Board of Governors
PENSION & BENEFITS COMMITTEE
Friday 20 September 2019
9:30 a.m. to 12:00 noon
NH 3318

		OPEN SESSION	**ACTION**
9:30	1.	Approval of the 14 June 2019 Minutes (Open Session)* and Business Arising	Decision
	2.	Execution Against the Work Plan* [Grivicic]	Information
	3.	Update on Government Pension Plan Initiatives [Shapira]	Information
9:35	4.	Recommendation re: Deployment of Cash in Registered Pension Plan* (Huber)	Decision
9:45	5.	Pension Plan Amendment No. 5* (Byron)	Recommend to BOG
9:55	6.	Pension Risk Management Dashboard as of 30 June 2019* (Byron)	Information
	7.	Continuation of Discussion – Report from the Working Group on Pension Funding/Design* [Shapira]	Discussion
	8.	Update re: Holistic Benefits Working Group	Information
	9.	Other Business a. Delisting of OHIP out-of-country coverage effective January 1, 2020 (Hornberger)	 Information
		CONFIDENTIAL SESSION	
	10.	Approval of the 14 June 2019 Minutes (Confidential)+ and Business Arising	Decision

Next Meeting: Friday 18 October 2019, 9:30 a.m. – 12:00 noon in NH 3318

*attached
** to be distributed
+ distributed separately

13 September 2019

Mike Grivicic
Associate University Secretary

Please convey regrets to Melissa Holst at 519-888-4567 x36125 or mjholst@uwaterloo.ca

Future Agenda Items
a. Pension Contribution for Members of LTD
b. Level of LTD coverage vs. practical requirements
c. Discussion of $3,400 cap appropriateness, and potential RPP/PPP combination

University of Waterloo
Board of Governors
PENSION & BENEFITS COMMITTEE
Minutes of the 14 June 2019 Meeting
[in agenda order]

Present: Peter Barr (chair), Terrance Birmingham, Ted Bleaney, Mike Grivicic (secretary), Michael Herz, Dennis Huber, Ranjini Jha, David Kibble, Alan Macnaughton, David Saunders, Michael Steinmann, Mary Thompson

Absent: Kathy Bardswick*, Jim Rush*, Marilyn Thompson*
*regrets

Guest: Ken Vetzal

Consultant: Linda Byron, Allan Shapira

Administration: Sarah Hadley, Lee Hornberger

Organization of Meeting: Peter Barr took the chair and Mike Grivicic acted as secretary. The secretary advised that a quorum was present.

1. APPROVAL OF THE 17 MAY 2019 MINUTES (OPEN SESSION) AND BUSINESS ARISING

A motion was heard to approve the minutes. Kibble and Thompson. Carried. There was no business arising.

2. EXECUTION AGAINST THE WORK PLAN

This item was received for information.

3. UPDATE ON GOVERNMENT PENSION PLAN INITIATIVES

Shapira noted the introduction of Bill 124, and observed there are no clear provisions in the bill for implementing the province's announcement re: "double-dipping". He also observed that a national pharmacare program may prove to be an issue of interest in the upcoming federal election.

4. PRESENTATION – DISCUSSIONS OF WORKING GROUP ON PENSION FUNDING/DESIGN

Shapira provided a PowerPoint presentation, including: work was predicated on moving closer to an equal sharing of current service cost between the university and plan members, and providing a pension up to the limit of the *Income Tax Act (ITA)*; as caps rise, current service costs increase; proposal would move to two contribution levels; provision to index caps at a fraction of the inflation rate; adjustments to caps should coincide with valuation filings; proposal would result in increase in employee contributions while maintaining employer contributions at current levels. Members clarified and discussed: rebalancing of current service costs should occur whether plan members or the university are the greater contributor, and monitoring should be ongoing; the wholesale removal of caps isn't feasible at this time; total contributions are currently 20%of pensionable earnings, and question of whether this could be increased much more; funding ratios and pension benefit offerings would be in line with other comparable institutions; increasing pension contributions may be onerous when the province has announced separate limits to compensation increases in the sector; would be helpful to have more information on the cap change, in light of other plans being uncapped; contribution increases can help to improve health of the plan and deal with unanticipated changes e.g. changes to mortality tables. By consensus, members agreed that Aon should proceed with consideration of how these plans changes could be implemented, including consultations and education to include with potential communications to the community. Members are welcome to consult informally over the summer months within their own constituencies, and this discussion will continue into the fall term.

5. BENEFITS UTILIZATION REPORT

Hornberger provided an overview of the report's contents, noting that the university's plan only considers Health Canada approval for drugs. Macnaughton noted a recent development in British Columbia encouraging the use of "biosimilar" medications where possible.

6. WATERLOO ASO BENEFITS PLAN PROVISIONS, RELATIVE TO STANDARD GWL PLAN PROVISIONS

Hornberger clarified that biosimilar drugs require prior authorization. This report was received for information.

7. UPDATE RE: HOLISTIC BENEFITS WORKING GROUP

Byron provided an update: the content of the employee survey is largely set; examining costing of plans and potential new offerings; GWL presented to the group and spoke to areas to target for cost management.

8. AMENDMENT TO ANNUAL MEETING SCHEDULE OF PENSION & BENEFITS COMMITTEE

By consensus, members agreed with the proposal and directed the secretary to make the necessary changes.

9. OTHER BUSINESS

Members recognized this is the final meeting of Alan Macnaughton before his retirement, and thanked him for his service to the committee and to the University.

With no further business in open session, the committee proceeded into confidential session.

NEXT MEETING

The next meeting is scheduled for Friday 20 September 2019 from 9:30 a.m. – 12:00 noon in NH 3318.

12 September 2019

Mike Grivicic
Associate University Secretary

Execution against Work Plan

Pension & Benefits Committee, Board of Governors, University of Waterloo

The below represents the annual responsibilities of the P&B Committee and has been prepared as an aid to planning only. The committee's activities are much broader, however, and include: legislative changes, plan changes and improvements; selection of managers and service providers; and requests from the UW community regarding pension and benefits plans.

Task	**Frequency (Target month)**	**21 Sept 2018**	**19 Oct 2018**	**9 Nov 2018**	**14 Dec 2018**	**18 Jan 2019**	**22 Feb 2019**	**8 Mar 2019**	**16 May 2019**	**14 June 2019**	**20 Sept 2019**
Approval of Actuarial Valuation Assumptions	Annual (Jan)					✓					
Investment Status of PPP	Annual (Jan)					✓					
Cost-of-living Increase for Pensioners	Annual (Feb)						✓				
Pensions for Deferred Members	Annual (Feb)						✓				
Salaries for Pension Purposes for Individuals on Long-term Disability	Annual (Feb)						✓				
Actuarial Valuations (RPP and PPP), with posting to website once approved	Annual (Mar)							✓			
Review of Contribution and Protocol Caps (RPP and PPP)	Annual (Mar)							✓			
Benefits Plan Premium Renewals	Annual (Mar)							✓			
Indexing of Long-term Disability Plan Benefits and Maxima	Annual (Mar)							✓			
Annual Committee Self-Assessment	Annual (Mar)							✓			
Budget Overview	Annual (May)								✓		
Previous Years' Fees and Expenses	Annual (May)								✓		
Annual Audit of the Pension Plan Fund Financial Statements	Annual (May)								✓		

D = deferred

Task	Frequency	21 Sept 2018	19 Oct 2018	9 Nov 2018	14 Dec 2018	18 Jan 2019	22 Feb 2019	8 Mar 2019	16 May 2019	14 June 2019	
Benefits Utilization Report	Annual (June)									✓	
Annual review re: benefits added/removed from insured plans in the market	Annual (June)									✓	
Indexing of Plan Maxima – Health, Dental, Retiree Life Insurance	Annual (Nov)			✓							
Employee and Family Assistance Program – report on utilization	Annual (Nov)			✓							
Cost-of-living adjustment to payroll pension plan limit	Annual (Dec)				✓						
Total Fund Overview	Quarterly				✓						
Investment Manager Review	Semi-annually										
Approval of the Statement of Investment Policies and Procedures (SIPP)	Annual		✓								
Annual Report to the Community	Annual					✓	✓				
Actuarial Filing Minimum every three years - most recent filings in 2017 and 2018											

Report to the Pension & Benefits Committee

Registered Pension Plan – Investment Recommendation

September 13, 2019

<u>Recommendation:</u>
That the Pension & Benefits Committee approve:

1. Deploying $43m of the available cash in the Registered Pension Plan (Pension) into equity investments
2. That the $43m be invested in the Sionna Canadian equity mandate

<u>Background:</u>
At the May 2019 Finance & Investment Committee, the committee directed staff to prepare a recommendation for investing a portion of the available cash in the Pension. Feedback was subsequently collected from committee members and has been considered in drafting this recommendation. In addition, discussions from the June 3 "clean sheet" exercise were considered.

The amount of cash currently available in the RPP is approximately $246m. The recent $43m cash increase was the result of the February 2019 partial divestiture of the Pension's investment in Brookfield Infrastructure Partners (BIP). The cash is currently invested in bankers' acceptances.

Two decisions are required:

1. The amount of cash to be invested
2. How to invest the cash

<u>1. Amount of Available Cash to be Invested:</u>

We anticipate that the new Pension Investment Committee (PIC) will be operational in 2019.

