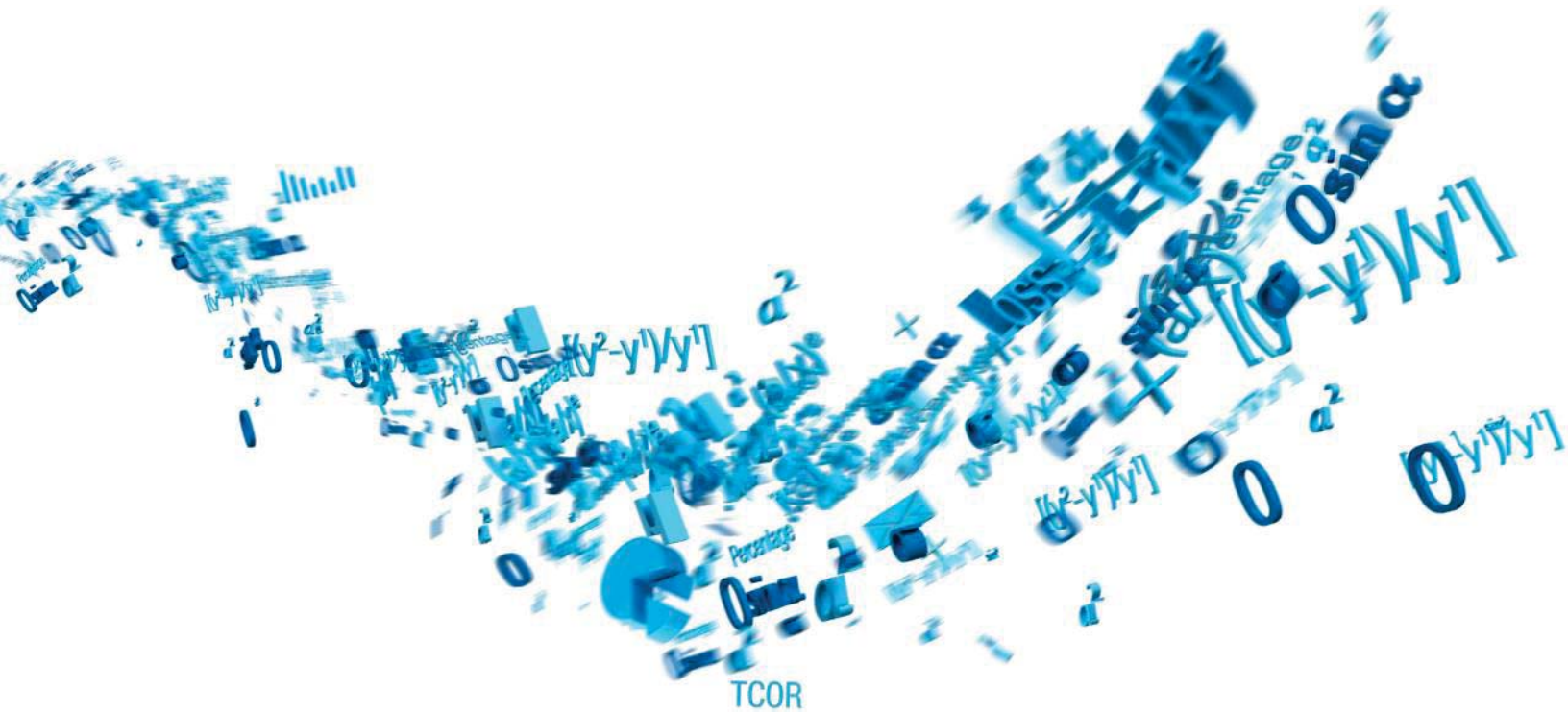
Appendix A






# Actuarial Valuation as at July 1, 2015 for University of Toronto Pension Plan

Regulatory Registration Number: 0312827

November 2015

# Table of Contents

# Executive Summary

An actuarial valuation has been prepared for the University of Toronto Pension Plan (the "Plan") as at July 1, 2015, reflecting the transfer of assets from University of Toronto (OISE) Pension Plan to the University of Toronto Pension Plan as of July 1, 2014. This valuation is not intended to be filed with the regulators. This section provides an overview of the important results and the key valuation assumptions which have had a bearing on these results. The next actuarial valuation for the purposes of developing funding requirements should be performed no later than as at July 1, 2017.

## Summary of Principal Results

### Financial Position

| **July 1, 2015** | **Going Concern** | **Solvency** | **Hypothetical Wind Up** |
|---|---|---|---|
| Assets | $ 4,073,393,000 | $ 4,071,993,000[1] | $ 4,071,993,000[1] |
| Liabilities | 4,519,352,000 | 5,173,983,000 | 7,051,797,000 |
| **Surplus/(Deficit)** | **$ (445,959,000)** | **$ (1,101,990,000)** | **$ (2,979,804,000)** |

| **July 1, 2014** | **Going Concern** | **Solvency** | **Hypothetical Wind Up** |
|---|---|---|---|
| Assets | $ 3,618,779,000 | $ 3,617,379,000[1] | $ 3,617,379,000[1] |
| Liabilities | 4,348,240,000 | 4,672,319,000 | 6,428,464,000 |
| **Surplus/(Deficit)** | **$ (729,461,000)** | **$ (1,054,940,000)** | **$ (2,811,085,000)** |

### Legislative Ratios

| | **July 1, 2015** | **July 1, 2014** |
|---|---|---|
| Solvency ratio | 0.79 | 0.77 |
| Transfer ratio | 0.58 | 0.56 |

[1] Net of estimated wind up expenses

## Contribution Requirements

Considering the funding and solvency status of the Plan, the University and member contributions with effect for the first plan year following July 1, 2015, and those at July 1, 2014, both of which are within the range of minimum and maximum contribution amounts as outlined in Section 5 and in accordance with legislative requirements are as follows:

| | July 1, 2015[1] | July 1, 2014 |
|---|---|---|
| **Required Member Contributions** | **$ 59,769,000** | **$ 57,973,000** |
| University current service cost | $ 101,658,000 | $ 98,604,000 |
| Special payments[2] | 78,660,000 | 66,612,000 |
| **Total University Contribution** | **$ 180,318,000** | **$ 165,216,000** |

## Key Assumptions

The principal assumptions to which the valuation results are most sensitive are outlined in the following tables.

### Going Concern Assumptions

| | July 1, 2015 | July 1, 2014 |
|---|---|---|
| Cost-of-living adjustment | 1.50% per year | Same |
| Discount rate | 5.75% per year | Same |
| Pensionable earnings | 4.00% per year | Same |
| CPP maximum salary | 2.75% per year | Same |
| Maximum pension limit | 2.75% per year | Same |
| Mortality table | 2014 Canadian Public Sector Pensioners' Mortality Table combined with mortality improvement scale CPM-B | Same |
| Retirement rates | Age-related table | Same |

[1] Based on July 1, 2014 actuarial valuation, the July 1, 2015 valuation is not required to be filed with Financial Services Commission of Ontario

[2] In accordance with Section 9(4) of Regulation 178/1, the University has elected the three-year deferral/seven-year amortization option with one-year deferral of the going concern and solvency special payments

## Solvency Assumptions

| | July 1, 2015 | July 1, 2014 |
|---|---|---|
| Discount rate | Annuity purchases: 2.60% per year<br>Transfers: 2.30% per year for 10 years; 3.80% per year thereafter | Annuity purchases: 3.10% per year<br>Transfers: 2.80% per year for 10 year; 4.20% per year thereafter |
| Mortality table | 1994 Uninsured Pensioner Mortality Table with generational improvements using Scale AA | Same |
| Retirement rates | Age that provides the highest lump-sum value | Same |

# Section 1: Introduction

## Purpose and Terms of Engagement

We have been engaged by University of Toronto, and hereafter referred to as the "University", to conduct an actuarial valuation of the Plan, registered in Ontario, as at July 1, 2015 for the general purpose of determining the minimum and maximum funding contributions required by pension standards, based on the actuarial assumptions and methods summarized herein. This valuation is not intended to be filed with the regulators. More specifically, the purposes of the valuation are to:

- Determine the financial position of the Plan on a going concern basis as at July 1, 2015;
- Determine the financial position of the Plan as at July 1, 2015 on a solvency and hypothetical wind up basis; and
- Determine the funding requirements of the Plan as at July 1, 2015 based on the actuarial valuation as of July 1, 2014.

The intended users of this report are the University, the committee involved in the governance of the Plan, and the associations and unions representing Plan members. The results of this report may not be appropriate for accounting purposes or any other purposes not listed above.

The next required valuation will be as at July 1, 2017.

## Stage Two Solvency Funding Relief

On December 15, 2014, the University submitted an application for the Plan to participate in Stage Two of the solvency relief measures applicable to broader public sector pension plans. In 2015, the Plan was accepted into Stage Two through Amended Ontario Regulation 178/11.

In accordance with Section 9(4) of the Ontario Regulation 178/11, the University has made an election to liquidate the solvency deficiency determined in the July 1, 2014 report(s) using the three-year deferral/ seven-year amortization option.

## Transfer of Plan Assets

On June 2, 2015, the University submitted an application to the Ontario Superintendent of Financial Services to seek approval to transfer the assets and liabilities of the University of Toronto (OISE) Pension Plan to the University of Toronto Pension Plan with effect from July 1, 2014.

The funded status and contribution information shown in this report reflected the impact of the asset transfer as of July 1, 2014.

# Summary of Changes Since the Last Valuation

The last such actuarial valuation in respect of the Plan was performed as at July 1, 2014. Since the time of the last valuation, we note that the following events have occurred:

- The funded status and contribution information shown in this report reflected the impact of the aforementioned asset transfer as of July 1, 2014.
- The Canadian Institute of Actuaries ("CIA") made revisions to the guidance for assumptions for hypothetical wind up and solvency valuations effective June 30, 2013. The key changes to the guidance are:
  - The cost of purchasing non-indexed annuities are estimated using the duration of the liabilities expected to be settled through the purchase of annuities; and
  - The cost of purchase annuities that are fully indexed to the Consumer Price Index increases are estimated using a discount rate less than the yield on Government of Canada real-return long-term bonds.

