

**Board of Governors
PENSION & BENEFITS COMMITTEE
Friday 10 September 2021
9:30 a.m. to 12:00 noon**

**This meeting will be held via Microsoft Teams
Non-members may arrange to join the open session of the electronic meeting
by contacting Melissa Holst, mjholst@uwaterloo.ca**

		ACTION
9:30	1. Approval of the 18 June 2021 Minutes (Open Session)* and Business Arising <ol style="list-style-type: none">a. Update from June meeting – Discussion at PIC re: Endorsement of Responsible Investment Advisory Group Recommendations by the Board of Governorsb. Progress on Benefits Plan Marketing [Byron]c. Filing of January 1, 2021 Valuation [Byron]	Decision Information
	2. Execution Against the Work Plan* [Grivicic]	Information
	3. Update on Government Pension Plan Initiatives [Shapira]	Information
9:45	4. Pension Risk Management Dashboard, Q2 2021* [Byron]	Information
	5. Investments Update, Q2 2021* [Huber]	Information
10:00	6. APS Agreement with LifeWorks* (McGrath)	Decision
	7. Commuted Value – Potential Enhancement to myPENSIONinfo* (McGrath)	Discussion

CONFIDENTIAL SESSION

10:20	8. Retiree Appeal to Change Form of Pension+ (Hornberger, McGrath, Byron, Shapira)	Decision
	9. Approval of the 18 June 2021 Minutes (Open Session)+ and Business Arising	Discussion
	10. Services Review+	Discussion

Next Meeting: Friday 22 October 2021, 9:30 a.m. – 12:00 noon

*attached
** to be distributed
+ distributed separately

3 September 2021

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

University of Waterloo
Board of Governors
PENSION & BENEFITS COMMITTEE
Minutes of the 18 June 2021 Meeting
[in agenda order]

Present: Peter Barr, Terrence Birmingham, Ted Bleaney, Sara Cressman, Tony Giovinazzo, Mike Grivicic (secretary), Michael Herz, Dennis Huber, Ranjini Jha, Jim Rush, David Saunders, David Taylor, Marilyn Thompson, Ken Vetzal

Consultant: Linda Byron, Allan Shapira

Resources: Sarah Hadley, Lee Hornberger, Joan Kennedy, Sue McGrath

Organization of Meeting: Peter Barr took the chair, and Mike Grivicic acted as secretary. The secretary advised that a quorum was present. The meeting was held via videoconference. The chair welcomed Cressman and Taylor as new members to the committee.

1. APPROVAL OF THE 14 MAY 2021 MINUTES (OPEN SESSION) AND BUSINESS ARISING

The minutes were approved as distributed.

a. Follow up activity re: Policy 23/59 legal opinion. Hornberger observed that Bill 124 would have an impact in some areas under consideration. By consensus the committee agreed that the interpretation of the ten-year eligibility criteria is such that the ten-year period shall be deemed to have commenced on the earlier of the start date of the regular ongoing appointment or with the start of participation in the temporary benefits program (for those not having a regular ongoing appointment). This interpretation would apply to both Policy 23 and Policy 59 wording as defined in the group's mandate.

b. Update re: benefits plan implementation. Huber noted that in discussion with Vetzal, the query was resolved before the meeting.

2. EXECUTION AGAINST THE WORK PLAN

This item was received for information.

3. UPDATE ON GOVERNMENT PENSION PLAN INITIATIVES

Shapira noted that the University Pension Plan comes into effect on 1 July, and that the SIPP for said plan and other documents/policies related to investments will come forward in the coming weeks.

4. PENSION RISK MANAGEMENT DASHBOARD, Q1 2021

Byron provided an overview of the distributed material. Members observed that interest rates may rise in the future.

5. INVESTMENTS UPDATE, Q1 2021

Huber spoke to the exhibit and noted the inclusion of 15 year performance data.

6. BENEFITS UTILIZATION REPORT

Kennedy provided a PowerPoint presentation. Member discussed: would be good for HR to discern patterns/trends in long-term disability from the gathered data; data is shared with Healthy Workplace Committee, and analytics may suggest focused initiatives for the future; increased incidence of mental health utilization is seen across industries; may need to track COVID-related illness, including "long COVID"; would be good to obtain average terms on long-term disability by employee group.

7. PROGRESS ON BENEFITS PLAN MARKETING PROCESS

Byron discussed: working group continues with support from Aon; procurement is supporting RFP process; potential to include alternate LTD designs; general plans and timelines for RFP; aim to bring forward a recommendation for October 2021.

8. ANNUAL REVIEW RE: BENEFITS ADDED/REMOVED FROM INSURED PLANS IN THE MARKET

With the benefits plan marketing activity, the committee agreed with the chair's determination that this item may be bypassed in 2021 and will resume in 2022.

9. DISCUSSION POINTS RE: ENDORSEMENT OF RESPONSIBLE INVESTMENT ADVISORY GROUP RECOMMENDATIONS BY THE BOARD OF GOVERNORS

Jha spoke to the distributed material, noting the good work done to date and for the amendments that were made, and expressing that a written legal opinion would be useful to support the position that was taken. Members discussed: some concern that the Board's working group did not have representation from this committee; PIC is currently examining potential changes to the SIPP; the university commits to address concerns/problems and to work with stakeholders in finding solutions; concern that the portfolio emissions targets set may be too firm; metrics for measuring targets are expected to be changed and improved with time; recommendations focused on financial considerations and fiduciary duty. This matter will be brought to the upcoming meeting of the Pension Investment Committee.

10. ANNUAL REVIEW OF COMMITTEE TERMS OF REFERENCE

The chair noted the governance review in progress, and encouraged members to send observations via the secretary.

11. COMMITTEE SELF-ASSESSMENT SURVEY

The chair requested that some time be taken by members to complete surveys. Members suggested that orientation materials could be useful, and the secretary will follow up with Aon and Hornberger on this.

NEXT MEETING

The next regular meeting is scheduled for Friday 10 September 2021, 9:30 a.m. – 12:00 noon.

3 September 2021
amended 10 September 2021

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)	18 Sept 2020	16 Oct 2020	20 Nov 2020	15 Dec 2020	15 Jan 2021	11 Feb 2021	12 Mar 2021	14 May 2021	18 June 2021	10 Sept 2021
Approval of Actuarial Valuation Assumptions	Annual (Jan)					✓					
Investment Status of PPP	Annual (Feb)						✓				
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	18 Sept 2020	16 Oct 2020	20 Nov 2020	15 Dec 2020	15 Jan 2021	11 Feb 2021	12 Mar 2021	14 May 2021	18 June 2021	10 Sept 2021
Benefits Utilization Report	Annual (June)									✓	
Annual review re: benefits added/removed from insured plans in the market	Annual (June)									✓	
Review of Committee Terms of Reference	Annual (June)									✓	
Indexing of Plan Maxima – Health, Dental, Retiree Life Insurance	Annual (Nov)			✓							
Employee and Family Assistance Program – report on utilization	Annual (Nov)		✓								
Maximum pension limits and caps adjustments, based on average industrial wage increase (AIW)	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: 2017, 2018, 2020, 2021											



Pension Risk Management Dashboard

University of Waterloo
As of June 30, 2021

To protect the confidential and proprietary information included in this material, it may not be disclosed or provided to any third parties without the approval of Aon.



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/Hypothetical Wind Up 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 16.

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?