In light of this, it is recommended that $43m of the available cash be invested at this time, with the balance of cash to be considered by the PIC and its Board approved processes.

<u>2. How to Invest</u>

Analysis supporting the recommendation on how to invest the available cash:

Considerations

- As at June 30, 2019, the allocation of Pension assets by investment class as compared to the SIPP's benchmark portfolio was as follows:

	Benchmark		**Current Allocation**	
	$(M)	**%**	**$(M)**	**%**
Cash	37	2%	252	13.7%
Fixed Income	609	33%	673	36.5%
Canadian Equity	277	15%	65	3.5%
Global Equity	738	40%	700	37.9%
Infrastructure	92	5%	95	5.1%
Real Estate	92	5%	60	3.3%
Total	1,845	100%	1845	100%

- This comparison indicates that the Pension investment portfolio is underweight Canadian equities (and overweight cash)

- To maintain the Pension's investments within the permitted ranges per its SIPP and to improve alignment with the benchmark portfolio, the investment should be in Canadian equities
- The proceeds must be invested with an investment manager that is currently approved by the Board of Governors for the Registered Pension Plan
- The investment managers who are currently approved for Canadian equity mandates are:
    - Sionna Canadian equity (pension and endowment only)
    - PH&N Canadian equity (endowment only)
    - TDAM Canadian Equity Index Fund (payroll pension plan only)

Sionna Canadian Equity (Recommended)

- Sionna manages Canadian equity mandates in both the Pension ($67m) and the endowment ($60m)
- As of March 31, the 4 year relative performance of these investments versus the S&P/TSX Composite Index (net of fees) is 2019 + 0.24%, 2018 + 0.90%, 2017 + 0.39%
- Sionna's annual performance ended March 31, 2019 trailed the index (net of fees) by 3.9%
- The University's total amount invested with Sionna represents approximately 5% of all pension, endowment and trust assets

Additional Information

- No additional investment manager or custodial documentation would be required to invest the proceeds
- The fee structure in place with Sionna is 0.375% on the first $50m, 0.325% on the next $50m, 0.275% on the next $100m and 0.250% on the balance; fees would reduce from 0.33% to 0.32%
- If the recommendation is approved and implemented, the estimated changes in the asset allocation by investment class would be:

	Benchmark		Current Allocation		Estimated Updated Allocation	
	$(M)	%	$(M)	%	$(M)	%
Cash	37	2%	252	13.7%	209	11.3%
Fixed Income	609	33%	673	36.5%	673	36.5%
Canadian Equity	277	15%	65	3.5%	108	5.9%
Global Equity	738	40%	700	37.9%	700	37.9%
Infrastructure	92	5%	95	5.1%	95	5.1%
Real Estate	92	5%	60	3.3%	60	3.3%
Total	1,845	100%	1,845	100%	1,845	100%

Dennis Huber
Sarah Hadley

UNIVERSITY OF WATERLOO
PENSION PLAN FOR FACULTY AND STAFF

Amendment No. 5

The Board of Governors of the University of Waterloo resolves that the University of Waterloo Pension Plan for Faculty and Staff (amended and restated effective January 1, 2011), Registration Number 0310565 (the "Plan"), is amended to as follows:

1. Effective May 1, 2018, paragraph (a) of Section 4.02 of the Plan shall be deleted in its entirety and replaced with the following:

"(a) Subject to Section 4.02(b), (c) and (d), the University shall each year make contributions to the Pension Fund as are required, based on the certification of the Actuary, to provide:

(i) the normal cost of the benefits currently accruing to Members under the Plan; and

(ii) for the proper amortization of any going concern unfunded liability or solvency deficiency,

both in accordance with the Pension Benefits Act, after taking into account all relevant factors including the assets of the Pension Fund and the required Member contributions.

For greater certainty, upon submission to the applicable regulatory authorities of an actuarial valuation report with an effective date on or after December 31, 2017, the University is obligated to make contributions in respect of:

(iii) the provision for adverse deviations in respect of the normal cost;

(iv) any amendment that increases going concern liabilities; and

(v) any reduced solvency deficiency under the Plan.

Notwithstanding the above, the University's contributions to the Plan under this Section 4.02 shall be offset by any amounts contributed to the Pension Fund by an Affiliated Organization on behalf of its Members."

CERTIFICATION

I ____________________________, Secretary to the Board of Governors of the University of Waterloo, do hereby certify under the seal of the University that the foregoing resolution was duly approved by the Board of Governors at a meeting held on the ___ day of ______________, 2019.

____
Signature

____
Date

UNIVERSITY OF WATERLOO
PENSION PLAN FOR FACULTY AND STAFF

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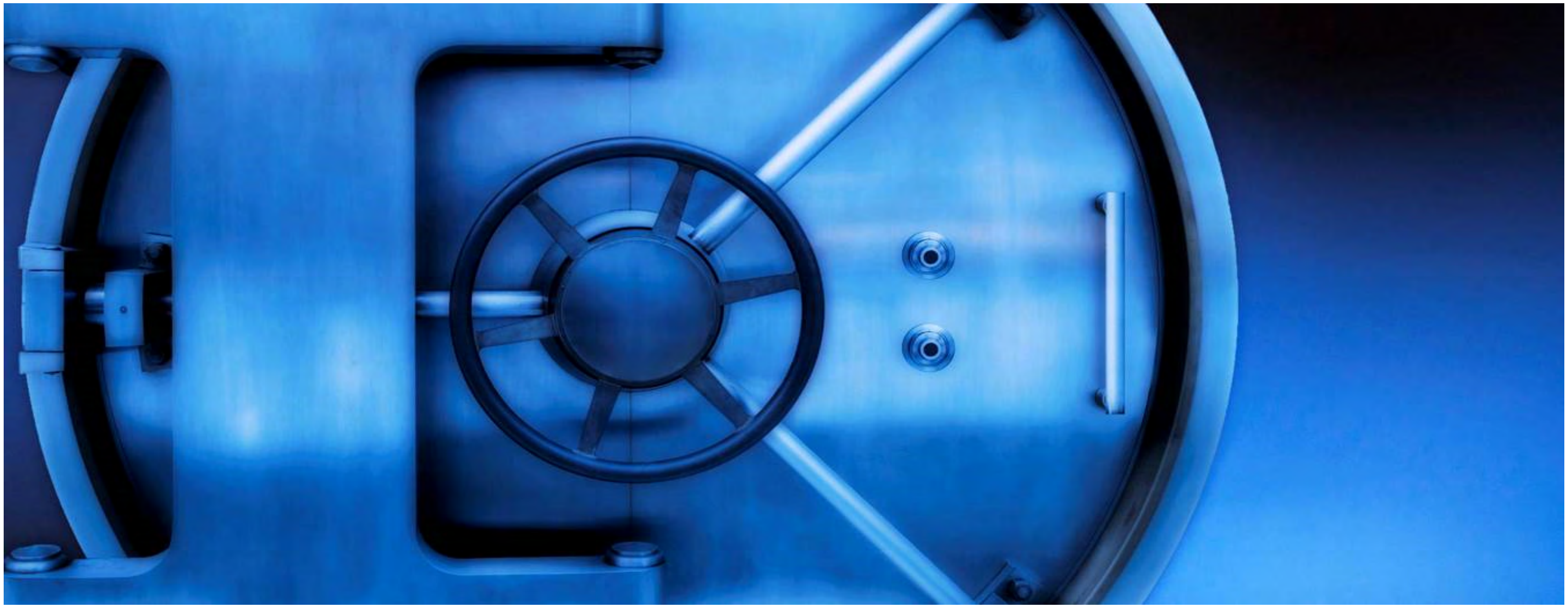
____
Signature

____
Date



Pension Risk Management Dashboard

University of Waterloo
As of June 30, 2019

Empower Results®

About This Material

This dashboard was prepared for the University of Waterloo to track changes in funded status of the Pension Plan over successive reporting periods, as well as quantify the amount of risk to which the Pension Plan is exposed. The report presents the funded status and performs the analysis on three bases:

Risk-Free Benchmark Basis – This liability is calculated using best estimate assumptions for retirement, termination and other demographic experience, and a discount rate and inflation assumption determined with reference to the risk-free environment. For this report, the liability has been determined at the real return bond yield plus a 40 basis point credit spread to reflect additional yield that can be achieved with relatively little additional risk. This liability differs from the solvency calculation in that the demographic assumptions are best estimate and statutory “grow-in” provisions are not included.

Going Concern Basis – This liability is calculated using the going concern assumptions at the most recent valuation. The analysis is performed using the market value of assets with Provision of Adverse Deviation as prescribed by the *Pension Benefits Act* (Ontario).

Solvency Basis – This liability is calculated using assumptions determined in accordance with the Canadian Institute of Actuaries Annuity Purchase guidance and Commuted Value standards in effect at each measurement date shown in this report. A summary of these assumptions is included on page 13.

This dashboard also contains a reconciliation that compares the going concern liability with the liability calculated using the risk-free benchmark. The difference between the two liabilities represents the amount of return expected to be provided by taking on risk in the investment portfolio. Over successive quarters the tool helps quantify how that risk changes as the underlying interest rates change.

