(Unfunded Accrued Liability)	\$ (29,801)	\$ (27,602)
<b>Current Service</b>		
Total Current Service Cost	\$ 1,550	\$ 1,417
Less: Required Participant Contributions <sup>3 4</sup>	<u>402</u>	<u>435</u>
University Current Service Cost	\$ 1,148	\$ 982
As a % of Participant Salary Base (Capped at \$150,000)	15.02%	14.39%
Participant Salary Base (Capped at \$150,000)	\$ 7,645	\$ 6,826

<sup>1</sup> On August 16, 2000, the Superintendent of Financial Services ordered that the Plan be wound-up in part in relation to participants who terminated employment between February 1996 and June 1996 under special voluntary retirement or severance programs in effect at that time. On June 23, 2005, a Partial Plan Wind-Up Report was filed with the Financial Services Commission of Ontario to determine the portion of assets allocable to the partial wind-up group as of June 30, 1996, and to update the assets allocable to the partial wind-up group to June 30, 2004. For valuations on or after July 1, 2005, the valuation results exclude assets and liabilities related to partial wind-up participants

<sup>2</sup> Actuarial value of assets capped at 115% of market value of assets

<sup>3</sup> Includes participant contributions made by University on behalf of disabled participants

<sup>4</sup> Does not include changes in Required Participant Contributions coming into effect after the valuation date

## Summary (continued)

(Thousands of Dollars)	As of July 1, 2012 <sup>1</sup>	As of July 1, 2013 <sup>1 2</sup>
<b>Funding Requirements</b>		
Required Participant Contributions	\$ 403	\$ 435
University Current Service Cost	\$ 1,105 <sup>3</sup>	\$ 976 <sup>4</sup>
Less: Permitted Application of Surplus	0	0
Plus: Special Payments to Amortize Unfunded Liability	3,100	3,100
Plus: Special Payments to Amortize Solvency Deficiency	<u>0</u>	<u>0</u>
Minimum Required University Contributions	\$ 4,205	\$ 4,076
<b>Solvency Valuation Results</b>		
Solvency Assets <sup>5</sup>	\$ 76,093	\$ 81,893
Solvency Liability—Without Escalated Adjustments	<u>139,177</u>	<u>130,788</u>
Solvency Excess/(Deficit)	\$ (63,084)	\$ (48,895)
Solvency Ratio	0.55	0.63
<b>Hypothetical Wind-Up Valuation Results</b>		
Wind-Up Assets <sup>5</sup>	\$ 76,093	\$ 81,893
Wind-Up Liability—With Escalated Adjustments	<u>178,218</u>	<u>176,287</u>
Wind-Up Excess/(Deficit)	\$ (102,125)	\$ (94,394)
Transfer Ratio	0.43	0.47

<sup>1</sup> Based on solvency relief granted February 16, 2012

<sup>2</sup> After change in actuarial assumptions

<sup>3</sup> 14.49% of Participant Salary Base (capped at \$150,000) in accordance with July 1, 2011 actuarial valuation

<sup>4</sup> 14.30% of Participant Salary Base (capped at \$150,000) in accordance with July 1, 2011 actuarial valuation

<sup>5</sup> Net of provision of \$400,000 for estimated wind-up expenses

## Summary (continued)

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	As of July 1, 2012	As of July 1, 2013
<b>Personnel Data</b>		
<b><i>Participants Not Affected by Partial Wind-Up</i></b>		
Active and Disabled Participants	73	64
Retired Participants	162	162
Terminated Vested Participants	21	22
Suspended/Pending Participants	<u>3</u>	<u>3</u>
Total	259	251

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## Assets and Liabilities

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### Going Concern Valuation Results (Thousands of Dollars)

The going concern valuation results are shown below with the Accrued Liability broken down by participant category:

#### Past Service

Actuarial Value of Assets	\$	88,416
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Less: Accrued Liability

Active and Disabled Participants	\$	39,366
Retired Participants		73,398
Terminated Vested Participants		2,978
Suspended Participants		<u>276</u>

Total		<u>\$ 116,018</u>
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Surplus (Unfunded Accrued Liability)	\$	(27,602)
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As a % of Accrued Liability	(23.8%)
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Market Value of Assets	\$	82,293
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Deferred Asset Gain (Loss)	\$	(6,123)
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#### Current Service