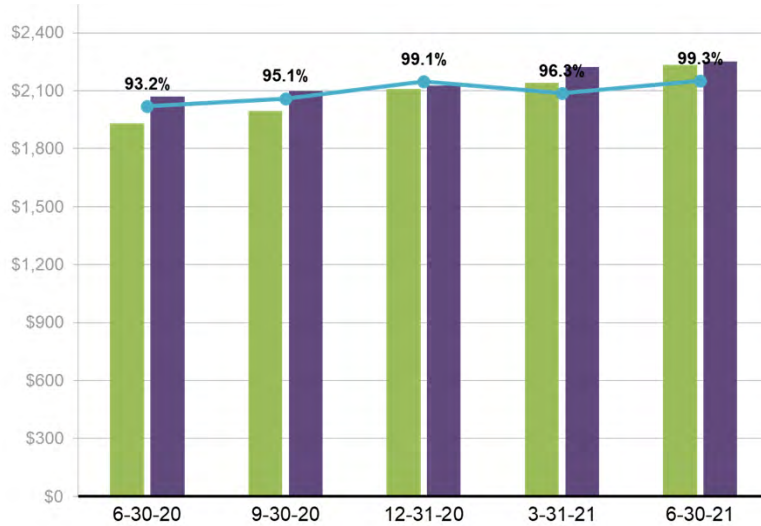
Highlights

- The going concern deficit decreased from \$82.2 million to \$16.6 million over the quarter due to asset performance exceeding expectations.
- The risk-free deficit increased from \$1,094.9 million to \$1,150.5 million over the quarter due to a decrease in risk-free rates.
- The solvency deficit decreased from \$89.3 million to \$69.7 million over the quarter primarily due to asset performance exceeding expectations.
- The total fund had a rate of return after all fees of 4.2% for last quarter, exceeding expectations.
- The estimated June 30, 2021 liabilities are projected based on the most recent actuarial valuation, with membership data as at January 1, 2021.
- The annuity purchase guidance educational note for valuations as of June 30, 2021 and July 1, 2021 (published as of July 26, 2021) has been reflected in the interest rates used to calculate the June 30, 2021 Solvency and Hypothetical Wind Up liabilities.
- The transfer ratio as at June 30, 2021 is 70.8%. Compared to the transfer ratio of 66.7% in the last filed valuation on January 1, 2020, this represents an increase of 6%. Since the transfer ratio did not decrease 10% over that period no Regulation 19 filing is required. See slide 11 for more details.
- The most recent actuarial valuation was performed as at January 1, 2021 (to be filed by end of August 2021).
- All figures are in \$1,000,000 (CAD).

Executive Summary – Going Concern

Values in \$1,000,000 (CAD)

Funded Status



Highlights for the Quarter-Ending 6/30/21

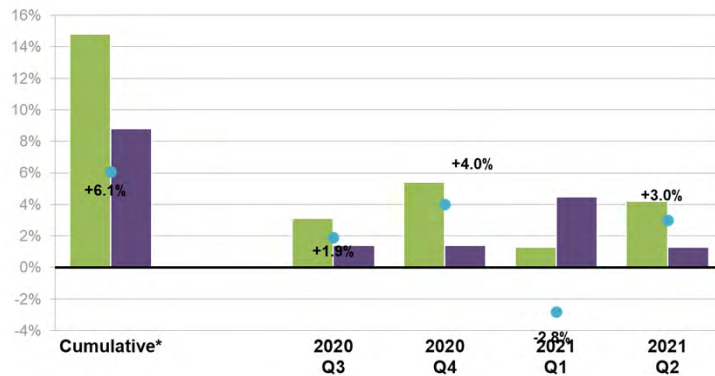
The plans' funded ratio increased to 99.3% at 6/30/21. This result was primarily due to the combined effects of:

- Asset performance exceeding expectations, and
- Contributions of \$26.4 million which exceeded new benefit accruals.

	6/30/20	9/30/20	12/31/20	3/31/21	6/30/21
Market Value of Assets	\$ 1,929.8	\$ 1,993.9	\$ 2,108.2	\$ 2,140.1	\$ 2,233.1
Going Concern Liability	2,070.3 ¹	2,097.6 ¹	2,127.7 ¹	2,222.3 ¹	2,249.7 ¹
Surplus/(Deficit)	\$ (140.5)	\$ (103.7)	\$ (19.5)	\$ (82.2)	\$ (16.6)
Periodic Contributions	\$ 33.2	\$ 25.8	\$ 25.6	\$ 25.6	\$ 26.4
Effective Interest Rate	5.60%	5.60%	5.60%	5.30%	5.30%
Funded Ratio:	93.2%	95.1%	99.1%	96.3%	99.3%
Asset Duration:	2.1	2.1	2.1	1.9	1.8
Going Concern Liability Duration:	14.5	14.5	14.5	14.4	14.4

¹After application of the PfAD at 9.00%

Asset-Liability Return



Asset Liability Return for Quarter-Ending 6/30/21

Assets returned 4.2% during the quarter while liabilities returned 1.3%, resulting in a funded status increase of 3.0%.

	Periodic Return/Change	Cumulative	9/30/20	12/31/20	3/31/21	6/30/21
Market Value of Assets Return		14.8%	3.1%	5.4%	1.3%	4.2%
Going Concern Return		8.8%	1.4%	1.4%	4.5%	1.3%
Funded Ratio Change		6.1%	1.9%	4.0%	-2.8%	3.0%

Executive Summary – Going Concern (PfAD Impact)

Values in \$1,000,000 (CAD)

Funded Status

	9/30/20	12/31/20	3/31/21	6/30/21
Going Concern Liability with 9.00% PfAD	\$ 2,097.7	\$ 2,127.7	\$ 2,222.3	\$ 2,249.7
New PfAD Impact	63.0 ¹	36.6 ²	0.00 ³	0.00 ⁴
Market Value of Assets	\$ 1,993.9	\$ 2,108.2	\$ 2,140.1	\$ 2,233.1
Going Concern Liability with New PfAD	<u>2,160.7</u>	<u>2,164.3</u>	<u>2,222.3</u>	<u>2,249.7</u>
Surplus/(Deficit)	\$ (166.8)	\$ (56.1)	\$ (82.2)	\$ (16.6)
PfAD	12.75%	11.15%	9.00%	9.00%

¹Impact of change in PfAD from 9.00% to 12.75%

²Impact of change in PfAD from 9.00% to 11.15%

³Impact of change in PfAD from 9.00% to 9.00%

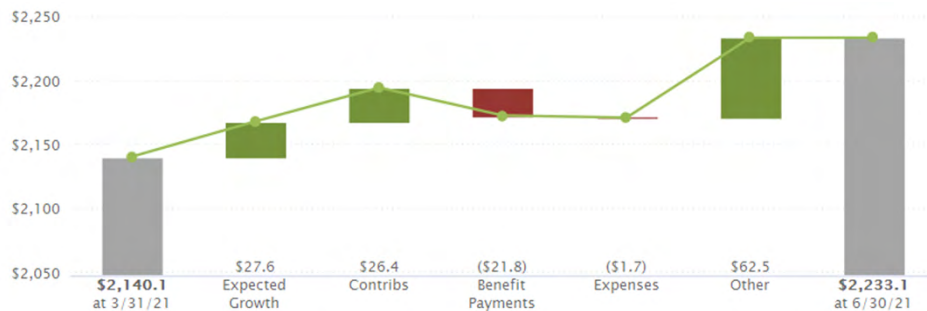
⁴Impact of change in PfAD from 9.00% to 9.00%

The going concern deficit decreased from \$82.2 million to \$16.6 million over the quarter due to asset performance exceeding expectations.