On both bases the following information is shown:

- Current Funded Status and Historical Asset Liability Performance
  - How well funded is the plan?
  - What has been the return on plan assets and liabilities?
- Detailed Asset and Liability Performance Attribution
  - What factors drove the performance of assets and liabilities over the prior period?
  - What is the relative impact of these factors on the assets and liabilities in isolation and in combination?

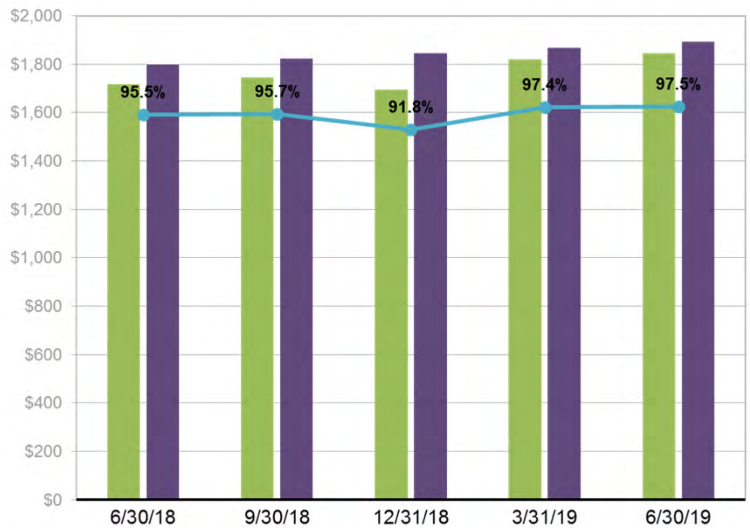
For the Risk-Free Benchmark Basis, the following information is also shown:

- Scenario Testing
  - What risk exposures does the plan face?
  - What would be the impact of a downside event for each risk factor?

Executive Summary – Going Concern

Values in $1,000,000 (CAD)

Funded Status



Highlights for the Quarter-Ending 6/30/19

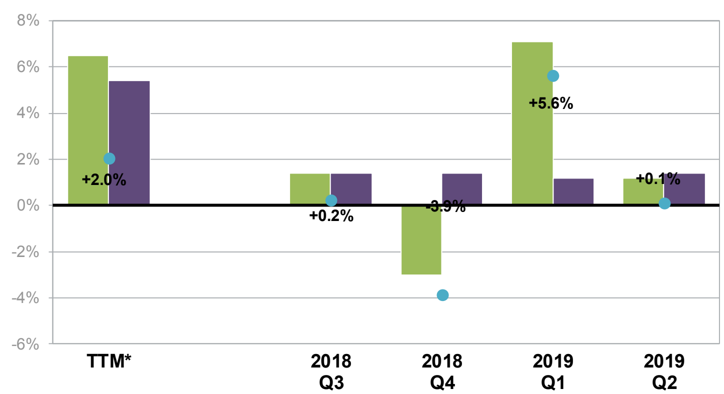
The plans' funded ratio increased to 97.5% at 6/30/19. This result was primarily due to the combined effects of:

- Asset performance slightly lower than expected, offset by
- Contributions of $23.6 million which exceeded new benefit accruals.

	6/30/18	9/30/18	12/31/18	3/31/19	6/30/19
Market Value of Assets	$ 1,717.3	$ 1,744.7	$ 1,694.3	$ 1,819.1	$ 1,845.5
Going Concern Liability	1,798.2[1]	1,822.2[1]	1,845.1[1]	1,866.8[2]	1,892.6[2]
Surplus/(Deficit)	$ (80.9)	$ (77.5)	$ (150.8)	$ (47.7)	$ (47.1)
Periodic Contributions	21.8	$ 22.8	$ 23.3	$ 22.3	$ 23.6
Effective Interest Rate	5.60%	5.60%	5.60%	5.70%	5.70%
Funded Ratio (Market):	95.5%	95.7%	91.8%	97.4%	97.5%
Asset Duration:	2.0	2.0	2.0	2.0	2.0
Going Concern Liability Duration:	14.1	14.1	14.1	13.9	13.9

[1]After application of the Provision for Adverse Deviation ("PFAD") at 6.95%
[2]After application of the Provision for Adverse Deviation ("PFAD") at 8.50%

Asset-Liability Return



Asset Liability Return for Quarter-Ending 6/30/19

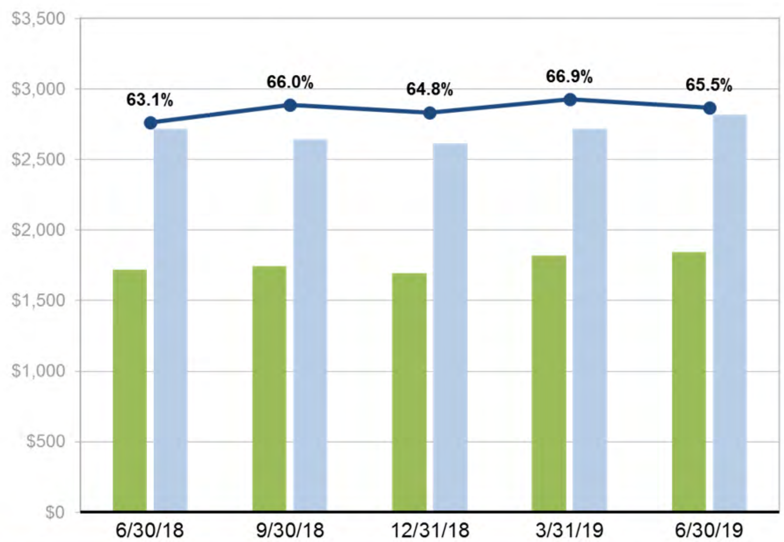
Assets returned 1.2% during the quarter while liabilities returned 1.4%, resulting in a funded status increase of 0.1%.

Periodic Return/Change	Cumulative	9/30/18	12/31/18	3/31/19	6/30/19
Market Value of Assets Return	6.5%	1.4%	-3.0%	7.1%	1.2%
Going Concern Return	5.4%	1.4%	1.4%	1.2%	1.4%
Funded Ratio Change[2]	2.0%	0.2%	-3.9%	5.6%	0.1%

Executive Summary – Risk- Free Benchmark

Funded Status

Values in $1,000,000 (CAD)



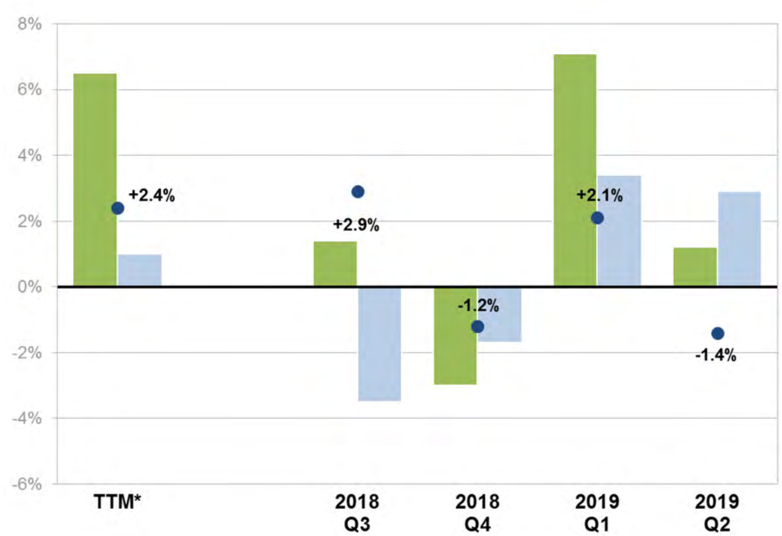
Highlights for the Quarter-Ending 6/30/19

The plans' funded ratio decreased to 65.5% at 6/30/19. This result was primarily due to the combined effects of:

- Asset performance slightly lower than expected,
- New benefit accruals which exceeded contributions of $23.6 million, and
- An increase in liabilities due to a decrease in risk-free rates.

	6/30/18	9/30/18	12/31/18	3/31/19	6/30/19
Market Value of Assets	$ 1,717.3	$ 1,744.7	$ 1,694.3	$ 1,819.1	$ 1,845.5
Risk-Free Liability	2,720.0	2,643.8	2,612.9	2,718.4	2,816.0
Surplus/(Deficit)	$ (1,002.7)	$ (899.1)	$ (918.6)	$ (899.3)	$ (970.5)
Periodic Contributions	21.8	$ 22.8	$ 23.3	$ 22.3	$ 23.6
Discount Rate	0.87%	1.07%	1.18%	0.86%	0.74%
Funded Ratio:					
Assets/Risk-Free Liability	63.1%	66.0%	64.8%	66.9%	65.5%
Asset Duration:	2.0	2.0	2.0	2.0	2.0
Risk-Free Liability Duration:	18.6	19.0	19.0	18.9	18.9

Asset-Liability Return



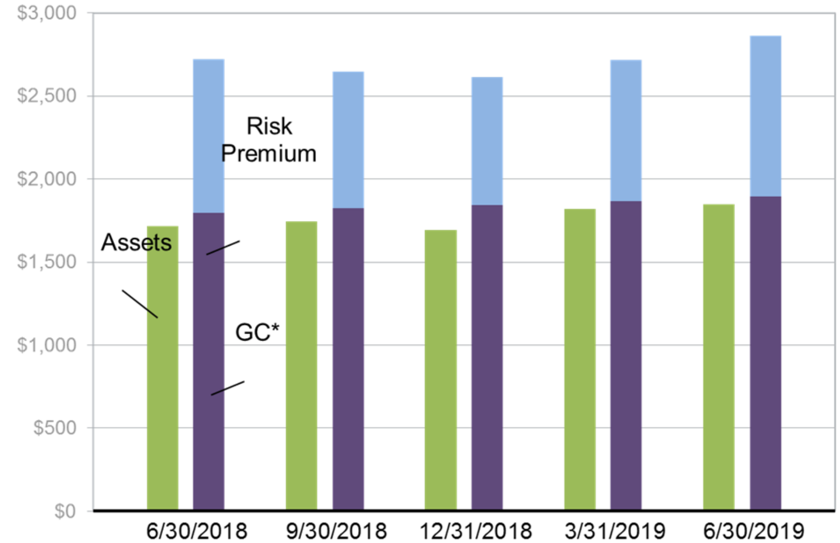
Asset Liability Return for Quarter-Ending 6/30/19

Assets returned 1.2% during the quarter while liabilities returned 2.9%, resulting in a funded status decrease of 1.4%.