# University Information and Inputs

In order to prepare our valuation, we have relied upon the following information:

- A copy of the previous valuation report as at July 1, 2014;
- Membership data compiled as at July 1, 2015 by the University;
- Asset data taken from the Plan's audited financial statements as at June 30, 2015; and
- A copy of the latest Plan text and amendments up to and including July 1, 2015.

Furthermore, our actuarial assumptions and methods have been chosen to reflect our understanding of the University's desired funding objectives with due respect to accepted actuarial practice and regulatory constraints.

# Subsequent Events

As of the date of this report, we have not been made aware of any subsequent events which would have an effect on the results of this valuation. However, the following points should be noted in this regard:

- The Actuarial Standards Board ("ASB") issued its Initial Communication of a Promulgation of the Mortality Table Referenced in the Standards of Practice for Pension Plans (Subsection 3530) late in 2014. It is expected that effective October 1, 2015, the mortality table used in the calculation of commuted values will be updated. The ASB is proposing to promulgate the use of the mortality rates underlying the 2014 Canadian Pensioner Combined Mortality Table with the mortality Improvement Scale CPM-B for calculations, effective October 1, 2015. The impact of this change will be reflected in the next actuarial valuation.
- Actual experience deviating from expected after July 1, 2015 will result in gains or losses which will be reflected in the next actuarial valuation report.
- To the best of our knowledge, the results contained in this report are based on the regulatory and legal environment in effect at the date of this report and do not take into consideration any potential changes that may be currently under review. To the extent that actual changes in the regulatory and legal environment transpire, any financial impact on the Plan as a result of such changes will be reflected in future valuations.

# Actuarial Certification

For the purposes of this valuation, it is our opinion that:

- The data upon which the valuation is based are sufficient and reliable;
- The assumptions used are appropriate; emerging experience differing from the assumptions will result in gains or losses which will be revealed in subsequent valuations; and
- The actuarial cost methods and the asset valuation methods used are appropriate.

This report and its associate work have been prepared, and our opinions given, in accordance with accepted actuarial practice in Canada.

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November 2015

# Section 2: Going Concern Valuation Results

## Going Concern Financial Position of the Plan

The going concern valuation provides an assessment of the Plan's financial position at the valuation date on the premise that the Plan continues on into the future indefinitely.

The selection of the applicable actuarial assumptions and methods reflect the Plan's funding objectives, as communicated by the University, actuarial standards of practice, and pension standards.

On the basis of the Plan provisions, membership data, going concern assumptions and methods, and asset information described in the Appendices, the going concern financial position of the Plan as at July 1, 2015 is shown in the following table. The results as at July 1, 2014 are also shown for comparison purposes.

## Going Concern Financial Position

| | July 1, 2015 | July 1, 2014 |
|---|---|---|
| **Actuarial Value of Assets** | **$ 4,073,393,000** | **$ 3,618,779,000** |
| **Going Concern Liabilities** | | |
| Active and LTD members | $ 2,209,567,000 | $ 2,114,963,000 |
| Retirees and spouses | 2,131,983,000 | 2,072,888,000 |
| Deferred vested members | 172,988,000 | 155,301,000 |
| Pending/suspended/exempt members | 4,814,000 | 5,088,000 |
| **Total Liabilities** | **$ 4,519,352,000** | **$ 4,348,240,000** |
| **Going Concern Position** | **$ (445,959,000)** | **$ (729,461,000)** |
| Prior year credit balance | 0 | 0 |
| **Surplus/(Unfunded Liability)** | **$ (445,959,000)** | **$ (729,461,000)** |

On the basis of the Plan provisions, membership data, going concern assumptions and methods and asset information described in the Appendices, the going concern current service cost of the Plan as at July 1, 2015 is shown in the following table. The current service cost as at July 1, 2014 is also shown for comparison purposes.

## Going Concern Current Service Cost

| | July 1, 2015 | July 1, 2014 |
|---|---|---|
| **Current Service Cost** | | |
| Total current service cost | $ 162,526,000 | $ 156,577,000 |
| Required member contributions[1] | (59,672,000) | (57,973,000) |
| **University Current Service Cost** | **$ 102,854,000** | **$ 98,604,000** |
| Total pensionable earnings capped at $150,000 (in year following valuation date) | $ 846,371,000 | $ 820,945,000 |
| Total pensionable earnings under assumed retirement age, capped at $150,000[2] (in year following valuation date) | $ 808,133,000 | $ 785,090,000 |
| **University Current Service Cost** | | |
| As a % of total pensionable earnings capped at $150,000 | 12.15% | 12.01% |
| As a % of total pensionable earnings under assumed retirement age, capped at $150,000[2] | 12.73% | 12.56% |

[1] Includes member contributions made by University on behalf of LTD members
[2] Excludes salary for the administrative staff, unionized administrative staff, unionized staff and research associates who are not included in current service cost since they are over the assumed retirement age of 63

# Change in Financial Position

During the period from July 1, 2014 to July 1, 2015, the going concern financial position of the Plan changed from an unfunded liability of $729,461,000 to an unfunded liability of $445,959,000. The major components of this change are summarized in the following table.

**Reconciliation of the Going Concern Financial Position for the Period from July 1, 2014 to July 1, 2015**

| | | |
|---|---|---|
| **Surplus/(Unfunded Liability) as at July 1, 2014** | **$** | **(729,461,000)** |
| University special payments in inter-valuation period | | 66,612,000 |
| Expected interest on surplus/(unfunded liability) and special payments | | (40,056,000) |
| **Expected Surplus/(Unfunded Liability) as at July 1, 2015** | **$** | **(702,905,000)** |
| Change in liabilities due to experience gains/(losses) | | |
| Gain/(loss) from investment earnings greater than expected | | 220,064,000 |
| Gain/(loss) due to salary increases lower than expected | | 20,944,000 |
| Gain/(loss) on *Income Tax Act* maximum pension | | 9,479,000 |
| Gain/(loss) due to indexation of benefit | | 9,058,000 |
| Gain/(loss) due to retirement experience | | 2,253,000 |
| Gain/(loss) due to mortality experience | | (1,639,000) |
| Gain/(loss) due to termination experience | | 886,000 |
| Gain/(loss) on new entrants/transfer-in | | (2,252,000) |
| Gain/(loss) on all other sources | | (1,847,000) |
| **Surplus/(Unfunded Liability) After Experience Gains/(Losses) as at July 1, 2015** | **$** | **(445,959,000)** |
| Change due to change in assumptions | | 0 |
| Change due to plan amendments | | 0 |
| **Surplus/(Unfunded Liability) as at July 1, 2015** | **$** | **(445,959,000)** |

# Going Concern Valuation Sensitivity Results

In accordance with the CIA Standards of Practice specific to pension plans that became effective December 31, 2010, the table below presents the sensitivity of the going concern liabilities and the total current service cost of using a discount rate 1% lower than that used for the going concern valuation.

| | Valuation Basis July 1, 2015 | Based on Rate of 1% Lower | Effect $ | Effect % |
|---|---|---|---|---|
| Going concern liabilities | $ 4,519,352,000 | $ 5,249,081,000 | $ 729,729,000 | 16.1% |
| Current service cost | $ 162,526,000 | $ 205,768,000 | $ 43,242,000 | 26.6% |

Note that using a discount rate 1% higher than that assumed would result in a comparable reduction in the Plan's going concern liabilities and current service cost.

# Section 3: Solvency Valuation Results

## Solvency Financial Position of the Plan

The solvency valuation is a financial assessment of the Plan that is required by the *Pension Benefits Act* and is performed in accordance with requirements prescribed by that legislation. It is intended to provide an assessment of the Plan's financial position at the valuation date on the premise that certain obligations as prescribed by the *Pension Benefits Act* are settled on the valuation date for all members.

On the basis of the Plan provisions, membership data, solvency assumptions and methods and asset information described in the Appendices, as well as the requirements of the *Pension Benefits Act*, the solvency financial position of the Plan as at July 1, 2015 is shown in the following table. The solvency financial position of the Plan as at July 1, 2014 is shown for comparison purposes.

## Solvency Financial Position

| | July 1, 2015 | July 1, 2014 |
|---|---|---|
| **Assets** | | |
| Solvency assets | $ 4,073,393,000 | $ 3,618,779,000 |
| Estimated wind up expenses | (1,400,000) | (1,400,000) |
| **Total Assets** | **$ 4,071,993,000** | **$ 3,617,379,000** |
| **Solvency Liabilities** | | |
| Active and LTD members | $ 2,630,242,000 | $ 2,329,269,000 |
| Retirees and spouses | 2,310,178,000 | 2,152,652,000 |
| Deferred vested members | 228,749,000 | 185,310,000 |
| Pending/suspended/exempt members | 4,814,000 | 5,088,000 |
| **Total Liabilities** | **$ 5,173,983,000** | **$ 4,672,319,000** |
| **Solvency Position** | **$ (1,101,990,000)** | **$ (1,054,940,000)** |
| Prior year credit balance | 0 | 0 |
| Solvency asset adjustment | | |
| Present value of special payments | 1,104,270,000 | 624,765,000 |
| Solvency liability adjustment | 0 | 0 |
| **Solvency Surplus/(Deficiency)** | **$ 2,280,000** | **$ (430,175,000)** |
| Solvency ratio | 0.79 | 0.77 |

# Solvency Asset Adjustment

The present value of scheduled special payments for solvency valuation purposes has been calculated by discounting the annual special payments, established based on July 1, 2014 actuarial valuation report, to be remitted up to the end of their amortization period (to a maximum of six years, except for streams established under Stage Two solvency funding relief), at the solvency discount rate of 2.54% per year compounded monthly in arrears determined proportionately by the solvency discount rates used to settle the solvency liabilities.

| Nature of Deficiency | Effective Date | End Date | Annual Special Payment | Present Value as of July 1, 2015 |
|---|---|---|---|---|
| Going concern | July 1, 2012 | June 30, 2027 | $ 66,612,000 | $ 639,591,000 |
| Going concern | July 1, 2015 | June 30, 2030 | $ 12,048,000 | 115,682,000 |
| Solvency[1] | July 1, 2018 | June 30, 2025 | $ 58,680,000 | 348,997,000 |
| **Present Value of Special Payments** | | | | **$ 1,104,270,000** |

[1] In accordance with Section 9(4) of Regulation 178/1, the University has elected the three-year deferral/seven-year amortization option with one-year deferral of the going concern and solvency special payments

# Solvency Valuation Sensitivity Results

In accordance with the CIA Standards of Practice specific to pension plans that became effective December 31, 2010, the table below presents the sensitivity of the solvency liabilities to using a discount rate of 1% lower than that used for the solvency valuation.

| | Valuation Basis July 1, 2015 | Based on Rate of 1% Lower | Effect $ | Effect % |
|---|---|---|---|---|
| Solvency liabilities | $ 5,173,983,000 | $ 5,963,218,000 | $ 789,235,000 | 15.3% |

Note that using a discount rate 1% higher than that assumed would result in a comparable reduction in the solvency liabilities.

