Assumption Confirmation Memo.pdf

Ministry of Finance
Income Security & Pension Policy Division

Broader Public Sector Pensions Branch

7 Queen's Park Crescent, 1st Floor
Frost Building South
Toronto, ON M7A 1Y7

Tel.: 416 326-9847
Fax.: 416 212-8293

Ministère des Finances
Division des politiques en matière de sécurité du revenu et de régimes de retraite

Direction de la révision des régimes de retraite dans le secteur parapublic

Édifice Frost Sud, 1e étage
7 Queen's Park Crescent
Toronto, ON M7A 1Y7

Tél.: 416 326-9847
Télec.: 416 212-8293

Ontario

December 10, 2015

MEMORANDUM TO: Leah Myers
Assistant Deputy Minister
Income Security and Pension Policy Division

COPY TO: Robert Pomykacz
Ingrid Tsang

FROM: Alex Killoch

SUBJECT: **Province's Economic Assumptions for the Accounting Valuations of Consolidated Pension Plans**

Your approval is being sought on staff's recommendation to revise the Province's economic assumptions for the accounting valuations of consolidated pension plans.

The standards of the Public Sector Accounting Board (PSAB) require that management determine the long-term economic assumptions for the accounting valuations of the pension plans that are consolidated in its financial statements. The assumptions are required to be management's best estimate of the expected return of the pension fund, as well as for the annual inflation rate and annual wage growth assumptions.

As these assumptions are long-term in nature, it has been the practice of staff not to revise the assumptions in response to changes in market conditions that could be temporary in nature. For this reason, as you may recall, the assumptions were only revised for the first time since 2005 for the 2015 budget valuation. At that time, staff recommended a revision to the expected inflation rate from 2.5% to 2.25%, as well as a revision to the expected salary growth assumptions to reflect the outcome of the then most recent collective bargaining in the public sector.

Since the last revision, and as a practice, Ministry staff members have continued to monitor developments in the financial markets as well as trends in the pension and investment industries. It has become evident that the long-term inflation expectations have continued to move downward.

Of the five plans that are consolidated in the Province's financial statements four have filed a new funding valuation report in 2015 (the PSPP did not file). Two of the plans (TPP and OPSEUPP) reduced their long-term inflation expectation to 2.0% from 2.1% and 2.25% respectively. Two of the plans kept their long term-inflation expectation the same as in previous filings (CAATPP at 2.0%, and HOOPP at 2.25%) When the PSPP last filed in 2014 it used an inflation assumption of 2.1%.

The Province's real rate of return assumptions remain largely consistent with real rate of return assumptions used in each plan's funding valuation.

The following table summarizes the current basis:

	Public Service Pension Plan	OPSEU Pension Plan	Teachers' Pension Plan	Healthcare of Ontario Pension Plan	Colleges of Applied Arts & Technology Pension Plan
Nominal Return on Investment	6.25	6.50	6.50	6.00	6.25
Annual Inflation Rate	2.25	2.25	2.25	2.25	2.25
Real Return on Investment	4.00	4.25	4.25	3.75	4.00
Nominal Salary Escalation	2.25% for 2015 to 2019, 3.25% thereafter	2.25% for 2015 to 2019, 3.25% thereafter	2.25% for 2015 to 2019, 3.25% thereafter	3.50% for 2015 to 2019, 4.50% thereafter	2.25% for 2015 to 2019, 3.25% thereafter
Real Salary Escalation	0% for 2015 to 2019, 1.00% thereafter	0% for 2015 to 2019, 1.00% thereafter	0% for 2015 to 2019, 1.00% thereafter	1.25% for 2015 to 2019, 2.25% thereafter	0% for 2015 to 2019, 1.00% thereafter

The following is a summary of current expectations with respect to inflation outlook:

Long-term Inflation Expectations	
TPP 2015 valuation	2.0% (reduced from 2.1% in 2014 valuation)
OPSEU 2015 valuation	2.0% (reduced from 2.25% in 2014 valuation)
CAAT 2015 valuation	2.0% (no change since 2014 valuation)
HOOPP 2015 valuation	2.25% (no change since 2014 valuation)
PSPP 2014 valuation	2.1% (did not file in 2015)
Towers Watson 2015 Expectations	2.0% through 2029
Bank of Canada Inflation Rate Target	2.0% (mid-point of the 1.0% to 3.0% range)
2014 Ontario's Long-Term Report on the Economy	1.9% from 2014 to 2017, 2.0% thereafter

Recommendation

As noted above, staff members employ a cautious approach to changing the assumptions and do not react to short-term changes in the economy. However, given the current level and long-term expectations for inflation outlook, MOF staff members believe that another modest change to the assumption is warranted. As a result, we are recommending the following changes to the assumptions:

<u>Annual Inflation Rate</u>

Lower the long-term inflation expectation from 2.25% to 2.0%

<u>Nominal Return on Investment return and Nominal Salary Escalation</u>

Lower both assumptions by 0.25% across the board to reflect the reduced inflation outlook.