Periodic Return/Change	Cumulative	9/30/18	12/31/18	3/31/19	63/30/19
Market Value of Assets Return	6.5%	1.4%	-3.0%	7.1%	1.2%
Risk-Free Liability: Return	1.0%	-3.5%	-1.7%	3.4%	2.9%
Funded Ratio Change	2.4%	2.9%	-1.2%	2.1%	-1.4%

Reconciliation of Risk-Free Benchmark and Going Concern Funded Status

Values in $1,000,000 (CAD)



		6/30/18		9/30/18		12/31/18		3/31/19		6/30/19
Market Value of Assets	$	1,717.3	$	1,744.7	$	1,694.3	$	1,819.1	$	1,845.5
Going Concern Liability	$	1,798.2	$	1,822.2	$	1,845.1	$	1,866.8	$	1,892.6
Risk Premium		921.80		821.6		767.8		851.6		923.4
Risk-Free Liability	$	2,720.0	$	2,643.8	$	2,612.9	$	2,718.4	$	2,816.0

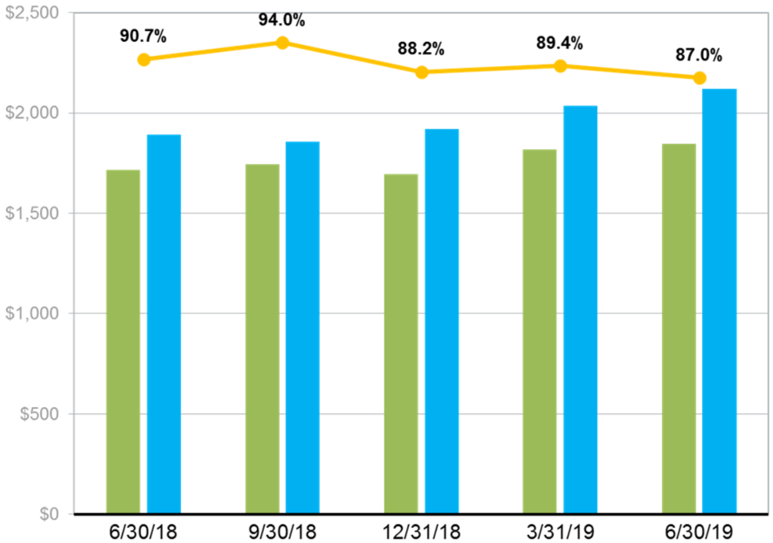
*Going Concern

The difference between the Risk-Free Liability and the Going Concern Liability is a measure of the amount of risk premium on which the Pension Plan funding is based.

Executive Summary - Solvency

Values in $1,000,000 (CAD)

Funded Status



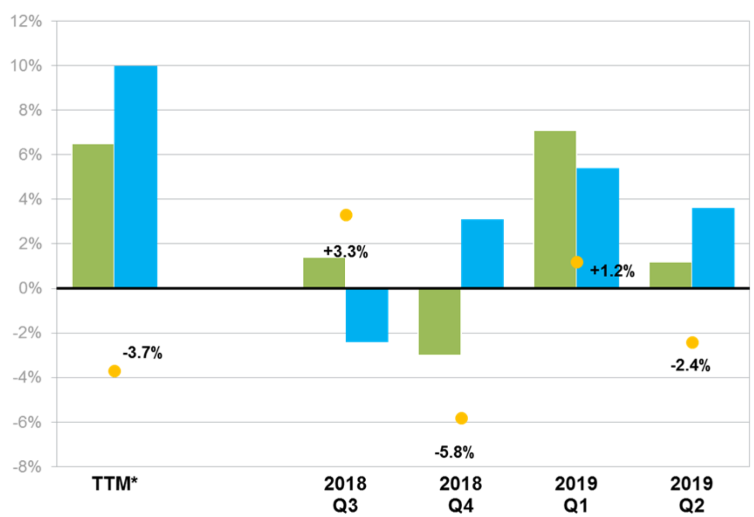
Highlights for the Quarter-Ending 6/30/19

The plans' funded ratio decreased to 87.0% at 6/30/19. This result was primarily due to the combined effects of:

- Asset performance slightly lower than expected,
- Accruals which exceeded contributions of $23.6 million, and
- An increase in liabilities due to a decrease in effective interest rate.

	6/30/18	9/30/18	12/31/18	3/31/19	6/30/19
Market Value of Assets	$ 1,717.3	$ 1,744.7	$ 1,694.3	$ 1,819.1	$ 1,845.5
Solvency Liability	1,892.6	1,856.2	1,920.9	2,035.6	2,120.6
Surplus/(Deficit)	$ (175.3)	$ (111.5)	$ (226.6)	$ (216.5)	$ (275.1)
Periodic Contributions	21.8	$ 22.8	$ 23.3	$ 22.3	$ 23.6
Effective Interest Rate	3.10%	3.33%	3.19%	2.90%	2.71%
Funded Ratio: Assets/Solvency Liability	90.7%	94.0%	88.2%	89.4%	87.0%
Assets Duration:	2.0	2.0	2.0	2.0	2.0
Solvency Liability Duration:	14.3	14.4	14.4	14.1	14.1

Asset-Liability Return



Asset Liability Return for Quarter-Ending 6/30/19

Assets returned 1.2% during the quarter while liabilities returned 3.6%, resulting in a funded status decrease of 2.4%.

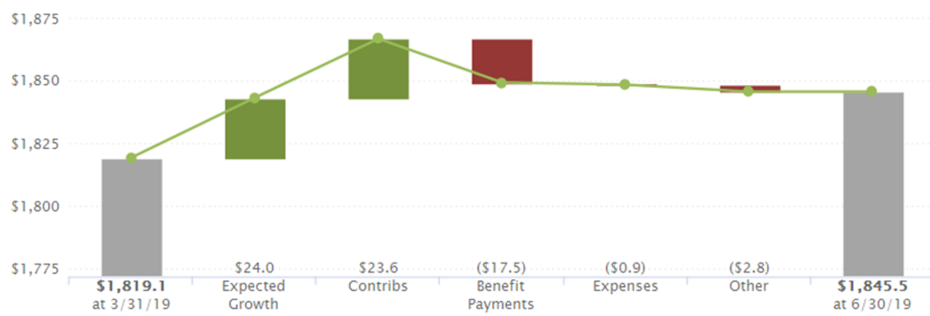
Periodic Return/Change	Cumulative	9/30/18	12/31/18	3/31/19	6/30/19
Market Value of Assets Return	6.5%	1.4%	-3.0%	7.1%	1.2%
Solvency Liability Return	10.0%	-2.4%	3.1%	5.4%	3.6%
Funded Ratio Change	-3.7%	3.3%	-5.8%	1.2%	-2.4%

Appendix

Asset-Liability Performance Attribution – Going Concern

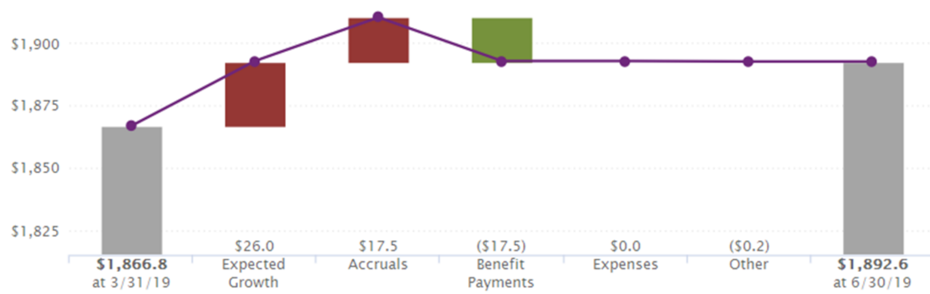
Values in $1,000,000 (CAD)

Assets



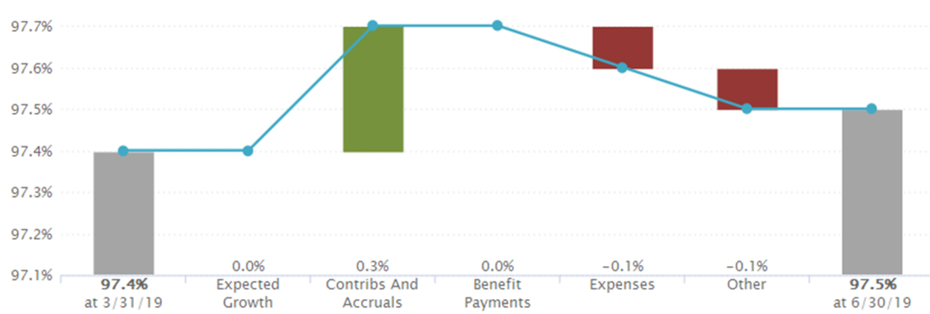
- Assets returned 1.2% during this quarter, as opposed to an expected growth assumption of about 1.3% per quarter.
- The fixed income assets gained value due to a decrease in the underlying risk-free rates and shrinking credit spreads.
- $23.6 million in contributions were made during the quarter and the trust paid $17.5 million in benefits to the participants.
- "Other" includes the impact of active management, and differences between benchmark and actual investment allocations.