# Incremental Cost on a Solvency Basis

The incremental cost on a solvency basis represents the present value at July 1, 2015 of the expected aggregate change in the solvency liabilities between July 1, 2015 and the next calculation date, which is July 1, 2017. Appendix E gives more details on the calculation methodology and on assumptions.

Based on this methodology and on these assumptions, the incremental cost on a solvency basis, for the period from July 1, 2015 to July 1, 2017, is summarized in the table below.

| | 2015/2016 | 2016/2017 |
|---|---|---|
| Incremental cost on a solvency basis | $ 162,051,000 | $ 235,037,000 |

# Section 4: Hypothetical Wind Up Valuation Results

## Hypothetical Wind Up Financial Position of the Plan

A hypothetical wind up valuation is performed to determine the financial position of the Plan as at the valuation date on a wind up basis, reflecting market settlement rates as of the valuation date. Unlike the solvency valuation, all benefits are included that would be payable under the postulated scenario that would maximize benefits. The hypothetical wind up valuation is determined using benefit entitlements on the assumption that the Plan has neither a surplus nor a deficit. Contingent benefits are included in the liabilities that would be payable under the postulated scenario. Assets are set equal to market value net of estimated wind up expenses. All assumptions for the hypothetical wind up valuation are listed in Appendix E of the report.

On the basis of Plan provisions, membership data, hypothetical wind up assumptions and methods, and asset information described in the Appendices, as well as the requirements of the *Pension Benefits Act*, the hypothetical wind up financial position of the Plan as at July 1, 2015 is shown in the following table. The hypothetical wind up financial position of the Plan as at July 1, 2014 is shown for comparison purposes.

## Hypothetical Wind Up Financial Position

| | July 1, 2015 | July 1, 2014 |
|---|---|---|
| **Assets** | | |
| Hypothetical wind up assets | $ 4,073,393,000 | $ 3,618,779,000 |
| Estimated wind up expenses | (1,400,000) | (1,400,000) |
| **Total Assets** | **$ 4,071,993,000** | **$ 3,617,379,000** |
| **Hypothetical Wind Up Liabilities** | | |
| Active and LTD members | $ 3,694,686,000 | $ 3,331,221,000 |
| Retirees and spouses | 2,940,287,000 | 2,752,703,000 |
| Deferred vested members | 412,010,000 | 339,452,000 |
| Pending/suspended/exempt members | 4,814,000 | 5,088,000 |
| **Total Liabilities** | **$ 7,051,797,000** | **$ 6,428,464,000** |
| **Hypothetical Wind Up Surplus/(Deficiency)** | **$ (2,979,804,000)** | **$ (2,811,085,000)** |

# Transfer Ratio

The transfer ratio is determined as follows:

| | | | **July 1, 2015** |
|---|---|---|---|
| (1) | Hypothetical wind up assets | | $ 4,073,393,000 |
| | Prior year credit balance | (A) | $ 0 |
| | Total University current service cost and required special payments until next mandated valuation | (B) | $ 364,702,000 |
| (2) | Asset adjustment | Lesser of (A) and (B) | $ 0 |
| (3) | Hypothetical wind up liabilities | | $ 7,051,797,000 |
| **Transfer Ratio [(1)-(2)] / (3)** | | | **0.58** |

# Section 5: Contribution Requirements

## Contribution Requirements in Respect of the Current Service Cost

The annual going concern cost of benefits in respect of service accruing after the valuation date is known as the current service cost. The following table sets out:

- The development of the rule to determine the current service cost until the next actuarial funding range in accordance with legislative requirements is certified;
- An estimate of the current service cost for the two years following the valuation date; and
- The portion of the going concern current service cost that is to be paid by the members.

Since this valuation is not required to be filed with Financial Services Commission of Ontario, the Minimum Required University Contribution is based on the July 1, 2014 actuarial valuation.

| | **July 1, 2015 to June 30, 2016** | **July 1, 2016 to June 30, 2017** |
|---|---|---|
| **Current Service Cost** | | |
| Total current service cost | $ 161,427,000 | $ 167,884,000 |
| Required member contributions[1] | (59,769,000) | (62,160,000) |
| **University Current Service Cost** | **$ 101,658,000** | **$ 105,724,000** |
| Total pensionable earnings capped at $150,000 (in year following valuation date) | $ 846,371,000 | $ 880,226,000 |
| **University Current Service Cost** | | |
| As a % of total pensionable earnings capped at $150,000 | 12.01% | 12.01% |

In the event an updated funding range in accordance with legislative requirements is not certified before July 1, 2017, the rule for determining the University current service cost contributions outlined in the July 1, 2014 actuarial valuation will continue to be appropriate for the plan year commencing on the next valuation date of July 1, 2017. Adjustment to the University contributions may be required once the next actuarial funding range in accordance with legislative requirements is certified.

[1] Includes member contributions made by University on behalf of LTD members

# Development of Special Payments

Since this valuation is not required to be filed with Financial Services Commission of Ontario, the minimum required University contribution is based on the July 1, 2014 actuarial valuation.

The following table summarizes the amortization schedules of special payments established based on the July 1, 2014 actuarial valuation, after application of the Stage Two solvency relief funding measures under the three-year deferral/seven-year amortization option, which the University has elected.

| | | | | Present Value as of July 1, 2015 | |
|---|---|---|---|---|---|
| **Nature of Deficiency** | **Effective Date** | **Revised End Date** | **Revised Annual Special Payment** | **For Going Concern Valuation** | **For Solvency Valuation** |
| Going concern | July 1, 2012 | June 30, 2027 | $ 66,612,000 | $ 580,970,000 | $ 639,591,000 |
| Going concern[1] | July 1, 2015 | June 30, 2030 | 12,048,000 | 122,052,000 | 115,682,000 |
| Solvency[1] | July 1, 2018 | June 30, 2025 | 58,680,000 | n/a | 348,997,000 |
| | | | $ 137,340,000 | $ 703,022,000 | $ 1,104,270,000 |

# Prior Year Credit Balance ("PYCB")

The PYCB is $0 as at July 1, 2015.

[1] In accordance with Section 9(4) of Regulation 178/1, the University has elected the three-year deferral/seven-year amortization option with one-year deferral of the going concern and solvency special payments

# Development of Minimum Required University Contribution

Since this valuation is not required to be filed with Financial Services Commission of Ontario, the minimum required University contribution is based on the July 1, 2014 actuarial valuation.

The table below presents the development of the minimum required university contribution for each of the plan years covered by this report.

While we have shown a fixed university current service cost in the table below, the University may actually fund the current service cost per member accruing service.

| | **July 1, 2015 to June 30, 2016** | **July 1, 2016 to June 30, 2017** |
|---|---|---|
| University current service cost | $ 101,658,000 | $ 105,724,000 |
| Special payments toward amortizing unfunded liability | 78,660,000 | 78,660,000 |
| Special payments toward amortizing solvency deficiency | 0 | 0 |
| **Minimum Required University Contribution, Prior to Application of Prior Year Credit Balance** | **$ 180,318,000** | **$ 184,384,000** |
| Permitted application of prior year credit balance | 0 | 0 |
| **Minimum Required University Contribution** | **$ 180,318,000** | **$ 184,384,000** |

# Development of Maximum Eligible University Contribution

The maximum eligible University contribution is determined according to the July 1, 2014 actuarial valuation filed with Canada Revenue Agency.

# Appendix A: Glossary of Terms

- The **actuarial value of assets** is the asset value used for going concern valuation purposes. Smoothing methods are sometimes used to smooth investment gains and losses over a certain period.
- The **estimated wind up expenses** is an estimate of the administrative and other expenses expected to be charged against the pension fund if the Plan were to terminate on the valuation date.
- The **going concern liabilities** are the actuarial present value of benefits earned in respect of service prior to the valuation date. The actuary may choose to omit indexing liabilities (i.e., "escalated adjustments") from the going concern liabilities as per Section 11(1) of the *Pension Benefits Act*. However, if escalated adjustments are omitted from the going concern liabilities, the amount of payment of an escalated adjustment that is made from the pension fund, to the extent that it has not been funded, must be included in the current service cost pursuant to Section 11(2) of the Regulation to the *Pension Benefits Act*. The going concern liabilities are calculated using the going concern assumptions and methods summarized in Appendix D of this report.
- The **going concern position** is the difference between the actuarial value of assets and the going concern liabilities. Escalated adjustments may be omitted from the determination of the surplus/(unfunded liability) pursuant to Section 11(3) of the Regulation to the *Pension Benefits Act*.
- The **maximum eligible University contribution** refers to an eligible contribution pursuant to Section 147.2(2) of the *Income Tax Act*. Under Subsection 8502(b) of the Regulations to the *Income Tax Act*, each University contribution made after January 1, 1991 in respect of a defined benefit provision of a registered pension plan must be such eligible contribution.

  In a University's fiscal year, the following contributions are eligible under Section 147.2(2) of the *Income Tax Act*.

  – The University current service cost, eligible under Section 147.2(2) subject to certification by the actuary and approval by the Canada Revenue Agency; plus

  – Special payments eligible under Section 147.2(2) up to the amount of the unfunded liability, the solvency deficiency, or the hypothetical wind up deficiency, whichever is greater, subject to certification by the actuary and approval by the Canada Revenue Agency; less

  – Required application of excess surplus.

  The University current service cost and special payments for this Plan will be deductible under Section 147.2(2) of the *Income Tax Act*, subject to the approval of the Canada Revenue Agency.