The nominal rate of return is the sum of the real rate of return and the inflation rate. Since the Province's real rate of return assumptions are largely consistent with that in the funding valuation for each of the plans, staff recommend keep the real rate of return unchanged. Therefore, by lowering the annual inflation assumption, the nominal rate of return would be lowered by 0.25%.

Similarly, the nominal salary escalation is the sum of the real salary escalation and the inflation rate. Since there is no evidence to suggest that real salary escalation should be changed, the nominal salary escalation would be reduced to reflect the reduction in the inflation rate.

With these changes, the real rate of return on plan assets and the real salary escalation rates would remain unchanged.

The following table summarizes the proposed economic assumptions.

	Public Service Pension Plan	**OPSEU Pension Plan**	**Teachers' Pension Plan**	**Healthcare of Ontario Pension Plan**	**Colleges of Applied Arts & Technology Pension Plan**
Nominal Return on Investment	6.0	6.25	6.25	5.75	6.0
Annual Inflation Rate	2.0	2.0	2.0	2.0	2.0
Real Return on Investment	4.00	4.25	4.25	3.75	4.00
Nominal Salary Escalation	2.0% for 2016 to 2019, 3.0% thereafter	2.0% for 2016 to 2019, 3.0% thereafter	2.0% for 2016 to 2019, 3.0% thereafter	3.25% for 2016 to 2019, 4.25% thereafter	2.0% for 2016 to 2019, 3.0% thereafter
Real Salary Escalation	0% for 2016 to 2019, 1.0% thereafter	0% for 2016 to 2019, 1.00% thereafter	0% for 2016 to 2019, 1.00% thereafter	1.25% for 2016 to 2019, 2.25% thereafter	0% for 2016 to 2019, 1.00% thereafter

While there is always uncertainty about future economic trends, staff will continue to monitor the situation and recommend future adjustments if they are considered necessary.

If you agree with the recommended approach, please sign below.

Alex Killoch

I concur:

Leah Myers
Assistant Deputy Minister

DG - Actuarial Information for the OPSEU Pension Plan 2015 - 1.pdf

OPTrust

OPSEU Pension Trust
Fiducie du régime de retraite du SEFPO

January 25, 2016

CONFIDENTIAL / VIA COURIER

Mr. Mark Rozic
Manager (Acting), External Reporting Branch
Office of the Provincial Controller Division
Treasury Board Secretariat
2nd Floor, Office 260, Frost Building South
7 Queen's Park Crescent
Toronto, Ontario M7A 1Y7

Dear Mr. Rozic:

Re: Actuarial Information for the OPSEU Pension Plan

In response to the Assistant Deputy Minister Leah Myers' letter dated December 11, 2015, please find attached the requested 2015 yearend financial information related to the OPSEU Pension Plan (the "Plan"). The requested information has been determined as of December 31, 2015 and is contained in the body of this letter and in the attached exhibits.

The calculations for items 1, 3, 5, 9, 11 and 12 have been performed on an accounting basis by Willis Towers Watson using the projected unit credit cost method and the economic assumptions detailed in Ms. Myers' letter. All other requested calculations were compiled by OPSEU Pension Trust ("OPTrust").

Please note the following regarding the attached information:

- Ms. Myers requested that the actuarial information be prepared using four sets of economic assumptions (Basis 1, 2, 3 and 4). The assumptions used under each basis are described in Exhibit 1.

- The December 31, 2015 calculations are based on December 31, 2015 member data for the Plan, as provided by the OPTrust to Willis Towers Watson and as used in the December 31, 2015 funding valuation of the Plan. A summary of the December 31, 2015 member data for the Plan is contained in the attached Exhibit 2.

- The information on the market value and actuarial value of the Plan's assets as at December 31, 2015 is preliminary and is subject to change. In particular, the December 31, 2015 valuation for alternative assets will not be complete until after January 25, 2016. As of December 31, 2015 over 30% of the Fund is allocated to alternative assets. As such the total market and actuarial value of assets may materially change once those asset valuations are complete.