Asset-Liability Performance Attribution – Going Concern

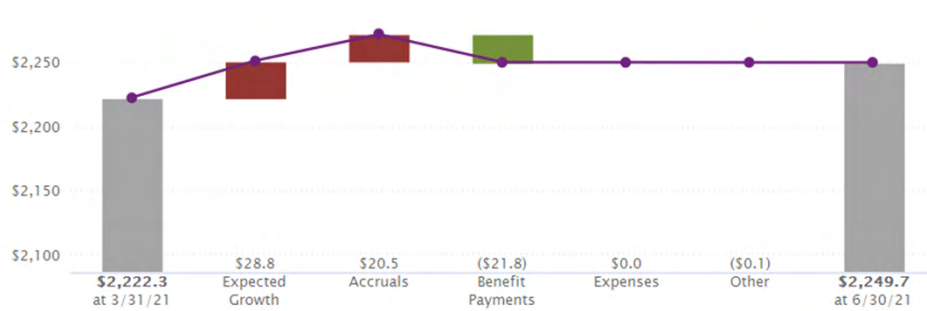
Values in \$1,000,000 (CAD)

Assets



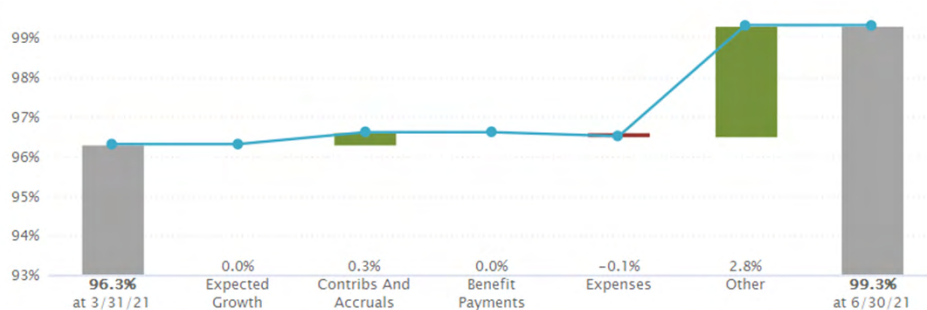
- Overall, assets returned 4.2% during this quarter, as opposed to an expected growth assumption of about 1.3% per quarter.
- The fixed income assets gained value due to narrowing credit spreads and a decrease in the underlying risk-free rates.
- The University and members made \$26.4 million in contributions during the quarter and the trust paid \$21.8 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 6/30/21 are based on 5.30%.
- Liabilities were expected to grow by \$28.8 million due to interest cost during the quarter.
- New benefit accruals increased the liability by \$20.5 million during the quarter.
- Plan liabilities decreased by \$21.8 million during the quarter as benefits were paid.

Funded Ratio

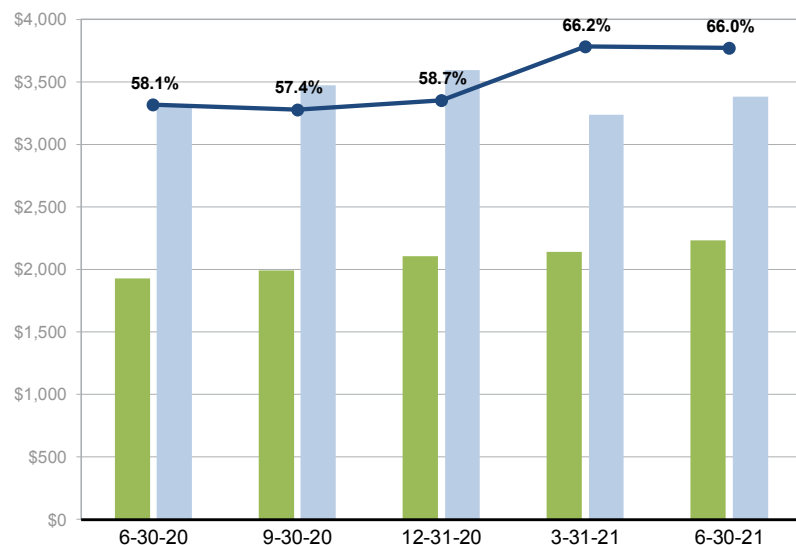


- Assets returned 4.2% during the quarter while liabilities returned 1.3%, resulting in a funded status increase of 3.0%.

Executive Summary – Risk Free

Values in \$1,000,000 (CAD)

Funded Status



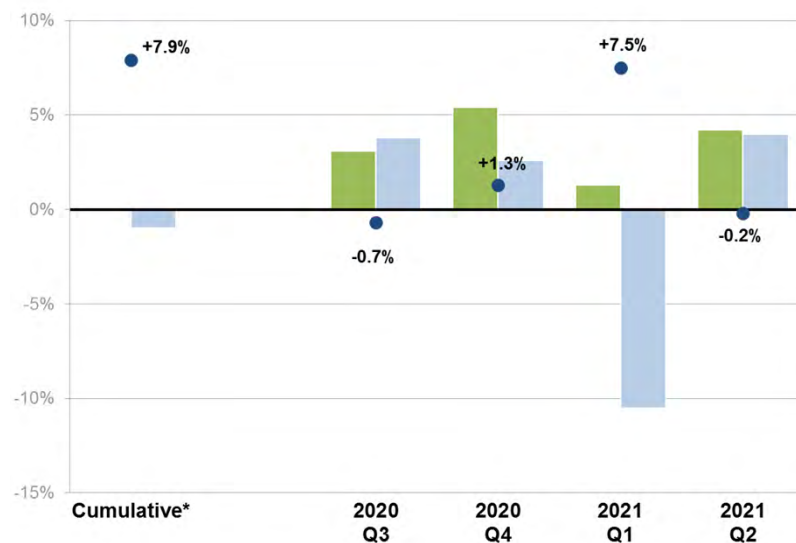
Highlights for the Quarter-Ending 6/30/21

The plans' funded ratio decreased to 66.0% at 6/30/21. This result was primarily due to the combined effects of:

- Asset performance exceeding expectations, offset by
- New benefit accruals which exceeded contributions, and
- An increase in liabilities due to a decrease in risk-free rates.

	6/30/20	9/30/20	12/31/20	3/31/21	6/30/21
Market Value of Assets	\$ 1,929.8	\$ 1,993.9	\$ 2,108.2	\$ 2,140.1	\$ 2,233.1
Risk-Free Liability	3,319.7	3,471.8	3,591.0	3,235.0	3,383.6
Surplus/(Deficit)	\$ (1,389.9)	\$ (1,477.9)	\$ (1,482.8)	\$ (1,094.9)	\$ (1,150.5)
Periodic Contributions	\$ 33.2	\$ 25.8	\$ 25.6	\$ 25.6	\$ 26.4
Discount Rate	0.38%	0.22%	0.12%	0.65%	0.48%
Funded Ratio:					
Assets/Risk-Free Liability	58.1%	57.4%	58.7%	66.2%	66.0%
Asset Duration:	2.1	2.1	2.1	1.9	1.8
Risk-Free Liability Duration:	19.5	19.8	20.0	18.8	19.1

Asset-Liability Return



Asset Liability Return for Quarter-Ending 6/30/21

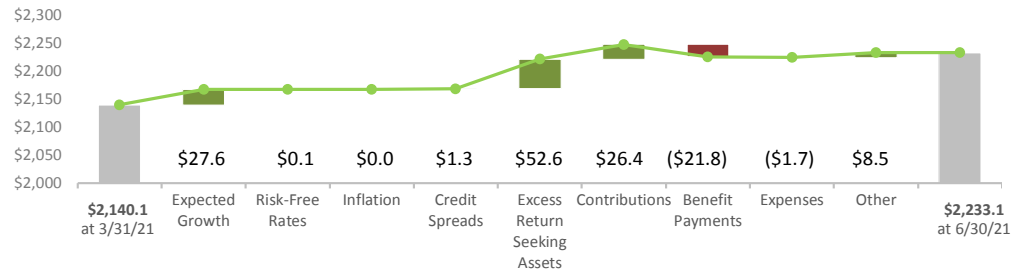
Assets returned 4.2% during the quarter while liabilities returned 4.0%, resulting in a funded status decrease of 0.2%.