  Note that contributions to a plan are still permissible and deductible if there is an excess surplus, providing there is simultaneously a solvency or hypothetical wind up deficiency in the Plan or the contributions are required as minimum contributions under provincial or federal *Pension Benefits Standards Act* legislation, pursuant to Subsections 8516(2) and (3) of the Regulations to the Income *Tax Act*.

One restriction under the *Income Tax Act* is that if there is an excess surplus, and a solvency or hypothetical wind up deficiency, the maximum eligible contribution is restricted to the full amount of the deficiency without allowance for interest or any other contributions such as University current service cost and/or transfer deficiency payments.

In order to be eligible in a given fiscal year, University contributions must be made no later than 120 days after the end of the fiscal year.

- The **minimum required University contribution** for each plan year is equal to:
  - The University current service cost; plus
  - Special payments toward amortizing any unfunded liability over 15 years beginning no later than 12 months from the date on which the unfunded liability was established; plus
  - Special payments toward amortizing any solvency deficiency over five years beginning no later than 12 months from the date on which the solvency deficiency was established (this period of years may be longer if the University has participated in Stage Two solvency funding relief); less
  - Required application of excess surplus; less
  - Permitted application of surplus; less
  - Permitted application of PYCB.

  In order to satisfy the requirements of the *Pension Benefits Act* and its Regulations, contributions to the fund must be made in accordance with the following rules:
  - Required member contributions (if any) must be remitted to the pension fund within 30 days following the month in which the contributions were received from the member or deducted from his or her remuneration.
  - University current service cost contributions must be remitted to the pension fund within 30 days after the end of the month for which the contributions are payable.
  - Special payments must be remitted to the pension fund in the month for which they are payable.
- The **prior year credit balance** is
  - The PYCB stated in the last report in respect of the Plan under the Regulation; plus
  - The total amount of contributions made to the Plan by the University after the valuation date of the last report in respect of the Plan and before the valuation date for the report being prepared; less
  - The total minimum amount of contributions required to have been made after the valuation date of the last report in respect of the Plan and before the valuation date for the report being prepared, if the contributions had been calculated without reference to any PYCB.

  The University may choose to set the PYCB between nil and the amount as calculated above, but may not recapture the amount forfeited at any time.
- **Solvency/Hypothetical wind up assets** are the market value of pension fund assets adjusted to reflect contributions, benefit payments, transfers and fees/expenses in-transit at the valuation date.
- The **solvency asset adjustment** is an adjustment that may be made to the solvency assets to reflect:
  - The impact of using an averaging method that stabilizes short-term fluctuations in the market value of the Plan's assets calculated over a period of not more than five years; plus

  - The present value of any remaining special payments required to liquidate any unfunded liability (for service not previously recognized for benefit determination purposes) established after December 31, 1987; plus
  - The present value of any remaining special payments other than those above that are scheduled for payment within six years after the valuation date. This period of years may be longer if the University has participated in Stage Two solvency funding relief.

- The **solvency liabilities** are the actuarial present value of benefits earned in respect of service prior to the valuation date determined as if the Plan were wound up on the valuation date and taking into account Section 74 of the *Pension Benefits Act* (i.e., grow-in). In calculating the solvency liabilities, which includes plant closure benefits or permanent layoff benefits that would be immediately payable if the Plan sponsor's business was discontinued on the valuation date, the *Pension Benefits Act* and its Regulations permit the exclusion of the following benefits:
  - Any escalated adjustments;
  - "Excluded plant closure benefits" that the University elected on November 26, 1992 to exclude;
  - "Excluded permanent layoff benefits" that the University elected on November 26, 1992 to exclude;
  - Special allowances other than those where the member has met all age and service eligibility requirements;
  - Consent benefits other than those where the member has met all eligibility requirements except the consent of the employer, or in the case of a jointly sponsored pension plan, the consent of the employer or the administrator;
  - Prospective benefit increases;
  - Potential early retirement window benefit values; and
  - Pension and ancillary benefits payable under a qualifying annuity contract.

  The solvency liabilities are determined using benefit entitlements on the assumption that the Plan has neither a surplus nor a deficit. The solvency liabilities are calculated using the solvency valuation assumptions summarized in Appendix E of this report.
- The **solvency liability adjustment** is an adjustment that may be made to the solvency liabilities to reflect the impact of using a solvency valuation discount rate for discounting the liability that is the average of market discount rates calculated over the same period of time as that used in the calculation of the solvency asset adjustment.
- The **solvency position** is the difference between the solvency assets (net of estimated wind up expenses) and the solvency liabilities.
- The **solvency ratio** compares the solvency assets to the solvency liabilities for purposes of Subsections 14(2) and (3) of the Regulations of the *Pension Benefits Act* to determine the latest effective date of the next required valuation.
- The **solvency surplus/(deficiency)** is the solvency position, increased by the solvency asset adjustment and the solvency liability adjustment, then decreased by the PYCB.
- The **special payments** are payments required to liquidate the unfunded liability and/or solvency deficiency:

  - The going concern special payments are payments required to liquidate the unfunded liability, with interest at the going concern valuation discount rate, by equal monthly instalments over a period of 15 years beginning no later than 12 months from the valuation date of the report in which the going concern unfunded liability was determined.
  - The solvency special payments are payments required to liquidate the solvency deficiency, with interest at the solvency valuation discount rate, by equal monthly instalments over a period of five years beginning no later than 12 months from the valuation date of the report in which the solvency deficiency was determined. This period of years may be longer if the University has participated in Stage Two solvency funding relief.

- The **surplus/(unfunded liability)** is the difference between the actuarial value of assets and the sum of the going concern liabilities and the PYCB.
- The **total current service cost** is the actuarial present value of benefits expected to be earned in respect of service for each year starting on the valuation date. Required member contributions (if any) are deducted from the total current service cost to determine the University current service cost. The total current service cost is calculated using the going concern valuation assumptions and methods summarized in Appendix D of this report.
- The **transfer ratio** compares the solvency assets, minus the lesser of the PYCB and the required University contributions until the next required valuation (before application of the PYCB), to the solvency liabilities plus the liability of any excluded benefits (except for pension benefits and ancillary benefits payable under a qualifying annuity contract). If the transfer ratio is less than 1.00, lump-sum transfers from the pension fund under Section 42 of the *Pension Benefits Act* are limited to the commuted value of the member's pension multiplied by the transfer ratio. The administrator may transfer the entire commuted value if:
  - The administrator is satisfied that an amount equal to the transfer deficiency has been remitted to the pension fund; or
  - The aggregate of transfer deficiencies for all transfers made since the last valuation date does not exceed 5% of the Plan's assets at that time.

  In June 2009, Subsection 19 of the Regulations of the *Pension Benefits Act* was amended and Policy T800-402 was released. The Policy imposes additional restrictions for payment of commuted values under certain circumstances.

# Appendix B: Assets

## Asset Data

The Plan's assets are held by State Street Trust Company Canada and invested by University of Toronto Asset Management (the "UTAM"). The asset information presented in this report is based on the audited financial statements of the pension fund for July 1, 2014 to June 30, 2015 prepared by the University.

Tests of the sufficiency and reliability of the asset data were performed and the results were satisfactory. The tests included:

- A reconciliation of actual cash flow with expected cash flow from the previous actuarial report; and
- A reconciliation of any anticipated benefit payments in July 1, 2014 to June 30, 2015 (for retirees, terminated or deceased employees) against the financial statements of the pension fund for confirmation of payments.

## Market Value of Assets

The following is a summary of the composition of the Plan's assets by asset type as reported by UTAM as at July 1, 2015. For comparison purposes, the composition at the previous valuation date of July 1, 2014 is also shown.

| | July 1, 2015 | July 1, 2014 |
|---|---|---|
| | % | % |
| Fixed-income | 31.9% | 31.4% |
| Canadian equities | 14.9% | 15.9% |
| U.S. equities | 17.1% | 16.9% |
| International equities | 15.4% | 16.0% |
| Emerging markets equities | 10.0% | 10.0% |
| Other[1] | 10.7% | 9.8% |
| **Total Invested Assets** | **100.0%** | **100.0%** |

[1] Cash, money market securities, real return bonds, absolute return funds, and commodities

# Target Asset Mix

The target asset mix of the Plan is contained in the Plan's Statement of Investment Policies and Procedures and is as follows:

| | Minimum | Target | Maximum |
|---|---|---|---|
| Fixed-income | 20.0% | 40.0% | 55.0% |
| Canadian equities | 11.0% | 16.0% | 21.0% |
| U.S. equities | 13.0% | 18.0% | 23.0% |
| International equities | 11.0% | 16.0% | 21.0% |
| Emerging markets equities | 5.0% | 10.0% | 15.0% |
| Other[1] | 0.0% | 0.0% | 15.0% |
| | | **100.0%** | |

[1] Cash, money market securities, real return bonds, absolute return funds, and commodities

# Reconciliation of Changes in Market Value of Assets

The table below reconciles changes in the market value of assets between July 1, 2014 and July 1, 2015.

| | | **July 1, 2014 to June 30, 2015** |
|---|---|---|
| **Market Value of Assets, Beginning of Plan Year** | **$** | **3,618,779,000** |
| **Contributions During Plan Year** | | |
| Member | $ | 60,217,000 |
| University current service cost | | 98,604,000 |
| University special payments | | 66,612,000 |
| **Total** | **$** | **225,433,000** |
| **Benefit Payments During Plan Year** | | |
| Non-retired members[1] | $ | 21,720,000 |
| Retired members | | 181,539,000 |
| **Total** | **$** | **203,259,000** |
| **Transfers During Plan Year** | | |
| Into plan | $ | 3,566,000 |
| Out of plan | | 0 |
| **Total** | **$** | **3,566,000** |
| **Fees/Expenses** | **$** | **37,151,000** |
| **Investment Income** | **$** | **466,025,000** |
| **Market Value of Assets, End of Plan Year** | **$** | **4,073,393,000** |
| Rate of return, net of fees/expenses | | 11.8% |

[1] Includes members who have terminated employment or died

# Development of Adjusted Market Value of Assets

The adjusted market value of assets is equal to the market value of assets adjusted to reflect any contributions, benefit payments, transfers and fees/expenses in-transit as of the valuation date. The development of the adjusted market value of assets is shown below.

| | **July 1, 2014 to June 30, 2015** |
|---|---|
| Market value of assets | $ 4,073,393,000 |
| Contributions receivable | 0 |
| Benefits payable | 0 |
| Transfers (payable)/receivable | 0 |
| Fees/expenses payable | 0 |
| **Adjusted Market Value of Assets** | **$ 4,073,393,000** |

# Development of Actuarial Value of Assets

The actuarial value of assets as of July 1, 2015 is equal to the adjusted market value of assets.