1 Adelaide Street East
Suite 1200
Toronto, ON M5C 3A7

Tel: (416) 681-6161
(Toronto calling area)

1-800-906-7738
(Toll-free in Canada)

Fax: (416) 681-6175

www.optrust.com

Mr. Mark Rozic
Treasury Board Secretariat
January 25, 2016

- The contribution breakdown in item 4 of the attached Exhibit 1 has been updated to the same level of detail as the Plan's financial statements, as requested by the government.

- The schedule of the deferred gains / losses to derive the actuarial asset value adjustment as at December 31, 2015 has been included as item 7 in the attached Exhibit 1.

- The number of pensioners and active members as at December 31, 2015 are included as item 8 in the attached Exhibit 1.

- A high level explanation of the causes of actuarial losses and gains (including salary) for 2015 is included in items #9 and #12 in the Exhibit 1.

- The December 31, 2015 liability calculations have been based on the provisions of the Plan as at December 31, 2015. A summary of the applicable provisions is contained in Willis Tower Watson's funding actuarial valuation report for the Plan as at December 31, 2014. There have been no material changes to the Plan provisions since December 31, 2014.

- Except for the economic assumptions noted in Exhibit 1 and the asset valuation method (OPTrust does not use a smoothed value of assets), the December 31, 2015 liability calculations are based on the same preliminary assumptions that are being considered for use in the December 31, 2015 financial statement valuation of the Plan. A description of those preliminary assumptions for the Plan's December 31, 2015 financial statement valuation is contained in Exhibit 3 attached.

As you are aware, the government's best estimate economic assumptions are not those of the OPSEU Pension Trust. These assumptions have not been used in the past for the Plan's funding valuations, or the Plan's financial statement actuarial valuations and, in particular, they have not been used for the most recent December 31, 2015 funding valuation of the Plan, or the December 31, 2015 financial statement valuation of the Plan. We would also note that the obligations of employers to contribute to the Plan are based on the terms of the Plan and the funding actuarial valuations of the Plan.

If you have any questions or require any additional information, please contact me at 416-681-6749.

Yours truly,

Dani Gorajchy
Vice-President, Actuarial Services and Plan Policy

Encls.
cc: Ms. Leah Myers, Ministry of Finance
Mr. Alex Killoch, Ministry of Finance
Mr. Robert Pomykacz, Ministry of Finance
Mr. Ian Markham, Willis Towers Watson
Mr. Hugh O'Reilly, OPSEU Pension Trust
Mr. Reg Swamy, OPSEU Pension Trust

Exhibit 1

Actuarial Information for the OPSEU Pension Plan as Requested by the Province
(Amounts in $ millions)

			December 31, 2015		
		Basis 1	*Basis 2*	*Basis 3*	*Basis 4*
1.	Actuarial present value of accrued benefit obligations	15,535	16,024	15,557	16,047
2.	(a) Actuarial value of pension fund assets (preliminary)	17,379	17,379	17,379	17,379
	(b) Market value of pension fund assets (preliminary)	18,398	18,398	18,398	18,398
3.	For the year ended: Actuarial Present Value of Accrued Benefit Obligations as of December 31, 2014	15,133	15,133	15,133	15,133
	(a) Interest on accrued benefits	969	969	969	969
	(b) Cost of benefits accrued (i)	430	430	430	430
	(c) Cost of benefit improvements	0	0	0	0
	(d) Changes in assumptions	91	580	124	614
	(e) Benefits paid (ii)	(897)	(897)	(897)	(897)
	(f) Experience (Gains)/Loss	(191)	(191)	(202)	(202)
	Actuarial Present Value of Accrued Benefit Obligations as of December 31, 2015	15,535	16,024	15,557	16,047

(i) Includes current period service cost, past service contributions and transfers from other plans made during 2015.

Current Period	391
Past Service	23
Transfers from other Plans	16
	430

(ii) Includes retirement pensions, refunds, commuted value transfers and transfers to other plans. The retirement pensions paid during 2015 were $691 million. Refunds and commuted value transfers were $72 million. Transfers to other plans were $134 million.