Liabilities



- Liabilities as of 6/30/19 are based on 5.70%.
- Liabilities were expected to grow by $26.0 million due to interest cost during the quarter.
- New benefit accruals increased the liability by $17.5 million during the quarter.
- Plan liabilities decreased by $17.5 million during the quarter as benefits were paid.

Funded Ratio

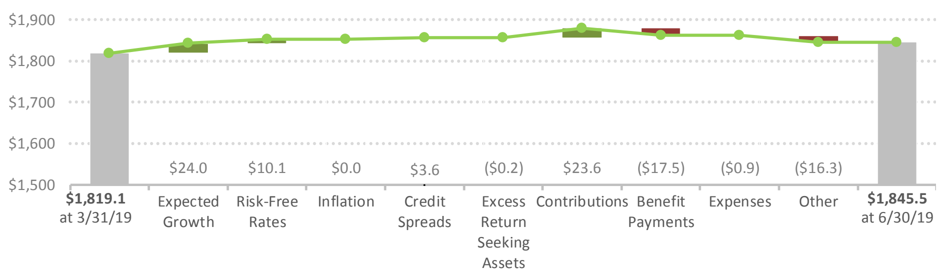


- Assets returned 1.2% during the quarter while liabilities returned 1.4%, resulting in a funded status increase of 0.1%.
- Contributions exceeded benefit accruals during the quarter, resulting in a net increase of 0.3% in the funded status.

Asset-Liability Performance Attribution - Risk-Free

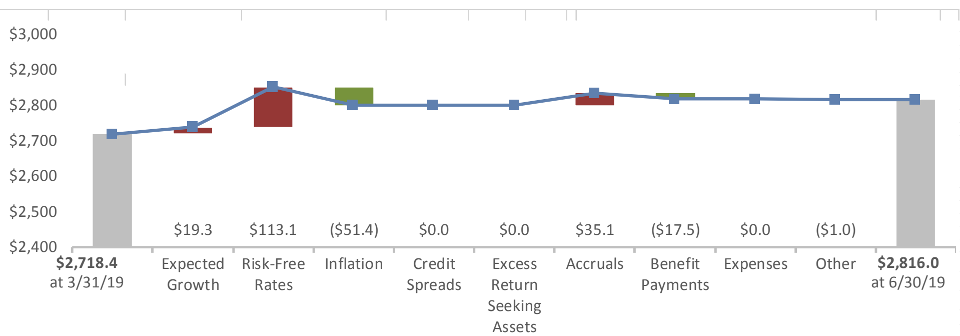
Values in $1,000,000 (CAD)

Assets



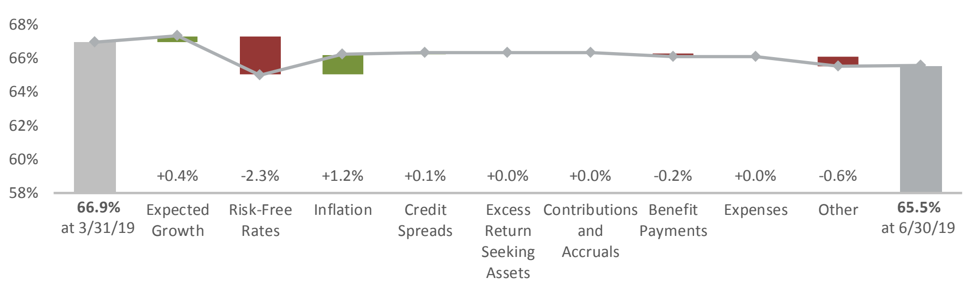
- Assets returned 1.2% during this quarter.
- The fixed income assets gained value due to a decrease in the underlying risk-free rates and shrinking credit spreads.
- The plans' return-seeking assets (Alternatives and International Equities) performed lower than expected during the quarter.
- $23.6 million in contributions during the quarter and the trust paid $17.5 million in benefits to the participants.
- "Other" includes the impact of active management, and differences between benchmark and actual investment allocations.

Liabilities



- Liabilities were expected to grow by $19.3 million due to interest cost during the quarter.
- New benefit accruals increased the liability by $35.1 million during the quarter.
- Risk-free rates decreased resulting in an increase in liabilities of $113.1 million.
- Inflation rates decreased resulting in a decrease in liabilities of $51.4 million.
- Plan liabilities decreased by $17.5 million during the quarter as benefits were paid.

Funded Ratio

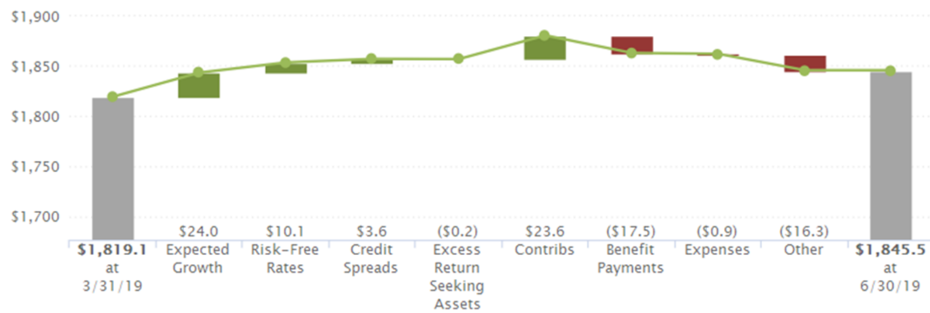


- The difference in exposure to risk-free rates between assets and liabilities combined with changes in risk-free rates resulted in a decrease in funded status of 2.3%.
- Changes in credit spreads resulted in an increase in funded status of 0.1%.
- Decrease in inflation expectations resulted in a increase in funded status of 1.2%.

Asset-Liability Performance Attribution - Solvency

Values in $1,000,000 (CAD)

Assets



■ Assets returned 1.2% during this quarter, as opposed to an expected growth assumption of about 1.3% per quarter.

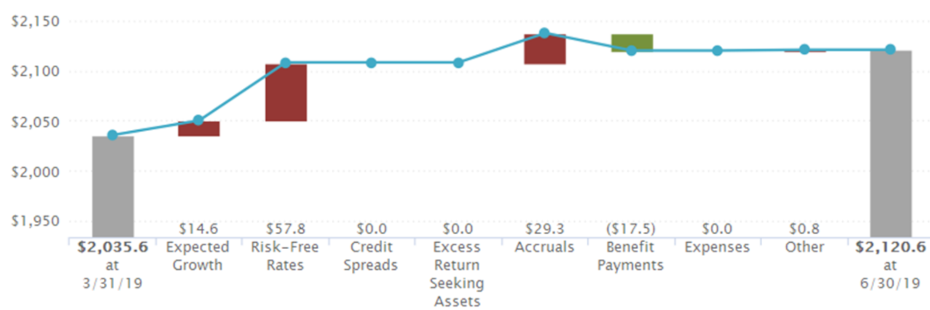
■ The fixed income assets gained value due to a decrease in the underlying risk-free rates and shrinking credit spreads.

■ The plans' return-seeking assets (Alternatives and International Equities) performed lower than expected during the quarter.

■ $23.6 million in contributions during the quarter and the trust paid $17.5 million in benefits to the participants.

■"Other" includes the impact of active management, and differences between benchmark and actual investment allocations.

Liabilities



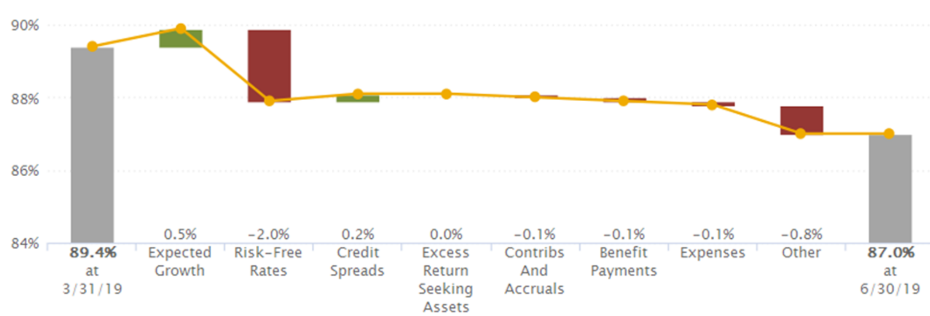
■ Liabilities were expected to grow by $14.6 million due to interest cost during the quarter.