# Appendix C: Membership Data

## Source of Data

This funding valuation was based on member data provided by the University as of July 1, 2015. Tests of the sufficiency and reliability of the member data were performed and the results were satisfactory. The tests included:

- A reconciliation of membership status against the membership status at the last valuation. This test was performed to ensure that all members were accounted for. A summary of this reconciliation follows on the next page;
- A reconciliation of birth, hire, and participation dates against the corresponding dates provided for the last valuation to ensure consistency of data;
- A reconciliation of credited service against the corresponding amount provided for the last valuation to ensure that no member accrued more than 1 year of credited service from July 1, 2014. This test also revealed any members who accrued less than 1 year years of credited service;
- A reconciliation of pensionable earnings against the corresponding amounts provided for the last valuation to identify any unusual increases or decreases; and
- A reconciliation of inactive member benefit amounts against the corresponding amounts provided for the last valuation to ensure consistency of data.

For salary increases as of July 1, 2015 that were not reflected in the data provided due to timing of collective bargaining, an estimate was used for valuation purposes based on guidance provided by the University.

# Membership Summary

The table below reconciles the number of members as of July 1, 2015 with the number of members as of July 1, 2014 and the changes due to experience in the period.

| | Active and LTD Members | Retirees and Spouses | Deferred Vested Members | Pending/ Suspended/ Exempt Members | Total |
|---|---|---|---|---|---|
| **Members, July 1, 2014** | **9,468** | **5,425** | **2,864** | **191** | **17,948** |
| Changes due to: | | | | | |
| New entrants | | | | | |
| New members | 817 | - | - | - | 817 |
| Returned from pending | - | - | - | - | - |
| Retirements | | | | | |
| Immediate pension | (181) | 226 | (43) | (2) | - |
| Paid lump sum | (15) | - | - | (1) | (16) |
| Terminations | | | | | |
| Pending | (3) | - | - | 3 | - |
| Deferred pension | (260) | - | 261 | (1) | - |
| Paid lump sum | (154) | - | (93) | - | (247) |
| Deaths | | | | | |
| No more payments | - | (133) | - | - | (133) |
| Surviving spouse | (2) | (69) | (2) | - | (73) |
| Deferred pension (beneficiary) | - | - | - | - | - |
| Paid lump sum | (3) | (2) | (1) | - | (6) |
| New beneficiary | | | | | |
| New surviving spouse | - | 73 | - | - | 73 |
| New marriage breakdown beneficiary | - | - | - | - | - |
| Data correction[1] | (1) | 2 | (6) | - | (5) |
| Net change | 198 | 97 | 116 | (1) | 410 |
| **Members, July 1, 2015** | **9,666** | **5,522** | **2,980** | **190** | **18,358** |

[1] Including combining pension records for new retirees with multiple periods of service

# Active and LTD Members

| | July 1, 2015 | July 1, 2014 |
|---|---|---|
| **Number of Members** | | |
| Males | 4,299 | 4,247 |
| Females | 5,367 | 5,221 |
| Total | 9,666 | 9,468 |
| **Average Present Age** | | |
| Males | 48.7 | 48.5 |
| Females | 46.9 | 46.7 |
| Total | 47.7 | 47.5 |
| **Average Years of Service** | | |
| Males | 12.9 | 12.8 |
| Females | 11.5 | 11.5 |
| Total | 12.1 | 12.1 |
| **Average Age at Hire** | | |
| Males | 35.8 | 35.7 |
| Females | 35.3 | 35.3 |
| Total | 35.5 | 35.4 |
| **Average Salary** | $ 98,708 | $ 96,862 |

## Retirees and Spouses

| | Number | Average Age | Average Monthly Benefit |
|---|---|---|---|
| July 1, 2015 | 5,522 | 75.9 | $ 2,826 |
| July 1, 2014 | 5,425 | 75.7 | $ 2,772 |
| July 1, 2013 | 5,254 | 75.6 | $ 2,719 |
| July 1, 2012 | 5,096 | 75.4 | $ 2,651 |
| July 1, 2011 | 4,956 | 75.1 | $ 2,545 |
| July 1, 2010 | 4,824 | 74.9 | $ 2,473 |
| July 1, 2009 | 4,715 | 74.6 | $ 2,428 |
| July 1, 2008 | 4,658 | 74.2 | $ 2,378 |
| July 1, 2007 | 4,553 | 74.2 | $ 2,309 |
| July 1, 2006 | 4,457 | 73.9 | $ 2,251 |
| July 1, 2005 | 4,376 | 73.6 | $ 2,175 |
| July 1, 2004 | 4,223 | 73.5 | $ 2,104 |
| July 1, 2003 | 4,073 | 73.4 | $ 2,009 |
| July 1, 2002 | 3,942 | 73.1 | $ 1,930 |
| July 1, 2001 | 3,761 | 72.8 | $ 1,781 |
| July 1, 2000 | 3,658 | 72.7 | $ 1,698 |
| July 1, 1999 | 3,526 | 72.6 | $ 1,645 |
| July 1, 1998 | 3,434 | 72.2 | $ 1,573 |

## Deferred Vested Members[1]

| | Number | Average Age | Average Monthly Benefit |
|---|---|---|---|
| July 1, 2015 | 2,980 | 50.7 | $ 492 |
| July 1, 2014 | 2,864 | 50.4 | $ 470 |
| July 1, 2013 | 2,738 | 50.0 | $ 436 |
| July 1, 2012 | 2,588 | 49.7 | $ 422 |
| July 1, 2011 | 2,546 | 49.0 | $ 409 |
| July 1, 2010 | 2,420 | 48.8 | $ 421 |
| July 1, 2009 | 2,326 | 48.5 | $ 392 |
| July 1, 2008 | 1,493 | 49.9 | $ 448 |
| July 1, 2007 | 1,413 | 48.9 | $ 444 |
| July 1, 2006 | 1,154 | 49.2 | $ 405 |
| July 1, 2005 | 1,072 | 48.9 | $ 401 |
| July 1, 2004 | 966 | 49.2 | $ 384 |
| July 1, 2003 | 489 | 52.7 | $ 349 |
| July 1, 2002 | 724 | 49.4 | $ 361 |
| July 1, 2001 | 677 | 48.5 | $ 381 |
| July 1, 2000 | 396 | 50.1 | $ 549 |
| July 1, 1999 | 362 | 49.9 | $ 400 |
| July 1, 1998 | 352 | 48.9 | $ 387 |

[1] Excludes information for OISE deferred vested members prior to July 1, 2012

# Active/LTD Membership Distribution

The following table provides a detailed summary of the active/LTD membership at the valuation date by years of continuous service and by age group.

| Age | < 5 | 5–10 | 10–15 | 15–20 | 20–25 | 25–30 | >=30 | Total |
|---|---|---|---|---|---|---|---|---|
| < 30 | 412 | 49 | | | | | | 461 |
| | $ 59,750 | $ 62,049 | | | | | | $ 59,994 |
| 30–35 | 556 | 271 | 58 | | | | | 885 |
| | $ 75,073 | $ 72,988 | $ 70,433 | | | | | $ 74,131 |
| 35–40 | 579 | 446 | 246 | 35 | | | | 1,306 |
| | $ 83,250 | $ 93,424 | $ 83,545 | $ 69,656 | | | | $ 86,415 |
| 40–45 | 436 | 436 | 340 | 153 | 6 | | | 1,371 |
| | $ 86,009 | $ 100,985 | $ 106,891 | $ 96,725 | $ 75,449 | | | $ 97,100 |
| 45–50 | 305 | 329 | 395 | 236 | 82 | 51 | 4 | 1,402 |
| | $ 82,621 | $ 100,630 | $ 115,808 | $ 116,718 | $ 97,098 | $ 74,571 | $ 83,170 | $ 102,492 |
| 50–55 | 236 | 271 | 327 | 234 | 141 | 170 | 68 | 1,447 |
| | $ 86,961 | $ 90,647 | $ 104,920 | $ 126,650 | $ 124,518 | $ 95,190 | $ 82,582 | $ 102,549 |
| 55–60 | 177 | 173 | 251 | 200 | 165 | 231 | 196 | 1,393 |
| | $ 93,755 | $ 101,808 | $ 100,427 | $ 111,276 | $ 126,970 | $ 126,331 | $ 89,580 | $ 107,222 |
| 60–65 | 84 | 98 | 162 | 122 | 93 | 181 | 219 | 959 |
| | $ 99,666 | $ 94,338 | $ 104,821 | $ 111,818 | $ 119,736 | $ 121,740 | $ 123,739 | $ 113,148 |
| >=65 | 20 | 36 | 70 | 36 | 32 | 72 | 176 | 442 |
| | $ 137,392 | $ 108,313 | $ 124,185 | $ 138,904 | $ 148,575 | $ 166,343 | $ 158,206 | $ 146,869 |
| **Total** | | | | | | | | |
| Count | 2,805 | 2,109 | 1,849 | 1,016 | 519 | 705 | 663 | 9,666 |
| Average pensionable earnings | $ 80,391 | $ 93,384 | $ 103,794 | $ 113,500 | $ 121,024 | $ 117,985 | $ 118,324 | $ 98,708 |

# Deferred Vested/Retirees and Spouses Membership Distribution

The following table provides a detailed summary of the deferred vested/retirees and spouses membership at the valuation date by age group.

| Age | Deferred Vested Members | Retirees and Spouses |
|---|---|---|
| < 50 | 1,384 | 11 |
| | $ 361 | $ 1,186 |
| | - | - |
| 50–55 | 572 | 7 |
| | $ 592 | $ 1,068 |
| | - | - |
| 55–60 | 448 | 59 |
| | $ 638 | $ 1,408 |
| | - | - |
| 60–65 | 364 | 384 |
| | $ 626 | $ 2,591 |
| | - | - |
| 65[1]–70 | 212 | 1,087 |
| | $ 539 | $ 2,701 |
| | - | - |
| 70–75 | | 1,191 |
| | | $ 3,513 |
| | | - |
| 75–80 | | 1,045 |
| | | $ 3,093 |
| | | - |
| >=80 | | 1,738 |
| | | $ 2,391 |
| | | - |
| **Total** | | |
| Count | 2,980 | 5,522 |
| Average monthly lifetime pension | $ 492 | $ 2,826 |
| Average monthly bridge pension | - | $ 306[1] |

[1] Includes all deferred vested members over age 65

# Appendix D: Going Concern Assumptions and Methods

## Assumptions and Methods

A member's entitlements under a pension plan are generally funded during the period over which service is accrued by the member. The cost of each member's benefits is allocated in some fashion over the member's service. An actuarial valuation provides an assessment of the extent to which allocations relating to periods prior to a valuation date (often referred to as the actuarial liabilities) are covered by the plan's assets.