Economic Assumptions as provided by the Province

	Basis 1	*Basis 2*	*Basis 3*	*Basis 4*
Assumptions provided by Province				
Return on investment	6.50%	6.25%	6.25%	6.00%
Inflation	2.25%	2.25%	2.00%	2.00%
Real Rate of Return	4.25%	4.00%	4.25%	4.00%
Salary Escalation Rate				
2016-2019	2.25%	2.25%	2.00%	2.00%
2020 onwards	3.25%	3.25%	3.00%	3.00%

Other assumptions - Based on the same assumptions used for the December 31, 2015 funding valuation of the Plan				
YMPE increase	2.75%	2.75%	2.50%	2.50%
ITA maximum increase beginning in 2017	2.75%	2.75%	2.50%	2.50%
TV CIA rate for Lump Sum:	2.00%	2.00%	2.00%	2.00%
Interest on Employee Contributions	3.25%	3.25%	3.00%	3.00%
Mortality table	108% of CPM2014 Private Sector mortality table, with generational projection using projection scale CPM-B			
% elect Deferred pension/ lump Sum	30%/70%			

	Regular	Age Related Rates
Retirement rates	90 points	40% ages 55 to 59
	60/20	30% age 60&20; 20% ages 61 to 64

EXHIBIT 1 (continued)

Actuarial Information for the OPSEU Pension Plan as Requested by the Province
(Amounts in $ millions)

			December 31, 2015
4.	For the year ended:		
	(a)	Employee contributions:	
		Current Service (include LTIP)	242
		Prior Service	15
			257
	(b)	Employer contributions:	
		Current Service (include LTIP)	242
		Prior Service	7
			249
	(c)	Transfers from other plans	16
5.	Expected average remaining service lifetime of active employees		12.2 years
6.	Economic assumptions used in the Plan's financial statements:		
	(a)	Return on investment	5.75%
	(b)	Inflation	2.00%
	(c)	General salary escalation	1.0% for 2016 and 2.75% thereafter
	(d)	YMPE increases	2.50%

EXHIBIT 1 (continued)

Actuarial Information for the OPSEU Pension Plan as Requested by the Province
(Amounts in $ millions)

7. The following preliminary schedule provides the composition of the actuarial asset value adjustment as at December 31, 2015:

	Deferred (Gains)/Losses	Timing of Future Recognition			
	2015	**2016**	**2017**	**2018**	**2019**
2011	0	-	-	-	-
2012	(64)	(64)	-	-	-
2013	(268)	(134)	(134)	-	-
2014	(483)	(161)	(161)	(161)	-
2015	(204)	(51)	(51)	(51)	(51)
Total	**(1019)**	**(410)**	**(346)**	**(212)**	**(51)**

The actuarial asset value adjustment reflects the portion of gains or losses not yet recognized for purposes of determining the value of actuarial assets. The actuarial asset value adjustment provides for the smoothing of gains and losses, mitigating volatility and providing a more stable basis for determining surplus.

The actuarial value of investments as at the reporting dates has been determined using a formula that smoothes out the effects of the changes in market values over a five-year period. The approach recognizes differences between the actual and management's best estimate of the return on investments in income evenly over the current and following four years. Management's best estimate of investment return is 6.1% for 2015, 6.4% for 2014, 6.5% for 2013, 6.75% for 2012 financial statement purposes.

8. For the year ended December 31, 2015:

(a)	Number of Active Members	43,835
(b)	Number of Inactive Members	
	Pensioners and Survivors	33,721
	Deferred pensioners	5,604
	Special deferred pensioners	2,594
	Former members with unprocessed benefits	1,237
	Total	43,156

EXHIBIT 1 (continued)

Actuarial Information for the OPSEU Pension Plan as Requested by the Province
(Amounts in $ millions)

9. The following provides a breakdown of the experience gains and losses for 2015:

	Basis 1	***Basis 2***	***Basis 3***	***Basis 4***
Salary (Gain)/Loss	(141)	(141)	(152)	(152)
Other Economic (Gain)/Loss	(50)	(50)	(50)	(50)
	(191)	(191)	(202)	(202)

10. We will provide the 2015 financial statements as soon as they are available.

11. The 2016 current service cost for each basis is as follows:

Basis 1	***Basis 2***	***Basis 3***	***Basis 4***
406	424	407	425

12. Please see the breakdown in item 9 above.

EXHIBIT 2

Summary of Plan Member Data at December 31, 2015

The membership data at December 31, 2015 was used for the Plan's December 31, 2015 funding valuation and was provided to Willis Towers Watson by the OPSEU Pension Trust. A summary of the data follows.

Active Members	
Number	43,835
Average Credited Service	12.2
Average Age	46.1
Average Salary[1]	$63,123
Pensioners and Survivors	
Number	33,721
Average Age	70.2
Average Annual Pension[2]	$19,172
Deferred Pensioners	
Number	5,604
Average Age	48.0
Average Annual Pension[2]	$6,015
Special Deferred Pensioners[3]	
Number	2,594
Average Age	53.0
Average Annual Pension[2]	$7,399
Former Members with Unprocessed Benefits[4]	
Number	1,237
Average Age	47.2
Average Annual Pension[2]	$4,539

1 The average salary is based on the assumed salaries as at January 1, 2016.

2 The average annual pension is based on the pension as at January 1, 2016.

3 Former Plan members whose membership terminated as a result of a divestment.

4 Former members who ceased Plan participation prior to December 31, 2015 but who have not elected a benefit entitlement option.