Periodic Return/Change	Cumulative	9/30/20	12/31/20	3/31/21	6/30/21
Market Value of Assets Return	14.8%	3.1%	5.4%	1.3%	4.2%
Risk Free Return	-1.0%	3.8%	2.6%	-10.5%	4.0%
Funded Ratio Change	7.9%	-0.7%	1.3%	7.5%	-0.2%

Asset-Liability Performance Attribution – Risk Free

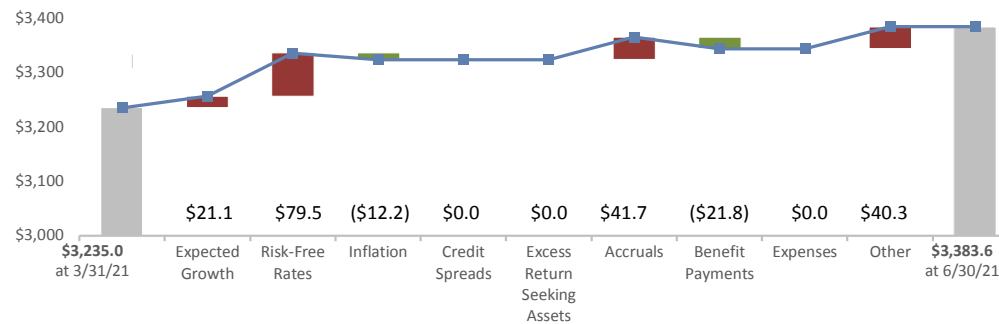
Values in \$1,000,000 (CAD)

Assets



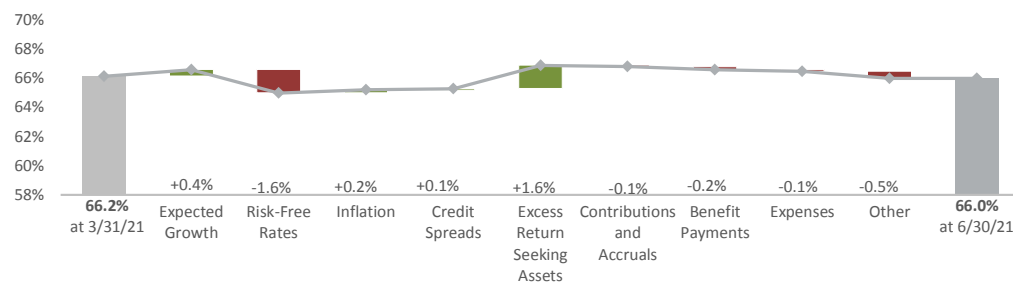
- Assets returned 4.2% during this quarter.
- The fixed income assets gained value due to narrowing credit spreads and a decrease in the underlying risk-free rates.
- The plans' return-seeking assets (Alternatives and International Equities) were a significant contributor to the performance of the portfolio.
- \$26.4 million in contributions during the quarter and the trust paid \$21.8 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 \$21.1 million due to interest cost during the quarter.
- Risk-free rates decreased resulting in an increase in liabilities of \$79.5 million.
- Expected inflation rates decreased resulting in a decrease in liabilities of \$12.2 million.
- New benefit accruals increased the liability by \$41.7 million during the quarter.
- Plan liabilities decreased by \$21.8 million during the quarter as benefits were paid.
- "Other" includes impact of decrease in the underlying long-term nominal and real federal bond yields used to determine the risk-free and implied inflation rates.

Funded Ratio

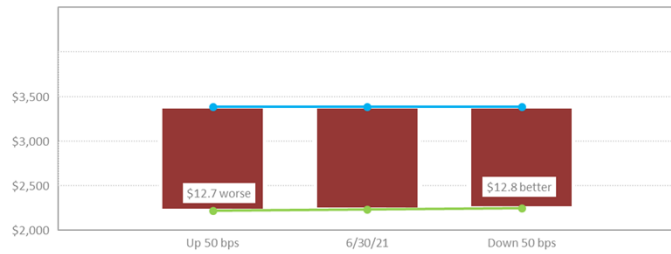


- The difference in exposure to risk-free rates between assets and liabilities combined with changes in risk-free rates resulted in a decrease in funded status of 1.6%.
- Decrease in inflation expectation resulted in an increase in funded status of 0.2%.
- Changes in credit spreads resulted in an increase in funded status of 0.1%.
- Return-seeking assets experienced gains during the quarter in excess of expected, adding 1.6% to the plans' funded status during the period.

Sensitivity Analysis – Risk-Free Benchmark

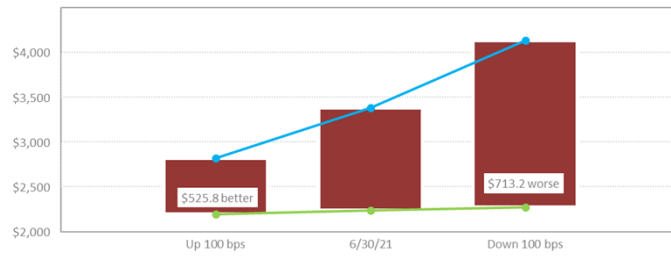
Values in \$1,000,000 (CAD)

Credit Spreads



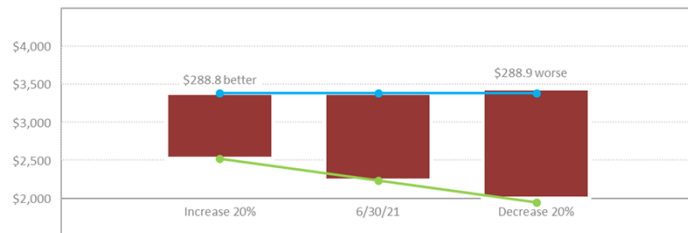
	Up 50bps	Current	Down 50bps
Market Value of Assets	\$2,220.4	\$2,233.1	\$2,245.9
Risk Free	\$3,383.6	\$3,383.6	\$3,383.6
Surplus/(Deficit)	(\$1,163.2)	(\$1,150.5)	(\$1,137.7)
Change		(\$12.7)	\$12.8