Total Current Service Cost	\$	1,417
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Less: Required Participant Contributions		<u>435<sup>1</sup></u>
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University Current Service Cost	\$	982
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As a % of Participant Salary Base (With \$150,000 Pay Cap)	14.39%
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Participant Salary Base (With \$150,000 Pay Cap)	\$	6,826
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As a % of Capped Participant Salary Base Under Assumed Retirement Age <sup>2</sup>	15.43%
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Capped Participant Salary Base Under Assumed Retirement Age	\$	6,367
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<sup>1</sup> Includes participant contributions made by University on behalf of disabled participants

<sup>2</sup> Excludes salary for members of the administrative staff, unionized administrative staff and unionized staff who are not included in Current Service Cost since they are over the assumed retirement age of age 63

## Assets and Liabilities (continued)

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### Solvency Valuation Sensitivity Results

The CIA practice-specific standards for pension plans require the disclosure of the impact on the Solvency Liability of using a discount rate 1.00% lower than that used for the Solvency Valuation. The table below shows both the impact of using a discount rate 1.00% lower than that used for the Solvency Valuation and the impact of using a discount rate 1.00% higher than that used for the Solvency Valuation.

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<b>Solvency Valuation Sensitivity Results</b>	<b>July 1, 2013 (000's)</b>
<b>Solvency Liability</b>	
Solvency Liability at solvency discount rates	\$ 130,788
Solvency Liability at solvency discount rates less 1.00%	\$ 145,842
Impact of 1.00% decrease in solvency discount rates	\$ 15,054
Percentage increase from 1.00% decrease in solvency discount rates	11.5%
Solvency Liability at solvency discount rates plus 1.00%	\$ 118,197
Impact of 1.00% increase in solvency discount rates	\$ 12,591
Percentage decrease from 1.00% increase in solvency discount rates	9.6%

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### Solvency Valuation Incremental Cost

The CIA practice-specific standards for pension plans also require the calculation of the incremental cost on a solvency basis. This represents the present value at July 1, 2013 of the expected aggregate change in the Solvency Liability between July 1, 2013 and June 30, 2014, the date of the next required valuation. The Actuarial Assumptions section of this report provides more detail regarding the calculation methodology and assumptions. An educational note was published in December 2010 by the Canadian Institute of Actuaries to provide guidance to actuaries for this calculation.

The main purpose of this new disclosure requirement is to provide insight regarding the expected growth in the Solvency Liability, assuming there will be no change in applicable discount rates. This disclosure requirement is more useful when combined with the expected return on Plan assets and comparing this net amount with the total current service cost contributions and special payments expected to be paid into the fund between those dates.

Based on this methodology and on these assumptions, the incremental cost on a solvency basis for the period from July 1, 2013 to June 30, 2014 is estimated to be \$1,535,000.

## Experience

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### **Reconciliation of Going Concern Surplus/(Deficit) (Thousands of Dollars)**

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	<b>2012/2013</b>
Surplus/(Unfunded Liability) at Beginning of Year	\$ (29,801)
Less: University Current Service Cost	1,147
Plus: University Current Service Cost Contributions	1,147
Plus: University Special Payments	3,100
Plus: Interest at 6.25% per annum	(1,768)
Plus: Expected Recognition of the July 1, 2012 Deferred Asset Gain/(Loss)	<u>(3,049)</u>
Equals: Expected Surplus/(Unfunded Liability) at End of Year, Before Experience Gains/(Losses)	\$ (31,518)
Plus: Increase/(Decrease) Due to: Gains/(Losses):	
Return on Assets	1,007
Indexation of Benefits	1,039
Increase in Salaries	122
Increase in <i>Income Tax Act</i> Maximum Pension	375
Termination Experience	215
Retirement Experience	597
Mortality Experience	460
All Other Sources	<u>530</u>
Equals: Surplus/(Unfunded Liability) at End of Year, Before Changes in Assumptions/Methods	\$ (27,173)
Plus: Increase/Decrease Due to Changes in Actuarial Assumptions	(429)
Equals: Surplus/(Unfunded Accrued Liability) at End of Year	\$ (27,602)