EXHIBIT 3

Preliminary Actuarial Assumptions Used in Plan's December 31, 2015 Financial Statements

Investment Return

The assumed rate of return on investments is 5.75% per annum. This rate is net of expected investment-related expenses.

Inflation Rate

The inflation rate as measured by increases in the Consumer Price Index is assumed to be 2.00% per annum.

Salary Scale

The rate of salary increase consists of two components:

(a) Economic Increases

A rate of 1.00% per annum for 2016 and 2.75% per annum thereafter has been assumed for increases in salary related to inflation and productivity.

(b) Promotion Increases

A salary promotion scale based on years of service has been assumed and is presented in Appendix "A".

Rate of Increase in the Year's Maximum Pensionable Earning ("YMPE") under the Canada Pension Plan

It is assumed that the YMPE will increase at a rate of 2.50% per annum.

Income Tax Act Maximum Pension Limit

It is assumed that the maximum annual pension limit of $2,890.00 per year of pensionable service will increase at a rate of 2.50% per annum, starting in 2017.

Interest on Employee Contributions

It is assumed that employee contributions will be credited with interest at the rate of 3.00% per annum.

Mortality Rates

It has been assumed that the mortality of members before and after retirement will be represented by 108% of CPM2014 Private Sector mortality table, with generational projection using projection scale CPM-B.

Withdrawal Rates

It is assumed that members will terminate their employment in accordance with rates based on member age. Sample rates are shown in Appendix "B".

EXHIBIT 4 (continued)

Actuarial Assumptions Used in Plan's 2015 Financial Statements

Transfer Value Take-up Rate and Transfer Value Basis

It is assumed that 70% of members terminating will elect a transfer value option. Lump sum transfer values determined for this group were calculated using a discount rate of 2.0% real. Mortality was assumed to be represented by the 2014 Canadian Pensioner Mortality Table (CPM2014) projected with the mortality improvement scale CPM-B.

Retirement Rates

It is assumed that members will retire in accordance with the rates of retirement shown in Appendix "C". Three sets of retirement rates are used in the valuation. The "reduced" early retirement rates are applied until the member qualifies for unreduced benefits under the 90-point rule where age plus service total 90 years, or the age 60 and 20 years of service rule. Thereafter, either the 60/20 or the 90-point retirement rates are used.

Disability

No provision has been made for disability in recognition of the continuation of pension accrual and contributions under the Plan.

Marital Status

It has been assumed that 85% of male members and 60% of female members are married at the time a benefit commences to be paid.

It has been assumed that the spouse of a male member is three years younger than the member and the spouse of a female member is two years older than the member.

Expenses

A provision for administrative expenses equal to the present value of the estimated future costs attributable to administering the accrued pension benefits.

Special Deferred Pensioners

For special deferred pensioners, it was assumed that mortality, withdrawal and retirement rates subsequent to divestment will be the same as the rates for active members of the OPSEU Plan. Salaries and the YMPE for these members are assumed to increase at the rate of 2.00% annum to account for the indexation of their accrued pensions.

APPENDIX "A"

Rates of Promotional Salary Increase

Years of Service	Increase
1	4.00%
2	3.60%
3	3.20%
4	2.60%
5	2.10%
6	1.80%
7	1.60%
8	1.40%
9	1.20%
10	1.00%
11	0.80%
12	0.60%
13	0.60%
14	0.50%
15	0.50%
16	0.50%
17	0.50%
18	0.30%
19	0.30%
20	0.30%
21 and over	0.00%

APPENDIX "B"

Sample Withdrawal Rates

Attained Age	Rate
20	0.077
25	0.063
30	0.051
35	0.041
40	0.033
45	0.027
50	0.022
55	0.000

APPENDIX "C"

Retirement Rates

Attained Age	Reduced Early	90-Point	60/20
50		0.40	
51		0.40	
52		0.40	
53		0.40	
54		0.40	
55	0.046	0.40	
56	0.020	0.40	
57	0.023	0.40	
58	0.026	0.40	
59	0.029	0.40	
60	0.058		0.30
61	0.059		0.20
62	0.061		0.20
63	0.062		0.20
64	0.115		0.20
65	1.000		1.00