■ Risk-free rates decreased, and credit spreads were unchanged, resulting in a net increase of $57.8 million ($57.8 million + $0.0 million).

■ New benefit accruals increased the liability by $29.3 million during the quarter.

■ Plan liabilities decreased by $17.5 million during the quarter as benefits were paid.

Funded Ratio



■ The difference in exposure to risk-free rates between assets and liabilities combined with changes in risk-free rates resulted in a decrease in funded status of 2.0%.

■ Benefit accruals exceeded contributions during the quarter, resulting in a net decrease of 0.1% in the funded status.

Plan Provisions & Membership Data

Same as in the Actuarial Valuation Results as of January 1, 2019 presentation to the Pension and Benefits Committee Meeting dated March 8, 2019

Actuarial Methods & Assumptions

Our analysis of the estimated financial position of the Pension Plan is based on the following:

	6/30/18	9/30/18	12/31/18	3/31/19	6/30/19
Going Concern					
Discount Rate	5.60%	5.60%	5.60%	5.70%	5.70%
Inflation	2.00%	2.00%	2.00%	2.00%	2.00%
PfAD	6.95%	6.95%	6.95%	8.50%	8.50%
Risk-Free Benchmark					
Discount Rate	0.87%	1.07%	1.18%	0.86%	0.74%
Solvency					
Annuity Purchase Interest Rate	3.10%	3.33%	3.23%	2.93%	2.76%
Effective Date of Annuity Purchase Guidance Used	6/30/18	9/30/18	12/31/18	3/31/19	6/30/19
Lump Sum Value Interest Rate (Years 1-10)[1]	2.90%	3.30%	2.80%	2.40%	2.30%
Lump Sum Value Interest Rate (Years 10+)[1]	3.20%	3.40%	3.20%	2.90%	2.80%
Mortality[2]	CPM2014	CPM2014	CPM2014	CPM2014	CPM2014
Underlying Canadian Reference Data					
CANSIM v39054 (7 Year)	2.12%	2.36%	1.90%	1.55%	1.41%
CANSIM v39056 (30 Year Long Term)	2.20%	2.41%	2.18%	1.90%	1.68%
CANSIM v39057 (30 Year Real Return)	0.47%	0.67%	0.78%	0.46%	0.34%
CANSIM v39062 (Over 10 Years)	2.20%	2.43%	2.13%	1.83%	1.66%

[1] Lump Sum Value Interest Rates are based on rates in effective on the first day of the month following quarter end (i.e. January 1st, April 1st, July 1st and October 1st).
[2] With improvement scale MI-2017 for Going Concern and Risk Free and CPM-B for Solvency (from 6/30/2018 onwards).

All other assumptions and methods are the same as those shown in the Actuarial Valuation Results as of January 1, 2019 presentation to the Pension and Benefits Committee Meeting dated March 8, 2019. For the Risk-Free Benchmark basis, all other assumptions and methods are the same as those used for the Going Concern basis.

Actuarial Attestation

This document is intended to provide to the University of Waterloo a summary of the performance of the Pension Plan as of June 30, 2019.

This analysis is intended to assist University of Waterloo with a review of the associated issues and options, and its use may not be appropriate for other purposes. This analysis has been prepared solely for the benefit of University of Waterloo. Any further dissemination of this report is not allowed without the written consent of Aon.

In conducting the analysis, we have relied on plan design, demographic and financial information provided by other parties, including the plan sponsor. While we cannot verify the accuracy of all the information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy or completeness of the information and believe that it has produced appropriate results.

Experience different than anticipated could have a material impact on the ultimate costs of the benefits. In addition, changes in plan provisions or applicable laws could have a substantial impact on cost. Actual experience may differ from our modeling assumptions.

September 2019

Asset Allocation and Benchmarking

Asset Class	06/30/19
Alternatives	
■ MSCI USA REIT Index	3.3%
■ MSCI USA Infrastructure Index	5.1%
Fixed Income	
■ FTSE TMX Universe Bond Index	50.0%
Equities	
■ MSCI World Index	37.9%
■ S&P TSX	3.7%
Total	100.0%

Glossary of Terms

- **Funded Status and Asset-Liability Return**
  - **Liability Return** reflects the growth in liability due solely to interest rate movements and excludes the impact of Accruals and Benefit Payments.
- **Asset Liability Performance Attribution**
  - **Expected Growth** reflects assets growing at the expected annual return and liabilities increasing at the interest rate[1].
  - **Risk-Free Rates** splits out the expected movement in assets and liabilities based on movements in federal bond yields.
  - **Inflation** splits out the expected movement in assets and liabilities based on movements in implied inflation, determined based on real and nominal federal bond yields.
  - **Credit Spreads** splits out the expected movements in corporate and provincial bond yields in excess of federal bond yields.
  - **Excess Return-Seeking Assets** defines the movement in the Return-Seeking assets based on benchmark returns in excess of expectations. The expectations are defined by the long-term capital market assumptions of the plan and are reflected in "expected growth".
  - **Benefit Payments** displays the expected decrease in assets and liabilities due to benefit payments during the period.
  - **Contributions/Accruals** displays the expected increase in assets and liabilities due to employer contributions and new benefit accruals, respectively.
  - **Other** includes fixed income returns due to coupons and other active management effects, from the asset perspective. From a liability perspective, this bucket includes all liability changes not explained by financial movements during the period.

[1] On the Risk Free basis, the expected growth of liabilities is based on the net interest rate, and the expected growth due to inflation is included in the benefit accrual.

University of Waterloo Pension & Benefits Committee
Report From The Working Group on Pension Funding and Design

June 14, 2019

Prepared for Discussion and Consultation

Empower Results®

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Issues Addressed By Working Group

1. Member contribution rates have fallen below the 50/50 sharing of current service costs since the last increase as of January 1, 2013, primarily as a result of:
   - Decreases in valuation discount rates from lower expected investment returns;
   - Improvements in longevity increasing the pension payment period; and
   - New going concern funding rules.
2. The primary objective of the UW Pension Plan (RPP) is to provide pension benefits up to the *Income Tax Act* (ITA) maximum pension in its current structure. A hard-dollar cap has been used for funding management purposes and to protect against unforeseen changes in the ITA maximum pension structure. This hard-dollar cap has been historically increased on a discretionary basis. However, a more definitive commitment to increasing the hard-dollar cap is recommended.
3. Transitioning out of the Payroll Pension Plan (PPP) may be necessary because the rising cost of providing pensions requires a focus on the first two issues.
4. The university pension funding policy needs to reflect any changes made to address the above issues.

Process for Working Group

- The Working Group (consisting of members from the P&B Committee) met five times—April 8 and 30, May 6 and 31, and June 4.
- Initial meetings focused on data collection including:
  - Member contribution rates for other Ontario university pension plans in connection with assessing the 50/50 cost-sharing target;
  - Treatment of the ITA maximum pension under other Ontario university pension plans in terms of any hard-dollar caps;
  - Background on the creation of the Payroll Pension Plan in 2000, the environment at the time and the reasons it was created; and
  - Supplemental arrangements, if any, at other Ontario universities.
- Multiple costings were prepared to assess the additional member contribution rates required to return to 50/50 sharing of current service cost, as well as different levels of hard-dollar caps on the UW Pension Plan.
- Proposed set of changes was developed to present to the P&B Committee in this Report for discussion purposes and approval to proceed with consultation.

Proposed Changes For Discussion and Consultation

This section outlines the proposed set of changes being brought forward to the P&B Committee for discussion purposes. Each of these proposed changes is then addressed in more detail in the following sections of this document.

Member Contribution Rates

- Amend the UW Pension Plan (RPP) to increase member contribution rates as follows to restore the sharing of the current service cost to approximately 50/50, subject to a phase-in, and to revert back to two-tier structure (below/above YMPE):

Salary	Current Rates	Proposed Rates
Less than 1 x YMPE	6.25%	7.80%
Between 1 x and 2 x YMPE	8.95%	11.20%
Above 2 x YMPE	9.95%	11.20%

- Phase in increases over three years starting in 2020 (on May 1 of each year):
  - First increase to: 6.95%/9.95% (increase of 0.70%/1.00%/0.00%)
  - Second increase to: 7.40%/10.60% (increase of 0.45%/0.65%/0.65%)
  - Third increase to: 7.80%/11.20% (increase of 0.40%/0.60%/0.60%)

Increase in Hard-Dollar Cap Under UW Pension Plan (RPP)

- Amend the RPP to increase the hard-dollar cap from $3,200 to $3,400 as of January 1, 2021.
- Include in the amendment an element of automatic escalation by indexing the $3,400 each subsequent calendar year by one-third of the percentage increase in the ITA maximum pension as indexed by the increase in average wage.
- Adopt a P&B Committee Resolution that provides the following:
  - When in connection with the annual actuarial valuation, the Plan actuary identifies that the ITA maximum pension is expected to reach the indexed hard-dollar cap within a three-year period based on the expected increase under the actuarial assumptions, the RPP should be amended to reset the hard-dollar cap and/or adjust the indexation under the automatic escalation feature, the amount of such reset or adjustment to be determined by the P&B Committee based on the circumstances at the time and provided that such change coincides with a filed valuation.