Risk-Free Rates



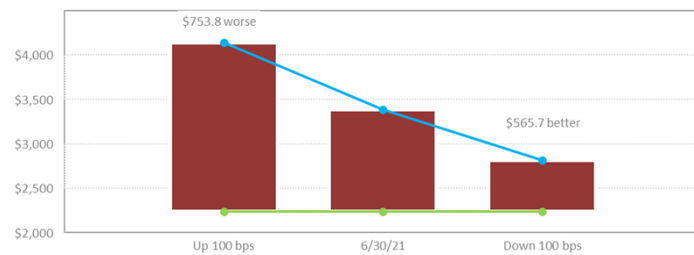
	Up 100bps	Current	Down 100bps
Market Value of Assets	\$2,193.2	\$2,233.1	\$2,273.7
Risk Free	\$2,817.9	\$3,383.6	\$4,137.4
Surplus/(Deficit)	(\$624.7)	(\$1,150.5)	(\$1,863.7)
Change		\$525.8	(\$713.2)

Return-Seeking Assets



	Increase 20%	Current	Decrease 20%
Market Value of Assets	\$2,521.9	\$2,233.1	\$1,944.2
Risk Free	\$3,383.6	\$3,383.6	\$3,383.6
Surplus/(Deficit)	(\$861.7)	(\$1,150.5)	(\$1,439.4)
Change		\$288.8	(\$288.9)

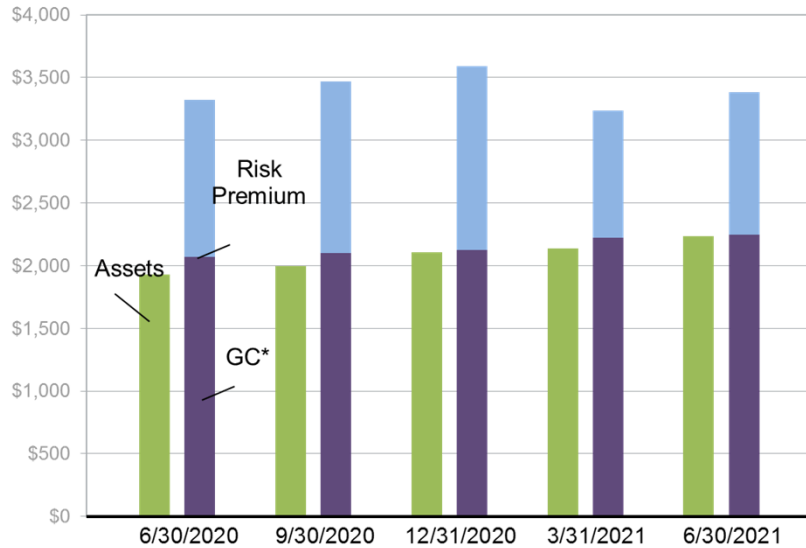
Inflation



	Up 100bps	Inflation	Down 100bps
Market Value of Assets	\$2,233.1	\$2,233.1	\$2,233.1
Risk-Free	\$4,137.4	\$3,383.6	\$2,817.9
Surplus/(Deficit)	(\$1,904.3)	(\$1,150.5)	(\$584.8)
Change		(\$753.8)	\$565.7

Reconciliation of Risk-Free Benchmark and Going Concern Funded Status

Values in \$1,000,000 (CAD)



*Going Concern

	6/30/20	9/30/20	12/31/20	3/31/21	6/30/21
Market Value of Assets	\$ 1,929.8	\$ 1,993.9	\$ 2,108.2	\$ 2,140.1	\$ 2,233.1
Going Concern Liability	\$ 2,070.3	\$ 2,097.6	\$ 2,127.7	\$ 2,222.3	\$ 2,249.7
Risk Premium	<u>1,249.4</u>	<u>1,374.2</u>	<u>1,463.3</u>	<u>1,012.7</u>	<u>1,133.9</u>
Risk-Free Liability	\$ 3,319.7	\$ 3,471.8	\$ 3,591.0	\$ 3,235.0	\$ 3,383.6

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.

Hypothetical Wind Up (HWU) and Transfer Ratio

Values in \$1,000,000 (CAD)

	1/1/2020 (Last Filed)		4/1/2021		7/1/2021
■ HWU Assets *	\$	1,940.3	\$	2,139.6	\$ 2,232.6
■ HWU Liability		2,909.7		3,111.8	3,152.0
Surplus/(Deficit)	\$	(969.4)	\$	(972.2)	\$ (919.4)
Transfer Ratio:					
■ Market Value of Assets/HWU Liability		66.7%		68.8%	70.8%

* Net of estimated wind up expenses

■ Restrictions on commuted values may come into effect if the administrator of the pension plan knows or ought to know that since the valuation date of the last filed report, events have taken place that may result in the reduction of the transfer ratio by 10% or more of the most recently determined transfer ratio. In such case, the administrator shall not transfer any part of the commuted value without prior approval of the Superintendent.

■ If the transfer ratio (the hypothetical wind up assets divided by the hypothetical wind up liabilities including indexation) drops by 10% or more since the last filed valuation, the administrator must stop paying commuted values and seek approval from the regulators to restart paying commuted values. The application is made in a prescribed format. This is generally referred to as a “Regulation 19 Filing”.

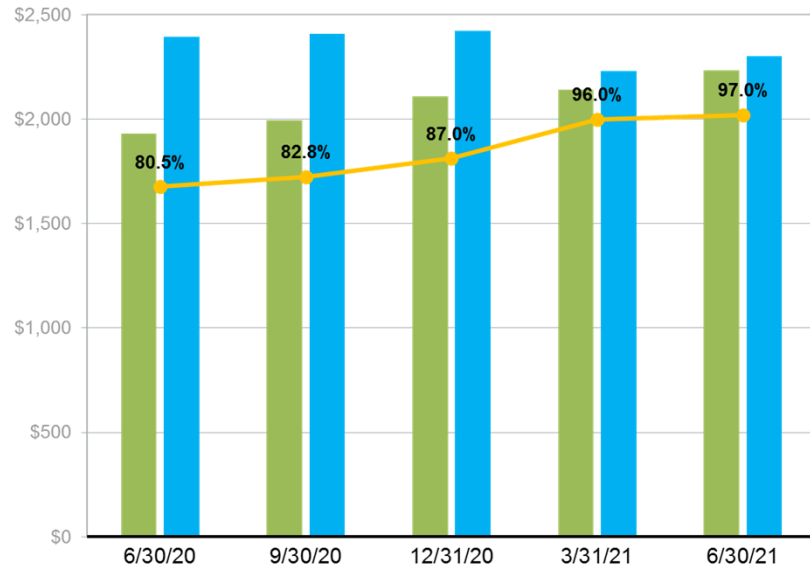
■ During Q2 2021, the financial position of the Pension Plan as measured on a wind-up basis did not drop by more than 10% since January 1, 2020 (the last filed valuation). Therefore, no Regulation 19 Filing is required as of July 1, 2021.

■ The Regulation 19 filing requirements will be monitored throughout 2021 on a quarterly basis.

Executive Summary - Solvency

Values in \$1,000,000 (CAD)

Funded Status



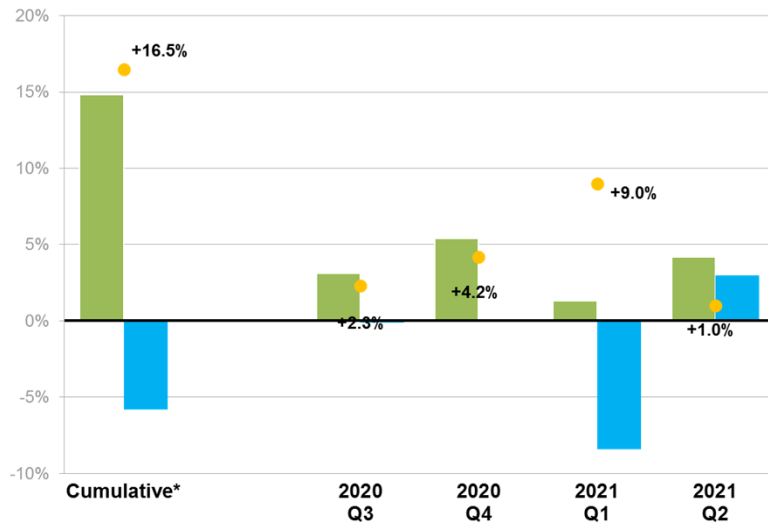
Highlights for the Quarter-Ending 6/30/21

The plans' funded ratio increased to 97.0% at 6/30/21. This result was primarily due to the combined effects of:

- Asset performance exceeding expectations, offset by
- New benefit accruals which exceeded contributions, and
- An increase in liabilities due to a decrease in effective interest rate.