The going concern valuation provides an assessment of a pension plan on the premise that the plan continues on into the future indefinitely based on assumptions in respect of future events upon which a plan's benefits are contingent and methods that effectively determine the way in which a plan's costs will be allocated over the members' service. The true cost of a plan, however, will emerge only as experience develops, investment earnings are received, and benefit payments are made.

This appendix summarizes the going concern assumptions and methods that have been used for the going concern valuation of the Plan at the valuation date. The going concern assumptions and methods have been chosen to reflect our understanding of the Plan's funding objectives with due respect to accepted actuarial practice and regulatory constraints. For purposes of this valuation, the going concern methods and assumptions were reviewed and changes as indicated were made.

The actuarial assumptions and methods used in the current and previous valuations are summarized below and described on the following pages.

| | **July 1, 2015** | **July 1, 2014** |
|---|---|---|
| **Economic Assumptions** | | |
| Increase in Consumer Price Index ("CPI") | 2.00% per year | Same |
| Cost-of-living adjustment | 1.50% per year (75% of increase in CPI) | Same |
| Discount rate | 5.75% per year (2.00% increase in CPI + 3.75% real return, net of all fees) | Same |
| Increases in pensionable earnings | 4.00% per year (2.00% increase in CPI + 2.00% merit and promotion/progression) | Same |
| Increases in CPP maximum salary | 2.75% per year (2.00% increase in CPI + 0.75% real wage growth) | Same |
| Increases in maximum pension limit | $2,818.89 in 2015; increasing by 2.75% per year thereafter | $2,770.00 in 2014; increasing by 2.75% per year thereafter |
| Interest on member contributions | 2.50% per year | Same |
| Investment and non-investment expenses | Taken into account in the discount rate assumption | Same |
| Margin for adverse deviation | Included above | Same |

| | July 1, 2015 | July 1, 2014 |
|---|---|---|
| **Demographic Assumptions** | | |
| Mortality table | 100% of the 2014 Canadian Public Sector Pensioners' Mortality Table combined with mortality improvement scale CPM-B (sex-distinct) | Same |
| Retirement rates | | |
| Academic staff and librarians | In accordance with Table A following, but no earlier than one year after valuation date, subject to early retirement provisions | Same |
| Administrative staff, unionized administrative staff, unionized staff and research associates | Age 63, subject to early retirement provisions | |
| Deferred vested members | Age 65½[1] | |
| Termination rates | Variable by age (Table B following) | Same |
| Disability rates | None assumed | Same |
| Proportion married | | |
| Non-retired proportion with spouse | Male members: 85% of members have a spouse at retirement with spouse four years younger<br><br>Female members: 70% of members have a spouse at retirement with spouse two years older | Same |
| Retired members | Actual marital status and ages are used | Same |

[1] Reflects that normal retirement date is June 30th coincident with or following age 65

| | July 1, 2015 | July 1, 2014 |
|---|---|---|
| **Methods** | | |
| Actuarial cost method | Projected unit credit cost method | Same |
| Asset valuation method | Market value of assets adjusted to reflect contributions, benefit payments, transfers and fees/expenses in transit as of the valuation date | 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. For the July 1, 2014 actuarial valuation, the actuarial value has been reset to market value of assets. |

# Table A—Retirement Rates

Sample age based retirement rates are in accordance with the following table:

**Retirement Rates for Academic Staff and Librarians**

| Age | 10 or More Years of Pensionable Service | Less Than 10 Years of Pensionable Service |
|---|---|---|
| 60 | 5%[1] | - |
| 61 | 5% | - |
| 62 | 5% | - |
| 63 | 5% | - |
| 64 | 5% | - |
| 65 | 30% | 30% |
| 66 | 30% | 30% |
| 67 | 30% | 30% |
| 68 | 30% | 30% |
| 69 | 50% | 50% |
| 70 | 50% | 50% |
| 71 | 100% | 100% |

[1] Applies at age 60 or, if later, first age at which member is eligible for an unreduced pension

# Table B—Termination Rates

Sample rates used in this valuation are shown as rates per 100 lives in the following table:

**Withdrawals per 1,000 Members**

| Present Age | Rates | Present Age | Rates |
|---|---|---|---|
| 20 | 100 | 45 | 17 |
| 21 | 100 | 46 | 16 |
| 22 | 100 | 47 | 15 |
| 23 | 100 | 48 | 14 |
| 24 | 100 | 49 | 13 |
| 25 | 100 | 50 | 12 |
| 26 | 90 | 51 | 11 |
| 27 | 80 | 52 | 10 |
| 28 | 71 | 53 | 9 |
| 29 | 63 | 54 | 8 |
| 30 | 56 | | |
| 31 | 50 | | |
| 32 | 45 | | |
| 33 | 40 | | |
| 34 | 36 | | |
| 35 | 32 | | |
| 36 | 30 | | |
| 37 | 28 | | |
| 38 | 26 | | |
| 39 | 24 | | |
| 40 | 22 | | |
| 41 | 21 | | |
| 42 | 20 | | |
| 43 | 19 | | |
| 44 | 18 | | |

# Justification of Actuarial Assumptions and Methods

## Economic Assumptions

### Discount Rate

We have used a discount rate of 5.75% per year.

The overall expected return ("best-estimate") is 6.02% per year, which is based on an inflation rate of 2.00% per year, yielding a real rate of return on the pension fund assets of 4.02% per year. This overall expected return was developed using best-estimate returns for each major asset class in which the pension fund is invested. A Monte Carlo simulation is performed where the portfolio returns are projected assuming annual rebalancing. Expected plan cash flows are projected reflecting the plan's time horizon and discounted using the simulated returns. The internal rate of return is then calculated for each scenario and the average is used to develop an overall best-estimate rate of return for the entire pension fund. Gains from rebalancing and diversification are implicit to this return.

The above determined rate of return has been established based on the University's investment policy. There may be some barriers to achieving this return such as inflation higher than expected, asset returns lower than expected, and assets and liabilities that are mismatched. We have derived a going concern discount rate which reflects the University's investment policy combined with a margin for adverse deviation so as to account for the variables mentioned above. The following chart lays out the adjustments that have been made to the overall expected rate of return in order to arrive at our going concern discount rate assumption:

**Development of Discount Rate**

| | |
|---|---|
| Overall expected return | 6.02% |
| Investment and non-investment expenses | (0.15)% |
| Margin for adverse deviations | (0.15)% |
| **Discount Rate** | **5.72%** |

Therefore, we have arrived at a discount rate of 5.72% per year, which has been rounded to 5.75% per year.

### Increase in Consumer Price Index

The CPI rate is assumed to be 2.00% per year. This reflects our best estimate of future inflation considering current economic and financial market conditions.

### Increases in Pensionable Earnings

We have assumed future salary increases will be 4.00% per year. The assumption reflects an assumed CPI of 2.00% per year, plus an allowance of 2.00% per year for the effect of progression through the ranks/grid steps/merit and promotion.

## Increases in CPP Maximum Salary

The CPP maximum salary increases each year by the increase in the Average Industrial Wage, which we assume will increase by CPI plus real wage growth, or 2.75% per year based on the above.

## Increases in the Maximum Pension Limit

The ITA maximum pension is assumed to increase from its 2015 level of $2,818.89 per year of pensionable service at the rate of increase in the Average Industrial Wage. Therefore, we have assumed future increases of 2.75% per year after 2015.

## Interest on Member Contributions

Interest is credited on member contributions annually at the rate of 2.50%.

## Expenses

Since the discount rate has been established net of all expenses, no explicit assumption is required for non-investment expenses.

## Economic Margins for Adverse Deviations

Margins for conservatism or provisions for adverse deviation have been built into the going concern assumptions where appropriate.

The margins have been chosen so as to balance the need for financial security for existing Plan members against overly conservative contribution requirements that potentially result in intergenerational inequity among members and unnecessary financial strain on the Plan sponsor.

A margin for adverse deviations of 0.15% has been reflected in the discount rate assumption.

The actuary has discussed the Plan's experience with the University and compared it to the expected experience. This review indicates that there is a need for use of margins for adverse deviations. The margins for adverse deviations incorporated in the assumptions reflect this review and the University's desire to maintain safety cushions. The actuary has discussed with the University the implications of incorporating margins for adverse deviations and the University is fully cognizant and supports incorporating margins for adverse deviations.

# Demographic Assumptions

## Mortality

The CIA has completed a study of Canadian pensioner mortality levels and trends. Some conclusions of the study are:

- The 1994 Uninsured Pensioner ("UP94") Mortality Table together with generational improvements using Scale AA overstates average Canadian pensioner mortality rates, and therefore understates expected future pension payments for many plans.
- More rapid improvements in longevity have been observed than suggested by Improvement Scale AA.

In light of these findings, we have modified the mortality assumptions of the going concern basis and are now using the following table published in the CIA report: 2014 Canadian Public Sector Pensioners' Mortality Table combined with mortality improvement scale CPM-B.

## Retirement

For Faculty/Librarians, retirement rates from age 60 (earliest unreduced retirement age) to age 71 (to reflect the elimination of mandatory retirement) are used. For all other staff groups, a single point retirement age of age 63 is used to reflect the various unreduced early retirement provisions available at age 60 or later (with minimum requirements for pensionable service or age-plus-continuous service points). We monitor actual experience against this assumption at each valuation and consider this retirement age to be appropriate.