Payroll Pension Plan

- In conjunction with the above changes, no further increases would be made to the hard-dollar cap of $3,400 under the Payroll Pension Plan, which means that once the ITA maximum pension under the UW Pension Plan reaches $3,400, no benefits would be accrued by active members under the Payroll Pension Plan.
- This change would not impact pension benefits payable from the Payroll Pension Plan to pensioners at the time the above crossover happens.

University Pension Funding Policy

- Based on current financial circumstances, the university's pension funding policy would be to maintain its total contributions at the current % of salaries, which means that any reduction in the University current service cost resulting from the increase in member contribution rates would be reallocated to the special payments/additional contributions the university is making to the UW Pension Plan. The net impact is more contributions going into the UW Pension Plan in total which improves the funding of the UW Pension Plan.

Member Contribution Rates

This section provides details on the decrease in the members' share of the total current service cost as the total current service cost has increased since the last increase in member contribution rates under the UW Pension Plan (RPP) in 2013. As well, over that period of time, member contribution rates under other Ontario university pension plans have also increased (a comparison is provided). The cost impact of the proposed increase in member contribution rates is also provided.

Increase in Total Current Service Cost

- Member contribution rates were last increased as of January 1, 2013; as of the January 1, 2013 actuarial valuation:
  - Total Current Service Cost for RPP and PPP: 14.23% of salaries
  - Member Contributions: 7.29% of salaries
  - University Current Service Cost: 6.94% of salaries
  - University's Total Contributions: 11.30% of salaries
  - Members' Share of Current Service Cost: 51.2%
- As of the January 1, 2019 actuarial valuation:
  - Total Current Service Cost for RPP and PPP: 16.95% of salaries
  - Member Contributions: 7.34% of salaries
  - University Current Service Cost: 9.61% of salaries
  - University's Total Contributions: 12.41% of salaries
  - Members' Share of Current Service Cost: 43.3%
- Increase in Total Current Service Cost between January 1, 2013 and January 1, 2019 primarily a result of:
  - Decreases in valuation discount rates from lower expected investment returns;
  - Improvements in longevity increasing the pension payment period; and
  - New going concern funding rules.
- Periodic increase in hard-dollar caps also increases Total Current Service Cost; the proposed increase in hard-dollar cap under UW Pension Plan would increase the Total Current Service Cost from 16.95% of salaries to 17.71% of salaries, and reduce the member sharing of the total current service cost to 41.4% (before any increase in member contribution rates).

Comparison To Other Ontario University DB Pension Plans

- Following table shows the benefit rates and member contribution rates for a number of DB pension plans in the Ontario university sector along with the ratio of the member contribution rate to the benefit rate. The higher the ratio, the more the member is paying relative to the benefit rate. However, other ancillary benefits could factor into the contribution rate such as indexation and subsidies for early retirement and survivor pensions:

	Benefit Rate	**Contribution Rate**	**Ratio of Contribution Rate to Benefit Rate**	
DB Pension Plan	**Below / Above YMPE**	**Below / Above YMPE**	**Below YMPE**	**Above YMPE**
University of Toronto[1]	1.60% / 2.00%	9.20% / 11.50%	5.75X	5.75X
McMaster (Faculty)	1.40% / 2.00%	8.00% / 11.00%	5.71X	5.50X
McMaster (Unifor)	1.40% / 2.00%	8.646% / 11.646%	6.18X	5.82X
Ottawa[2]	1.30% / 2.00%	7.15% / 10.95%	5.50X	5.48X
Guelph (Faulty)[3]	1.50% / 2.00%	8.99% / 10.69%	5.99X	5.35X
Guelph (CUPE)	1.60% / 2.00%	8.60% / 10.90%	5.38X	5.45X
Ryerson	1.35% / 2.00%	7.40% / 9.50%	5.48X	4.75X
UPP	1.60% / 2.00%	9.20% / 11.50%	5.75X	5.75X
Waterloo (Current)	1.40% / 2.00%	6.25%/ 8.95% / 9.95%	4.46X	4.48X / 4.98X
Waterloo (Proposed)	1.40% / 2.00%	7.80% / 11.20%	5.57X	5.60X

[1] Effective July 1, 2019
[2] Before increase to 50/50 sharing of current service cost on January 1, 2020
[3] Effective July 1, 2020

Impact of Proposed Increase in Member Contribution Rates

- Based on the January 1, 2019 actuarial valuation, the proposed increase in member contribution rates would have the following impact (in 2019 dollars):

	Annual Member Contributions (as if in effect for full year)	
Member Contribution Rate	**(000's)**	**% of Salaries**
6.25% / 8.95% / 9.95%	$ 34,998	7.34%
6.95% / 9.95%	$ 38,062	7.99%
7.40% / 10.60%	$ 40,332	8.46%
7.80% / 11.20%	$ 42,284	8.87%

- The impact on members at various salary levels is shown in Appendix A. Member contributions are tax-deductible.

Hard-Dollar Cap Under UW Pension Plan

This section provides the impact of the proposed increase in hard-dollar cap under the UW Pension Plan on the accrued liabilities and total current service cost under the UW Pension Plan (RPP) and the Payroll Pension Plan (PPP). This section also shows the combined impact of the proposed increase in the member contribution rates and the proposed increase structure for the hard-dollar cap. The analysis is based on the January 1, 2019 actuarial valuation assuming the changes are all effective as of that date.

Interaction of ITA Maximum Pension and Hard-Dollar Cap Under RPP

- The following table shows how the proposed change to the hard-dollar cap (increase from $3,200 to $3,400 as of January 1, 2021, and each calendar year thereafter index the $3,400 by one-third of the % increase in the ITA maximum pension as indexed by the increase in average wage) would interact with the ITA maximum pension based on the assumed increase of 2.75% per year under the actuarial valuation:

Year		**Indexed ITA Maximum Pension**			**Partially Indexed Hard-Dollar Cap**
2019	$	3,025.56		$	3,200.00
2020	$	3,108.76		$	3,200.00
2021	$	3,194.25		$	3,400.00
2022	$	3,282.10		$	3,431.28
2023	$	3,372.35		$	3,462.85
2024	$	3,465.09		$	3,494.71
2025	**$**	**3,560.38**	**Crossover Year**	**$**	**3,526.85**
2026	$	3,658.29		$	3,559.30
2027	$	3,758.90		$	3,592.05

Funding Requirements for Plan Improvements

- Increase in hard-dollar cap for RPP would increase the going concern liabilities, which would therefore be considered a plan improvement
- Ontario Regulation 178/11 which provided for the solvency funding relief regime under which the UW Pension Plan participated also contained special funding requirements in connection with plan improvements:
  - Special funding requirements for plan improvements remain in effect for a number of years after the university exits the solvency funding relief regime.

- We have confirmed with FSCO/FSRA the interaction of these special funding requirements under Regulation 178/11 with the new funding rules (since 178/11 was introduced in the context of the prior funding rules), as described below:
- Amortization periods for a portion of the increase in going concern liabilities is shortened to 5 years; will be dependent on ratio of going concern liabilities (**without** PfAD) to the market value of assets:
  - If ratio is in excess of 1.0, and increase in going concern liabilities (without PfAD) does not reduce the ratio to below 1.0, then no portion of the increase is amortized over 5 years.
  - If ratio is in excess of 1.0, and increase in going concern liabilities (without PfAD) reduces the ratio below 1.0, the amount required to bring the ratio back to 1.0 is amortized over 5 years.
  - If ratio is between 0.9 and 1.0, and the increase in going concern liabilities (without PfAD) reduces the ratio but not below 0.9, the amount required to maintain the ratio in effect prior to the change is amortized over 5 years.
  - In all the cases above, because there is a funding shortfall under the UW Pension Plan including the PfAD, the excess of the increase in going concern liabilities including the PfAD over the portion, if any, amortized over 5 years is then amortized over 10 years.

Payroll Pension Plan

- With the hard-dollar cap under the UW Pension Plan increasing to $3,400 as of January 1, 2021, once the ITA maximum pension reaches $3,400, there would be no benefits provided to active members from the PPP. This reduces the accrued liabilities and total current service cost under the PPP as shown on the following pages.
- The Appendix to this document provides a background on the introduction of the Payroll Pension Plan in 2000, a history of the hard-dollar caps under both the UW Pension Plan and PPP, and information on whether other Ontario universities provide a supplemental arrangement.
- Transitioning out of the PPP allows the focus to be on providing a fully indexed ITA maximum pension under the UW Pension Plan.

Cost Estimates

Impact on Accrued Liabilities

- The impact on accrued liabilities as if the proposed change was implemented as of January 1, 2019 is as follows:

Accrued Liabilities (for Active Members)

Plan	Current Provisions (000's)	Proposed Provisions (000's)	Increase/(Decrease) (000's)
RPP	$ 994,980	$ 1,043,780	$ 48,800
PPP	28,683	11,083	(17,600)
Total	$ 1,023,663	$ 1,054,863	$ 31,200

- Indexation of the ITA maximum pension without any hard-dollar cap would have increased the accrued liabilities by $82.6 million versus the $48.8 million with the proposed change.