	6/30/2020	9/30/2020	12/31/2020	3/31/2021	6/30/2021
Market Value of Assets	\$ 1,929.8	\$ 1,993.9	\$ 2,108.2	\$ 2,140.1	\$ 2,233.1
Solvency Liability	2,395.8	2,409.0	2,424.3	2,229.4	2,302.8
Surplus/(Deficit)	\$ (466.0)	\$ (415.1)	\$ (316.1)	\$ (89.3)	\$ (69.7)
Periodic Contributions	\$ 33.2	\$ 25.8	\$ 25.6	\$ 25.6	\$ 26.4
Effective Interest Rate	2.35%	2.37%	2.43%	3.06%	2.88%
Funded Ratio:					
Assets/Solvency Liability	80.5%	82.8%	87.0%	96.0%	97.0%
Assets Duration:					
Solvency Liability	2.1	2.1	2.1	1.9	1.8
Duration:	14.9	14.9	14.9	14.4	14.8

Asset-Liability Return



Asset Liability Return for Quarter-Ending 6/30/21

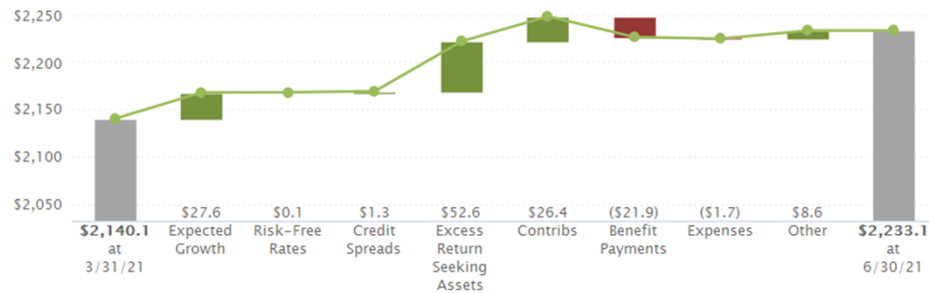
Assets returned 4.2% during the quarter while liabilities returned 3.0%, resulting in a funded status increase of 1.0%.

Periodic Return/Change	Cumulative	9/30/20	12/31/20	3/31/21	6/30/21
Market Value of Assets Return	14.8%	3.1%	5.4%	1.3%	4.2%
Solvency Liability Return	-5.8%	-0.1%	0.0%	-8.4%	3.0%
Funded Ratio Change	16.5%	2.3%	4.2%	9.0%	1.0%

Asset-Liability Performance Attribution - Solvency

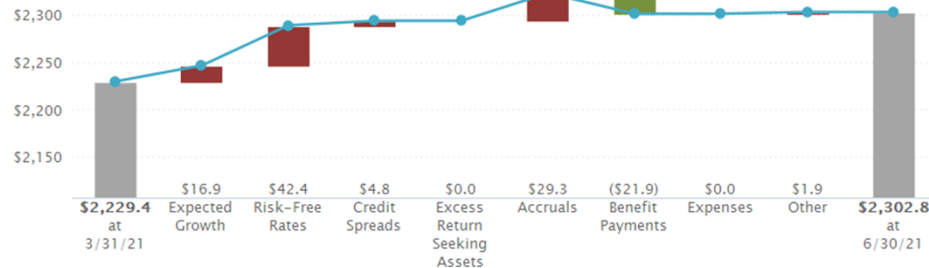
Values in \$1,000,000 (CAD)

Assets



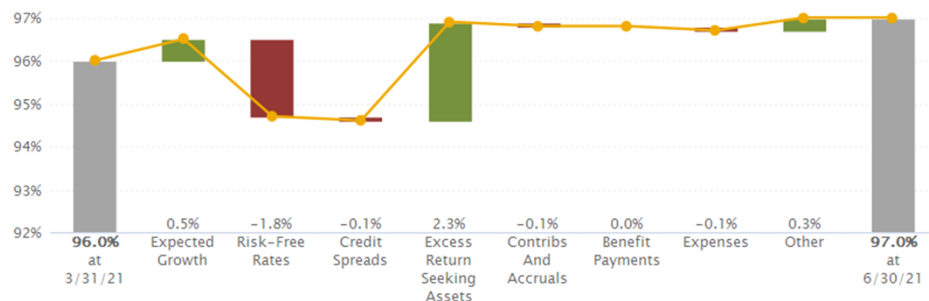
- Assets returned 4.2% during this quarter, as opposed to an expected growth assumption of about 1.3% per quarter.
- The fixed income assets gained value due to narrowing credit spreads and a decrease in the underlying risk-free rates.
- The plan's return-seeking assets (Alternatives and International Equities) performed better than expected during the quarter.
- \$26.4 million in contributions was made during the quarter and the trust paid \$21.9 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 \$16.9 million due to interest cost during the quarter.
- Risk-free rates decreased, and credit spreads narrowed, resulting in a net increase of \$47.2 million (\$42.4 million + \$4.8 million).
- New benefit accruals increased the liability by \$29.3 million during the quarter.
- Plan liabilities decreased by \$21.9 million during the quarter as benefits were paid.

Funded Ratio

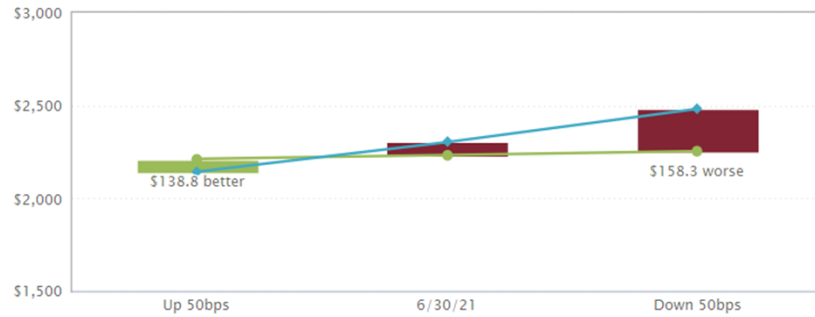


- The difference in exposure to risk-free rates between assets and liabilities combined with changes in risk-free rates resulted in a decrease in funded status of 1.8%.
- The difference in exposure to credit spreads between assets and liabilities combined with changes in credit spreads resulted in a decrease in funded status of 0.1%.
- Return-seeking assets experienced gains during the quarter in excess of expected, adding 2.3% to the plans' funded status during the period.