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## Experience (continued)

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### Comments Regarding Experience from July 1, 2012 to July 1, 2013

#### Return on Assets

The total return after expenses based on the actual market value of assets after allowing for the full amount of capital appreciation during the year, assuming contributions and benefit payments take place in the middle of the year, was 12.0%. The assumed rate of return for actuarial valuation purposes was 6.25% per annum resulting in a gain of \$4,028,000 on a market value basis. The gain on the actuarial value of assets (net of the expected recognition of the July 1, 2012 deferred asset gain/(loss)) is equal to 25% of the gain on the market value of assets, or \$1,007,000.

#### Indexation of Benefits

Benefit entitlements for retired and terminated vested participants were increased by 0.62% at July 1, 2013 under the 75% of CPI indexing provision (and corresponding higher percentages for retirees under one of the pre-integration provisions). The increases were less than the 1.875% increase anticipated under the actuarial assumptions, resulting in an actuarial gain of \$1,039,000.

#### Increase in Salaries

The assumed salary increase used for the July 1, 2012 actuarial valuation was 4.5% per year. Actual salary increases varied by staff group, but on average were lower than assumed resulting in an actuarial gain of \$122,000.

#### Income Tax Act Maximum Pension

The increase in the *Income Tax Act Maximum Pension* from 2012 to 2013 was 1.9%. This was lower than the expected 3.5%, resulting in an actuarial gain of \$375,000.

#### Termination Experience

Termination experience since July 1, 2012 was higher than expected under the valuation assumptions. This resulted in an actuarial gain of \$215,000.

#### Retirement Experience

The age at which members retired since July 1, 2012 was later than expected under the valuation assumptions. This resulted in an actuarial gain of \$597,000.

#### Mortality Experience

Mortality rates since July 1, 2012 were higher than expected under the valuation assumptions. This resulted in an actuarial gain of \$460,000.

#### All Other Sources

Other factors such as personnel changes and data adjustments, etc., deviated from expected, resulting in a net actuarial gain of \$530,000.

#### Change in Economic Assumptions

The following changes in economic assumptions were made as of July 1, 2013:

- The Increase in CPI was reduced from 2.50% per annum to 2.25% per annum
- The Increase in CPP Maximum Salary and Increase in ITA Maximum Pension were reduced from 3.50% per annum to 3.00% per annum
- The Increase in Salaries was reduced from 4.50% per annum to 4.25% per annum
- The Discount Rate was reduced from 6.25% per annum to 6.00% per annum

These changes in aggregate increased the going concern liabilities by \$429,000, and the total current service cost by \$1,000.

**SRA Actuarial Report (Excerpts)**

**Actuarial Report (Excerpts)**

Supplemental Retirement Arrangement

As of July 1, 2013

## Valuation Results

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The going concern actuarial valuation of the SRA is prepared based on the same actuarial assumptions and methods used for the actuarial valuation of the Registered Pension Plan.

(Thousands of Dollars)	As of July 1, 2012	As of July 1, 2013
<b>Going Concern Valuation Results</b>		
<b><i>Past Service</i><sup>1</sup></b>		
Accrued Liability for SRA		
Active Participants	\$ 5,138	\$ 1,742
Retired Participants	<u>130,049</u>	<u>131,188</u>
Total	\$ 135,187	\$ 132,930
<b><i>Current Service</i></b>		
Current Service Cost for SRA	\$ 147	\$ 41
As a % of Participant Salary Base (With \$150,000 Pay Cap)	0.02%	0.005%
Participant Salary Base	\$ 771,669	\$ 796,022

For financial accounting purposes, the University from time to time appropriates funds which are set aside as a "fund for specific purpose" in respect of the obligations under the SRA. The assets in this fund are \$113,656,577 as of June 30, 2013. In accordance with an Advance Income Tax Ruling which the University has received, such assets do not constitute trust property, are available to satisfy University creditors, may be applied to any other purpose that the University may determine from time to time, are commingled with other assets of the University, and are not subject to the direct claim of any members.

<sup>1</sup> Includes participants in both the University of Toronto Pension Plan and University of Toronto (OISE) Pension Plan