Impact on Total Current Service Cost

- The impact on total current service cost as if the proposed change was implemented as of January 1, 2019 is shown below:

Total Current Service Cost

	Current Provisions		Proposed Provisions		Increase/(Decrease)	
Plan	(000's)	%	(000's)	%	(000's)	%
RPP	$ 78,797	16.54%	$ 83,940	17.61%	$ 5,143	1.07%
PPP	1,963	0.41%	450	0.10%	(1,513)	(0.31)%
Total	$ 80,760	16.95%	$ 84,390	17.71%	$ 3,630	0.76%

- Indexation of the ITA maximum pension without any hard-dollar cap would have increased the total current service cost under the RPP by $8.71 million (1.83% of salaries) versus $5.14 million (1.07% of salaries) with the proposed change.

Combination of Proposed Increase in Member Contribution Rates and Hard-Dollar Cap

- Following costing is based on January 1, 2019 valuation and full phase-in of the proposed increase in member contribution rates:

Member Contribution Rate	$ Amount (000's)	% of Salaries
Total Current Service Cost for RPP and PPP	$ 84,390	17.71%
Less: Member Contributions	42,284	8.87%
Equals: University Current Service Cost	$ 42,106	8.84%

- The combination of proposed changes results in a 50/50 sharing of total current service cost.

University Pension Funding Policy

This section analyzes the impact of the proposed changes on the total contributions to the UW Pension Plan.

Current Pension Funding Policy

- University's total contributions are currently set at 1.69 x member contributions (the "multiplier"), which generates total university contributions of 12.41% of salaries.

Impact of Increase in Member Contribution Rates on University Pension Funding Policy

- Based on current financial circumstances, the university's pension funding policy would be to maintain its total contributions at the 12.41% of salaries, which means that any reduction in the University current service cost from the increase in member contribution rates would be reallocated to the special payments/additional contributions the university is making to the UW Pension Plan rather than reducing university contributions. The net impact is more contributions going into the UW Pension Plan in total which improves the funding of the UW Pension Plan.
- The proposed change in the 1.69 multiplier with the increase in member contribution rates would be as follows:

Member Contributions		**Total University Contributions**	
Date	**% of Salaries**	**Multiplier**	**% of Salaries**
Current	7.34%	1.69X	12.41%
May 1, 2020	7.98%	1.56X	12.45%
May 1, 2021	8.46%	1.47X	12.44%
May 1, 2022	8.87%	1.40X	12.42%

- Following table shows the funding into the UW Pension Plan based on the pension funding policy above, reflecting a 3% increase in total salaries each year from 2019 onward and the May 1 implementation of the increases in member contribution rates and the change in multiplier for determining total university contributions:

		Estimated Contributions (000's)			
Calendar Year	**Total Salaries (000's)**	**Member Contributions**	**Total University Contributions**	**University Current Service Cost**	**Amount Available for Special Payments/ Additional Contributions**
Current					
2020	$ 490,922	$ 36,048	$ 60,921	$ 45,112	$ 15,809
Proposed					
2020	$ 490,922	$ 38,152	$ 61,079	$ 48,192	$ 12,887
2021	$ 505,650	$ 41,985	$ 62,930	$ 47,006	$ 15,924
2022	$ 520,819	$ 45,494	$ 64,720	$ 46,230	$ 18,490
2023	$ 536,444	$ 47,591	$ 66,627	$ 46,884	$ 19,743

Appendix A—Member Contributions at Various Salary Levels

- Impact on member contributions would be as follows (using 2019 YMPE):

	Current Members Contributions		Increase in Member Contributions						Fully Phased-In Member Contributions	
Salary	**$ Amount**	**% of Salary**	**Year 1**		**Year 2**		**Year 3**		**$ Amount**	**% of Salary**
$ 50,000	$ 3,125	6.25%	$ 350	0.70%	$ 225	0.45%	$ 200	0.40%	$ 3,900	7.80%
$ 70,000	$ 4,715	6.74%	$ 528	0.75%	$ 340	0.49%	$ 305	0.44%	$ 5,888	8.41%
$ 90,000	$ 6,505	7.23%	$ 728	0.81%	$ 470	0.52%	$ 425	0.47%	$ 8,128	9.03%
$ 110,000	$ 8,295	7.54%	$ 928	0.84%	$ 600	0.55%	$ 545	0.50%	$ 10,368	9.43%
$ 130,000	$ 10,237	7.87%	$ 976	0.75%	$ 730	0.56%	$ 665	0.51%	$ 12,608	9.70%
$ 150,000	$ 12,227	8.15%	$ 976	0.65%	$ 860	0.57%	$ 785	0.52%	$ 14,484	9.90%
$ 170,000	$ 14,217	8.36%	$ 976	0.57%	$ 990	0.58%	$ 905	0.53%	$ 17,088	10.05%

Appendix B—Background on Payroll Pension Plan

- Payroll Pension Plan (PPP) established May 1, 2000
- At time of establishment, ITA Maximum Pension under Registered Pension Plan (RPP) ($1,722.22 per year of credited service) reached at final average earnings of approximately $97,000.
- Minutes from P & B Committee meeting noted that UofT and McMaster had introduced measures to address cap problem up to $144,000; PPP was introduced to address retention and recruitment issues in period of increasingly competitive faculty hiring:
  - UofT Supplemental Retirement Arrangement (SRA) was introduced in 1997 and pensionable salary cap was $144,000 in 2000, increasing to $150,000 in 2002.
  - No evidence that McMaster actually implemented any provision above the ITA Maximum Pension.
- PPP cap set at $2,650 per year of credited service, reached at a final average earnings of approximately $143,400:
  - Intention was to increase the cap from time to time to match increases at other Ontario universities.
- Introduction of PPP was considered as one of the pension improvements under the Contribution Protocol.
- PPP introduced at a time when member and University contributions were reduced as a result of surplus:
  - University contributed to RPP at 100% of reduced member contributions, plus 37% of reduced member contributions to build up an account for the PPP.
  - Target asset accumulation was $10 million.
- As one of the pension improvements, any “cost” for the PPP in excess of $10 million adjusted with interest would be considered as a loan from the University under Contribution Protocol.

Appendix C—History of Caps under RPP and PPP

	RPP		PPP	
Calendar Year	**ITA Maximum Pension**	**Hard Dollar Cap**	**Maximum Pension**	**Hard Dollar Cap**
2000	$1,722.22	$2,200.00	$2,650.00	$2,650.00
2001	$1,722.22	$2,200.00	$2,650.00	$2,650.00
2002	$1,722.22	$2,200.00	$2,650.00	$2,650.00
2003	$1,722.22	$2,200.00	$2,650.00	$2,650.00
2004	$1,833.33	$2,200.00	$2,650.00	$2,650.00
2005	$2,000.00	$2,200.00	$2,650.00	$2,650.00
2006	$2,111.11	$2,444.44	$2,650.00	$2,650.00
2007	$2,222.22	$3,200.00	$2,650.00	$3,200.00
2008	$2,333.33	$3,200.00	$2,725.00	$3,200.00
2009	$2,444.44	$3,200.00	$2,800.00*	$3,200.00*
2010	$2,494.44	$3,200.00	$2,857.00	$3,200.00
2011	$2,552.22	$3,200.00	$2,923.00	$3,200.00
2012	$2,646.67	$3,200.00	$3,031.00	$3,200.00
2013	$2,696.67	$3,200.00	$3,088.00	$3,200.00
2014	$2,770.00	$3,200.00	$3,172.00	$3,300.00
2015	$2,818.89	$3,200.00	$3,228.00	$3,400.00
2016	$2,890.00	$3,200.00	$3,309.00	$3,400.00
2017	$2,914.44	$3,200.00	$3,337.00	$3,400.00
2018	$2,944.44	$3,200.00	$3,371.00**	$3,400.00**
2019	$3,025.56	$3,200.00	$3,400.00	$3,400.00

*PPP Maximum Pension of $2,800 represents approximately 14.5% increase over ITA maximum Pension of $2,444.44.
**PPP Maximum Pension of $3,371 represents approximately 14.5% increase over ITA maximum Pension of $2,944.44.

Appendix D—ITA Maximum Pension and Supplemental Arrangements at Other Universities

- University of Toronto:
  - No increase in pensionable salary cap of $150,000 since 2002.
  - ITA maximum pension reached at a highest average salary above $150,000 in 2014, so RPP now provides indexed ITA maximum pension with no further DB SRA.
  - Introducing DC SRA on July 1, 2021.
- Queen’s University, McMaster University, York University, University of Guelph, University of Windsor:
  - RPP provides indexed ITA maximum pension.
  - No supplemental pension arrangement.
- University of Ottawa:
  - RPP provides indexed ITA maximum pension
  - Supplemental pension arrangement for service prior to January 1, 2008, up to average maximum salary (approximately $206,000 in 2017).
  - No new benefit accruals on service from January 1, 2008 onward.
- Laurier University, Laurentian University, Ryerson University:
  - RPP provides indexed ITA maximum pension.
  - Supplemental pension arrangement provides pension on all pensionable salary (no cap on pensionable salary).
- Trent University:
  - RPP provides indexed ITA maximum pension.
  - Supplement pension arrangement provided on salary up to 5-year average of highest salary grade (D22 salary in 2018 is $193,898).

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