Sensitivity Analysis - Solvency

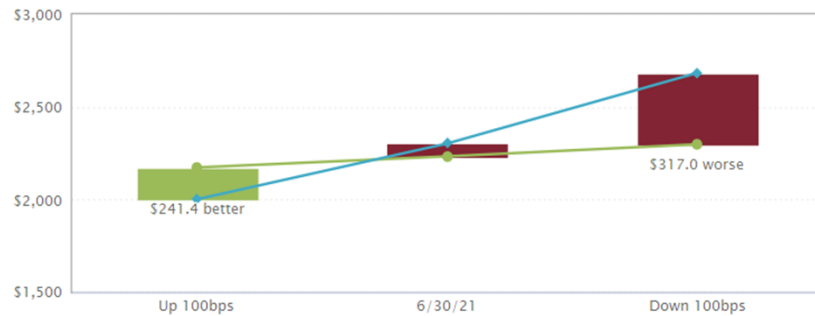
Values in \$1,000,000 (CAD)

Credit Spreads



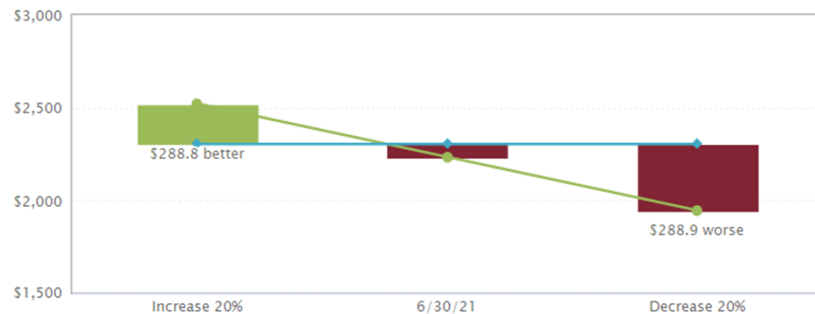
	Up 50bps	Current	Down 50bps
Market Value of Assets	\$2,212.6	\$2,233.1	\$2,254.1
Funding Target	\$2,143.5	\$2,302.8	\$2,482.1
Surplus/(Deficit)	\$69.1	(\$69.7)	(\$228.0)
Change		\$138.8	(\$158.3)

Risk-Free Rates



	Up 100bps	Current	Down 100bps
Market Value of Assets	\$2,173.0	\$2,233.1	\$2,298.1
Funding Target	\$2,001.3	\$2,302.8	\$2,684.8
Surplus/(Deficit)	\$171.7	(\$69.7)	(\$386.7)
Change		\$241.4	(\$317.0)

Return-Seeking Assets



	Increase 20%	Current	Decrease 20%
Market Value of Assets	\$2,521.9	\$2,233.1	\$1,944.2
Funding Target	\$2,302.8	\$2,302.8	\$2,302.8
Surplus/(Deficit)	\$219.1	(\$69.7)	(\$358.6)
Change		\$288.8	(\$288.9)



Appendix

Plan Provisions & Membership Data

Same as in the Actuarial Valuation Report as of January 1, 2020.

Actuarial Methods & Assumptions

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

	6/30/20	9/30/20	12/31/20	3/31/21	6/30/21
Going Concern					
Discount Rate	5.60%	5.60%	5.60%	5.30%	5.30%
Inflation	2.00%	2.00%	2.00%	2.00%	2.00%
Salary Increase	4.00%	4.00%	4.00%	3.00%/4.00% ¹	3.00%/4.00% ¹
PfAD	14.05%	12.75%	11.15%	9.00%	9.00%
Mortality	CPM2014Public	CPM2014Public	CPM2014Public	CPM2014Public	CPM2014Public
Risk-Free Benchmark					
Discount Rate	0.38%	0.22%	0.12%	0.65%	0.48%
Solvency					
Annuity Purchase Interest Rate	2.52%	2.49%	2.50%	3.10%	2.97%
Effective Date of Annuity Purchase Guidance Used	6/30/20	9/30/20	12/31/20	3/31/21	6/30/21
Lump Sum Value Interest Rate (Years 1-10) ²	1.30%	1.30%	1.20%	1.90%	1.80%
Lump Sum Value Interest Rate (Years 10+) ²	2.20%	2.40%	2.80%	3.50%	3.30%
Mortality ³	CPM2014	CPM2014	CPM2014	CPM2014	CPM2014
Hypothetical Wind Up					
Annuity Purchase Interest Rate (100% Indexed)	-0.52%	-0.68%	-0.78%	-0.22%	-0.39%
Annuity Purchase Interest Rate (75% Indexed)	0.24%	0.11%	0.04%	0.61%	0.45%
Effective Date of Annuity Purchase Guidance Used	6/30/20	9/30/20	12/31/20	3/31/21	6/30/21
Lump Sum Value Interest Rate (100% Indexed) (Years 1-10) ²	0.90%	0.80%	0.60%	0.80%	0.70%
Lump Sum Value Interest Rate (100% Indexed) (Years 10+) ²	0.90%	0.70%	0.80%	1.40%	1.20%
Lump Sum Value Interest Rate (75% Indexed) (Years 1-10) ²	1.00%	0.90%	0.80%	1.10%	1.00%
Lump Sum Value Interest Rate (75% Indexed) (Years 10+) ²	1.20%	1.10%	1.30%	1.90%	1.70%
Mortality ³	CPM2014	CPM2014	CPM2014	CPM2014	CPM2014
Underlying Canadian Reference Data					
CANSIM v39054 (7 Year)	0.41%	0.39%	0.46%	1.26%	1.15%
CANSIM v39056 (30 Year Long Term)	0.99%	1.11%	1.21%	1.97%	1.84%
CANSIM v39057 (30 Year Real Return)	-0.02%	-0.18%	-0.28%	0.22%	0.11%
CANSIM v39062 (Over 10 Years)	0.91%	0.99%	1.10%	1.90%	1.77%

¹ 3.00% per year for 3 years; 4.00% year thereafter

² 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).

³ With improvement scale MI-2017 for Going Concern and Risk Free and CPM-B for Solvency.

All other assumptions and methods are the same as those shown in the draft Actuarial Valuation Report as of January 1, 2021. 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, 2021.

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.

Aon
August 2021

Asset Allocation and Benchmarking

Asset Class	3/31/21
Alternatives	
■ FTSE EPRA NAREIT DEVELOPED Total Return Index USD	2.9%
■ MSCI USA Infrastructure Index	6.1%
Fixed Income	
■ FTSE TMX Universe Bond Index	35.3%
International Equities	
■ MSCI World Index	47.4%
■ S&P/TSX	8.3%
Total	100.0%



University of Waterloo Pension Plan | Quarterly Period Ending 30 June 2021

Detailed Investment Review

Visit the Aon Retirement and Investment Website (<https://retirement-investment-insights.aon.com/canada>); sharing our best thinking.