## Termination of Employment

The rates of termination of employment before retirement represent a best estimate of termination rates for a Plan of the size and workforce characteristics of this Plan. The termination assumption does not have as significant an impact on the valuation as in some other plans because of indexing in the deferral period. The experience gains and losses attributable to this assumption have been relatively small. Therefore, we continue to find this Table appropriate.

## Option Elections on Termination

We have assumed 100% of members will elect lump-sum payments on termination.

## Disability

If an active Plan member becomes disabled, contributory service continues to accrue until unreduced pension commencement age, but employee contributions are waived. Since this benefit is substantially the same as the benefit that accrues to an active member, no disability assumption was used. Use of an actual disability assumption in this case would reduce liabilities slightly, so a nil disability incidence assumption represents a small element of conservatism. The disability assumption has very little impact on the valuation results.

### Proportion of Members with Spouses and Spousal Age Differential

These assumptions are relevant to the valuation of benefits since there is a subsidized joint and survivor benefit available for members with a spouse. The proportion of members who will have a spouse is based on broad population statistics. The spousal age difference was based on observance of actual age differences in the group for members where the spouse age is known.

## Other

### Actuarial Cost Method

An actuarial cost method is a technique used to allocate in a systematic and consistent manner the expected cost of a pension plan over the years of service during which Plan members earn benefits under the Plan. By funding the cost of a pension plan in an orderly and rational manner, the security of benefits provided under the terms of the Plan in respect of service that has already been rendered is significantly enhanced.

The projected unit credit actuarial cost method has been used for this valuation. Under this method, the actuarial present value of benefits in respect of service prior to the valuation date, but based on pensionable earnings projected to retirement, is compared with the actuarial asset value, revealing either a surplus or an unfunded actuarial liability.

With respect to service after the valuation date, the expected value of benefits for service in the year following the valuation date (i.e., the current service cost) net of any required employee contributions is expressed as a percentage of the expected value of participating payroll for that year. The employer current service cost contributions are determined each year by applying this percentage to the actual participating payroll for the year.

When calculating the actuarial present value of benefits at the valuation date, the present value of all retirement, withdrawal and preretirement death benefits are included. For each member, the retirement, withdrawal and preretirement death benefits for a particular period of service are first projected each year into the future taking into account future vesting, early retirement entitlements and minimum pension/value entitlements. These projected benefits for each future year are then capitalized, multiplied by the probability of the member leaving the Plan in that year and discounted with interest and survivorship to the valuation date. The actuarial present value of benefits for the particular period of service is then determined by summing the present values of these projected benefits.

The pattern of future contributions necessary to pre fund future benefit accruals for any one particular individual will increase gradually as a percentage of their pensionable earnings as the individual approaches retirement. For a stable population (i.e., one where the demographics of the group remain constant from year to year), the current service cost will remain relatively level as a percentage of payroll. The projected unit credit actuarial cost method therefore allocates contributions among different periods in an orderly and rational manner for a stable population group.

In the event of future adverse experience, contributions in addition to the current service cost calculated under the projected unit credit actuarial cost method may be required to ensure that the Plan's assets are adequate to provide the benefits. Conversely, favourable experience may generate surplus which may serve to reduce future contribution requirements

## Asset Valuation Method

Market value, adjusted by in-transit cash flows was used as the actuarial value of assets for this valuation. Asset-smoothing techniques are often used to reduce volatility in the University's contribution requirements. However, since this Plan's contributions are primarily being driven by the solvency valuation, we deemed it unnecessary to use an asset-smoothing technique for the going concern valuation.

# Appendix E: Solvency and Hypothetical Wind Up Assumptions and Methods

## Valuation Assumptions

| | July 1, 2015 | July 1, 2014 |
|---|---|---|
| **Economic Assumptions** | | |
| Discount rate | | |
| Without indexation | | |
| Transfer value basis | | |
| Active and LTD members, not retirement eligible | 2.30% per year for 10 years; 3.80% per year thereafter | 2.80% per year for 10 years; 4.20% per year thereafter |
| Annuity purchase basis | | |
| Retirement eligible active and LTD members, and all deferred vested members, retirees and spouses | 2.60% per year | 3.10% per year |
| With indexation | | |
| Transfer value basis | | |
| Active and LTD members, not retirement eligible | 1.50% per year for 10 years; 2.20% per year thereafter | 1.70% per year for 10 years; 2.40% per year thereafter |
| Annuity purchase basis | | |
| Retirement eligible active and LTD members, and all deferred vested members, retirees and spouses | 0.15% per year | 0.55% per year |

| | July 1, 2015 | July 1, 2014 |
|---|---|---|
| **Demographic Assumptions** | | |
| Mortality table | UP94 with generational improvements using Scale AA[1] (sex-distinct rates) | Same |
| Termination rates | Not applicable | Same |
| Retirement age | | |
| Active and LTD members with 55 or more age-plus-service points | June 30 between early retirement date and normal retirement date that produces highest present value | Same |
| Active and LTD members with less than 55 age-plus-service points | Normal retirement date | Same |
| Deferred vested members | Normal retirement date | Same |
| Termination of employment | Terminate with full vesting | Same |
| Marital status | | |
| Non-retired spousal proportion | Male members: 85% of members have a spouse at retirement with spouse four years younger<br><br>Female members: 70% of members have a spouse at retirement with spouse two years older | Same |
| Retired members | Actual marital status and ages are used | Same |
| **Other** | | |
| Actuarial cost method | Unit credit | Same |
| Asset valuation method | Market value of assets adjusted to reflect contributions, benefit payments, transfers and fees/expenses in transit as of the valuation date | Same |
| **Solvency Incremental Cost** | | |
| The assumptions for the expected benefit payments and decrement probabilities, service accruals, and projected changes in benefits and/or pensionable earnings | Same as going concern | Same |

[1] No preretirement mortality was applied

Based on the CIA's Guidance and information such as pension legislation, Plan provisions and Plan experience, we have made the following assumptions regarding how the Plan's benefits would be settled on Plan wind up:

| | Percent of Liability Assumed to be Settled By Purchase of Annuities | Percent of Liability Assumed to be Settled By Lump-Sum Transfer |
|---|---|---|
| **Active and LTD Members** | | |
| Not retirement eligible | 0% | 100% |
| Retirement eligible | 100% | 0% |
| **Retirees and Spouses** | 100% | 0% |
| **Deferred Vested Members** | | |
| Not retirement eligible | 100% | 0% |
| Retirement eligible | 100% | 0% |

# Benefits Valued

| | Solvency Valuation | Hypothetical Wind Up Valuation |
|---|---|---|
| Vesting | All accrued benefits are treated as vested on Plan wind up | All accrued benefits are treated as vested on Plan wind up |
| Grow-in benefits | Active members with 55 age-plus-continuous service points as of the valuation date are assumed to grow into the enhanced early retirement reduction | Active members with 55 age-plus-continuous service points as of the valuation date are assumed to grow into the enhanced early retirement reduction |
| Indexing | In accordance with the *Pension Benefits Act* (Ontario), solvency liability excludes the value of future escalated adjustments (future indexation) for both the preretirement and postretirement period | The hypothetical wind up valuation results include the value of future escalated adjustments (future indexation) in the postretirement period and the preretirement period as provided for in the plan |

# Justification for Valuation Assumptions

## Development of Discount Rates

| | |
|---|---|
| Solvency lump-sum discount rate for 10 years | = V122542[1] + 90 bps<br>= 1.40% + 0.90%<br>**= 2.30% (rounded to 2.30%) per year** |
| Solvency lump-sum discount rate thereafter | = V122544[1] + 0.5 x (V122544[1] – V122542[1]) + 90 bps<br>= 2.39% + 0.5 x (2.39% – 1.40%) + 0.90%<br>**= 3.79% (rounded to 3.80%) per year** |
| Solvency annuity purchase discount rate | = V39062 + Duration Adjustment<br>= 2.21% + 0.37%<br>**= 2.58% (rounded to 2.60%) per year** |

The CIA's Guidance indicates that the cost of purchasing non-indexed annuities would be estimated based on the duration of the liabilities expected to be settled through annuity purchase. The duration of this Plan was estimated to be 11.53 and the resulting duration adjustment to the unadjusted CANSIM series V39062 interest rate is 0.37%.

We have set the aforementioned assumptions based on guidance prepared by the CIA Committee on Pension Plan Financial Reporting ("PPFRC") in the Educational Note Assumptions for Hypothetical Wind Up and Solvency Valuations with Effective Dates Between June 30, 2015 and December 30, 2015 ("CIA Guidance") released on August 4, 2015.

For benefit entitlements that are expected to be settled by purchase of annuities, we based the assumptions on information compiled by the PPFRC from insurance companies active in the group annuity market.

For benefit entitlements that are expected to be settled by lump-sum transfer, we based the assumptions on the CIA Standards of Practice for Pension Commuted Values, effective April 1, 2009, using rates corresponding to a valuation date of July 1, 2015.

## Pensionable Earnings

To estimate active and LTD members' best average earnings, we have used actual historical member earnings.

## Preretirement Mortality

We have made no allowance for preretirement mortality. The impact of including such an assumption would not have a material impact on the valuation, since the value of the death benefit is approximately equal to the value of the accrued pension.

[1] CANSIM Series (annualized)

## Assumptions Not Needed

The following are not relevant to the solvency and hypothetical wind up valuation:

- Increases in pensionable earnings;
- Termination of employment rates;
- Increases in CPP Maximum Benefits (we used actual historical rates);
- Increases in *Income Tax Act* maximum pension limit (we used the 2015 maximum); and
- Disability rates.

## Estimated Wind Up Expenses

Plan wind up expenses would normally include such items as fees related to preparation of the actuarial wind up report, fees imposed by a pension supervisory authority, legal fees, administration, custodial and investment management expenses. We have assumed these fees would be $1.4 million.

## Calculation of Special Solvency Payments

We used a discount rate of 2.54% per year to calculate the special payments necessary to liquidate the solvency deficiency. This rate is a weighted average based on the relative proportions of benefit entitlements that are expected to be settled by purchase of annuities and lump-sum transfer.

## Actuarial Cost Methods

Unit credit (accrued benefit) cost method as prescribed.

## Asset Valuation Method Considerations

Assets for solvency purposes have been determined using market value.

## Incremental Cost on a Solvency Basis

The incremental cost on a solvency basis represents the present value, at the calculation date (time 0), of the expected aggregate change in the solvency liabilities between time 0 and the next calculation date (time t), adjusted upwards for expected benefit payments between time 0 and time t.

An educational note was published in December 2010 by the CIA Committee on PPFRC to provide guidance for actuaries on the calculation of this new information.

The calculation methodology can be summarized as follows:

- The present value at time 0 of expected benefit payments between time 0 and time t, discounted to time 0,

  plus

- Projected solvency liabilities at time t, discounted to time 0, allowing for, if applicable to the pension plan being valued:
  - Expected decrements and related changes in membership status between time 0 and time t,
  - Accrual of service to time t,
  - Expected changes in benefits to time t,
  - A projection of pensionable earnings to time t,

  minus

- The solvency liabilities at time 0.

The projection calculations take into account the following assumptions and additional considerations:

- The assumptions for the expected benefit payments and decrement probabilities, service accruals, and projected changes in benefits and/or pensionable earnings would be consistent with the assumptions used in the pension plan's going concern valuation.
- The assumptions used to calculate the projected liability at time t are consistent with the assumptions for the solvency liabilities at time 0, assuming that interest rates remain at the levels applicable at time 0, that the select period is reset at time t for interest rate assumptions that are select and ultimate and that the Standards of Practice for the calculation of commuted values and the guidance for estimated annuity purchase costs in effect at time 0 remain in effect at time t.
  - Active and inactive Plan members as of time 0 are considered in calculating the incremental cost.

# Appendix F: Summary of Plan Provisions

This funding valuation was based on Plan design information provided by the University as of July 1, 2015. The following is a summary of the main provisions of the Plan.

**Effective Date**

January 1, 1966

**Eligibility**

All members of the University staff in receipt of a rate of annual salary of at least 35% of the CPP maximum salary are eligible to become members of the Plan on the July 1, October 1, January 1 or April 1 coincident with or next following attainment of such annual salary, and provided that they are not eligible (at present or over time) for participation in any other concurrent pension plan which the University has established or to which it contributes (other than the Canada Pension Plan).

**Participation**

Participation is required of all eligible members of the staff with the following exceptions:

(a) Members of the staff whose percentage of appointment is less than 25% of full-time.

(b) Members of the staff whose percentage of appointment is at least 25% of full-time and who have not attained age 35 and completed at least one year of continuous service.

(c) Members who can demonstrate to the satisfaction of the University that they have a more advantageous arrangement elsewhere.

**Normal Retirement**

Eligibility

June 30 coincident with or next following attainment of age 65.

Benefit

**For Full-Time Service, and Part-Time Service on or after July 1, 1987:**
Annual benefit equal to (a) + (b) below for each year of pensionable service.

***Academic Staff and Librarians***

(a) 1.5% of highest average salary up to the average CPP maximum salary.

(b) 2.0% of highest average salary in excess of the average CPP maximum salary.

Benefit (continued)

***Administrative Staff, Unionized Administrative Staff and Unionized Staff***

(a) 1.6%* of highest average salary up to the average CPP maximum salary.

(b) 2.0% of highest average salary in excess of the average CPP maximum salary.

** Some Unionized Staff and Research Associates are at 1.5%.*

**For Part-Time Service before July 1, 1987**

Annual benefit equal to 2% of indexed salary for each year of participation, where indexed salary is the salary paid in the University year in which the benefit is earned, indexed by the increases in the Average Industrial Wage from the end of the University year to the beginning of the University year in which the member retires, terminates, or dies in active service of the University, whichever occurs first.

**Maximum Pension**

The annual benefit for a member cannot exceed the lesser of:

- $2,818.89 times years of pensionable service (in 2015 and indexed thereafter).
- 2.0% of the average of the best three consecutive years of salary times pensionable service.

Regulation 8504(6) imposes a lower maximum benefit limit in respect of any pre-1990 service that is granted after June 8, 1990 (e.g., buy-back or granting of years of pre-1990 service that was not previously counted as pensionable service).

**Unreduced Early Retirement**

Eligibility

**Academic Staff and Librarians**[1]

Age 60 and 10 or more years of pensionable service

**Administrative Staff—P/Ms 6 through 9**

Age 60 and 15 or more years of pensionable service

**Administrative Staff (Other Than Above), Unionized Administrative Staff, Unionized Staff and Research Associates**

Age 60 and age plus continuous service totaling 80 or more.

[1] Only if retiring on December 31, on June 30

| | |
|---|---|
| Benefit | The benefit calculated under the normal retirement formula based on highest average salary and pensionable service as of early retirement date, without reduction for early commencement. |
| **Reduced Early Retirement** | |
| Eligibility | Within 10 years of normal retirement date and not eligible for unreduced early retirement. |
| Benefit | The benefit calculated under the normal retirement formula based on highest average salary and pensionable service as of early retirement date, reduced 5% for each year that actual retirement precedes the normal retirement date. |
| **Postponed Retirement** | |
| Eligibility | Any age after normal retirement date, but for Plan purposes pension benefits must commence no later than December 1 of the year in which the member's 71st birthday occurs. |
| Benefit | The benefit calculated under the normal retirement formula based on highest average salary and pensionable service as of postponed retirement date. |
| **Disability** | |
| Eligibility | Any age up to normal retirement date. |
| Benefit | If eligible (or deemed eligible) to receive disability income from Long-Term Disability Plan:<br><br>The benefit calculated under the normal retirement formula, payable at normal retirement date, based on pensionable service which continues to accrue during periods of disability and on salary which is increased during each year of disability by the lesser of:<br><br>(a) 7%;<br>(b) The "across-the-board" economic increase granted to active employees during the preceding 12 months. |

**Termination of Service**

| | |
|---|---|
| Eligibility | Any age |
| Benefit | A terminating member may choose one of the following options:<br>(a) A benefit calculated under the normal retirement formula above based on highest average salary and pensionable service at termination date, payable at normal retirement date (or actuarially reduced for early commencement).<br>(b) A transfer of two times the member's contributions with credited interest to a new employer's pension plan, an individual Registered Retirement Savings Plan (“RRSP”), or other prescribed vehicle (provided the funds are transferred on a "locked-in" basis and provided the member has not attained early retirement age).<br>(c) A transfer of the commuted value of the accrued benefit to a new employer's pension plan, or individual RRSP, or other prescribed vehicle, provided the funds are transferred on a "locked-in" basis. |

**Death in Service**

| | |
|---|---|
| Eligibility | Any age |
| Benefit | Lump-sum death benefit equal to the commuted value of the accrued benefit calculated under the normal retirement formula above based on highest average salary and pensionable service at date of death. If the beneficiary is the spouse, the spouse has the option to convert the lump sum to an immediate or deferred pension. |

**Minimum Employer Cost**

On retirement, death, or termination, the required member contributions with interest, cannot provide more than 50% of the commuted value of the benefit. In the event that required member contributions provide for more than 50%, the excess will be refunded to the member or beneficiary, if applicable.

**Normal Form of Annuity**

The normal form for members with a spouse at pension commencement date is a life annuity with 60% continuing thereafter to the surviving spouse for his or her lifetime. If the spouse is more than 15 years younger than the member, the pension will be actuarially reduced to reflect the number of years in excess of 15 that the spouse is younger than the member. For members without a spouse at pension commencement, the normal form is a life annuity with a five-year guarantee period.

For members who terminated prior to July 1, 1996 and are entitled to a future pension under the Plan, the normal form will be determined based on the Plan provisions in effect at the time of termination.

**Cost-of-Living Adjustments**

Pensions payable under this Plan and the Prior Plans (including pensions for members who have terminated service on or after July 1, 1982, and pensions for members who have postponed retirement—whether deferred or not, but excluding pensions arising from voluntary additional contributions and from non-reciprocal transfers and excluding those paid from the Teachers Insurance and Annuity Association and the Government Annuities Branch under Prior Plans) will be increased as from July 1 each year by the greater of (a) and (b):

(a) The increase in the CPI for Canada for the previous calendar year minus 4.0%; or

(b) 75% of the increase in the CPI for the previous calendar year to a maximum CPI increase of 8%, plus 60% of the increase in CPI in excess of 8%.

**Member Contributions**

Each member contributes each year an amount equal to:

**Administrative Staff, Unionized Administrative Staff and Unionized Staff**
6.80%[1] of the member's salary up to the CPP maximum salary plus 8.40% of the member's salary in excess of the CPP maximum salary, up to the maximum salary recognized under the Plan.

**Academic Staff and Librarians**
6.30% of the member's salary up to the CPP maximum salary plus 8.40% of the member's salary in excess of the CPP maximum salary, up to the maximum salary recognized under the Plan.

[1] 6.30% for CUPE 2484 and Research Associates

**Definitions**

| | |
|---|---|
| Average CPP maximum salary | The average of the CPP maximum salary during the last 36 months of full-time participation. |
| CPP maximum salary | The maximum salary taken into account for purposes of the Canada Pension Plan (i.e., the year's maximum pensionable earnings) as at the beginning of a University year. |
| Credited interest | 4% per annum up to June 30, 1981; after June 30, 1981, an annual rate equal to the increase in the CPI plus 2% subject to the minimum rate prescribed by the *Pension Benefits Act* (Ontario) and its Regulations; from July 1, 2012 onward, the increase in CPI plus 2% is removed in conjunction with the increase in required member contribution rates for members noted on the previous page. |
| Highest average salary | The highest average of the regular salary received by a member during any 36 completed months of participation. |
| Pensionable service | Member's years and completed months of continuous service with the University while a member in the Plan. For service of a member employed on a full-time basis or the service on or after July 1, 1987 of a member employed on a part-time basis, the period of service is multiplied by the percentage appointment. |
| Prior Plans | The 1955 Pension Plan for members of the academic and administrative staffs, the 1946 Plan for academic staff, the 1919 Plan for academic staff, the 1951 Plan for administrative staff, the 1929 Plan for administrative staff, the 1954 Plan for staff of the Connaught Medical Research Laboratory, and the 1946 Pension Plan of the Ontario College of Pharmacy. |
| Salary | Gross regular salary/wages including academic administrative stipends, but excluding all other payments to a maximum salary of $150,000 per year. |
| University Year | The period of 12 consecutive months which commences on July 1. |

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