Performance Summary¹

As of 30 June 2021

	Allocation		Performance (%)									
	Market Value (\$000)	%	1 Quarter	Year To Date	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	15 Years	
Total Fund	2,233,091	100.0	4.21	5.57	14.78	9.08	8.24	7.67	8.13	8.28	6.56	
CPI+3.6% ²			2.19	4.75	6.77	5.52	5.58	5.72	5.50	5.33	5.38	
Value Added			2.02	0.82	8.01	3.56	2.66	1.95	2.63	2.95	1.18	
Canadian Equities³												
TD Emerald Canadian Equity Index ⁴	61,823	2.8	8.52 (33)	17.33 (52)	33.88 (58)	14.43 (41)	10.80 (30)	10.69 (31)	10.75 (36)	7.43 (81)	6.86 (84)	
S&P/TSX Composite Index			8.54 (32)	17.28 (53)	33.85 (58)	14.43 (41)	10.80 (30)	10.70 (31)	10.77 (36)	7.44 (81)	6.85 (84)	
Value Added			-0.02	0.05	0.03	0.00	0.00	-0.01	-0.02	-0.01	0.01	
Sionna ⁵	127,910	5.7	5.74 (91)	15.28 (77)	35.01 (54)	7.94 (100)	6.02 (91)	7.04 (91)	8.80 (79)	7.02 (89)	6.57 (90)	
S&P/TSX Composite			8.54 (32)	17.28 (53)	33.85 (58)	14.43 (41)	10.80 (30)	10.70 (31)	10.77 (36)	7.44 (81)	6.85 (84)	
Value Added			-2.80	-2.00	1.16	-6.49	-4.78	-3.66	-1.97	-0.42	-0.28	
Global Equities⁶												
MSCI World Index (Net) (CAD)	417,000	18.7	6.73 (24)	6.32 (86)	21.55 (81)	12.20 (71)	10.74 (57)	11.46 (54)	13.48 (52)	12.94 (63)	7.01 (90)	
Value Added			0.61	-3.60	-5.10	-4.18	-1.98	-1.21	-0.21	-0.51	-1.56	
Walter Scott ⁵	416,879	18.7	6.73 (24)	6.32 (86)	23.36 (76)	16.53 (45)	15.27 (26)	15.80 (23)	15.86 (28)	15.34 (26)	11.18 (18)	
MSCI World Index (Net) (CAD)			6.12 (33)	9.92 (46)	26.65 (63)	16.38 (47)	12.72 (44)	12.67 (45)	13.69 (51)	13.45 (55)	8.57 (67)	
Value Added			0.61	-3.60	-3.29	0.15	2.55	3.13	2.17	1.89	2.61	
U.S. Equities												
TD Emerald U.S. Pooled Fund ⁷	414,970	18.6	6.93 (37)	11.99 (54)	27.92 (61)	19.70 (46)	16.26 (43)	16.14 (42)	16.47 (44)	-	-	
S&P 500 (CAD)			6.95 (37)	12.02 (54)	28.01 (60)	19.76 (45)	16.31 (42)	16.19 (42)	16.53 (43)	17.74 (43)	11.52 (56)	
Value Added			-0.02	-0.03	-0.09	-0.06	-0.05	-0.05	-0.06	-	-	
International Equities												
TD Emerald International Equity Index ⁷	243,226	10.9	3.63 (57)	5.83 (66)	20.35 (71)	9.13 (69)	6.18 (58)	6.71 (62)	9.29 (68)	8.67 (83)	5.24 (83)	
MSCI EAFE (Net)			3.62 (57)	5.78 (66)	20.33 (71)	9.08 (69)	6.11 (59)	6.63 (63)	9.23 (69)	8.56 (84)	5.15 (85)	
Value Added			0.01	0.05	0.02	0.05	0.07	0.08	0.06	0.11	0.09	

¹Parentheses contain percentile rankings. (1st percentile is the best performing). All returns are reported gross of fees.² CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.³There was no exposure to Canadian Equities from January 2012 to April 2012.⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.⁶The global equities return prior to August 2018 includes Trilogy.⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.⁸The Currency Overlay was discontinued on 20 November 2017.

Performance Summary¹

As of 30 June 2021

	Allocation		Performance (%)									
	Market Value (\$000)	%	1 Quarter	Year To Date	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	15 Years	
Fixed Income												
TDAM Universe Bond Index	353,636	15.8	1.62 (71)	-3.56 (92)	-2.67 (98)	2.42 (100)	4.02 (96)	3.18 (100)	2.51 (100)	3.79 (95)	4.51 (98)	
FTSE Canada Universe Bond			1.66 (65)	-3.46 (90)	-2.43 (94)	2.60 (98)	4.16 (95)	3.30 (98)	2.64 (98)	3.90 (92)	4.60 (95)	
Value Added			-0.04	-0.10	-0.24	-0.18	-0.14	-0.12	-0.13	-0.11	-0.09	
TDAM Active Short Term Corporate	371,691	16.6	0.16	-0.39	2.24	3.32	3.86	3.06	2.74	-	-	
FTSE Canada Short Term Corporate Bond			0.18	-0.30	2.36	3.41	3.91	3.12	2.79	3.07	4.00	
Value Added			-0.02	-0.09	-0.12	-0.09	-0.05	-0.06	-0.05	-	-	
Alternatives												
XRE ETF (Real Estate)	68,276	3.1	10.99	21.06	33.10	5.99	8.40	9.25	7.47	-	-	
BIP.UN (Infrastructure)	133,522	6.0	2.74	10.13	31.09	23.75	21.67	15.66	20.53	-	-	
Operating Account												
	41,037	1.8										
BAs/U.S. and CDN Cash	20,798	0.9	0.03	0.06	0.16	0.74	1.08	1.11	1.04	-	-	
Operating Account	20,239	0.9	0.00	0.30	0.30	0.30	0.36	0.33	0.27	0.31	0.58	
Currency Overlay Effect (Historical)⁸												
Total Fund & CO	2,233,091	100.0	4.21	5.57	14.78	9.08	8.24	7.60	8.03	8.17	6.24	
Total Fund ex CO			4.21	5.57	14.78	9.08	8.24	7.67	8.13	8.28	6.56	
Value Added			0.00	0.00	0.00	0.00	0.00	-0.07	-0.10	-0.11	-0.32	

¹Parentheses contain percentile rankings. (1st percentile is the best performing). All returns are reported gross of fees.

²CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

³There was no exposure to Canadian Equities from January 2012 to April 2012.

⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

⁶The global equities return prior to August 2018 includes Trilogy.

⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

⁸The Currency Overlay was discontinued on 20 November 2017.

Rolling Year Performance¹

As of 30 June

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total Fund	14.78	3.68	6.58	5.96	10.02	3.99	10.77	12.65	6.06	8.91
CPI+3.6% ²	6.77	4.28	5.69	6.14	4.64	5.15	4.67	6.04	4.79	5.16
Value Added	8.01	-0.60	0.89	-0.18	5.38	-1.16	6.10	6.61	1.27	3.75
Canadian Equities³										
TD Emerald Canadian Equity Index ⁴	33.88 (58)	-2.19 (30)	3.86 (40)	10.37 (47)	10.99 (66)	-0.21 (64)	-1.13 (64)	28.57 (65)	7.90 (93)	-10.24 (63)
S&P/TSX Composite Index	33.85 (58)	-2.17 (30)	3.87 (40)	10.41 (46)	11.05 (64)	-0.20 (64)	-1.16 (64)	28.66 (65)	7.90 (93)	-10.25 (64)
Value Added	0.03	-0.02	-0.01	-0.04	-0.06	-0.01	0.03	-0.09	0.00	0.01
Sionna ⁵	35.01 (54)	-13.70 (89)	2.29 (56)	10.15 (50)	16.15 (9)	0.62 (60)	-3.21 (76)	26.36 (80)	11.89 (56)	-6.17 (32)
S&P/TSX Composite	33.85 (58)	-2.17 (30)	3.87 (40)	10.41 (46)	11.05 (64)	-0.20 (64)	-1.16 (64)	28.66 (65)	7.90 (93)	-10.25 (64)
Value Added	1.16	-11.53	-1.58	-0.26	5.10	0.82	-2.05	-2.30	3.99	4.08
Global Equities⁶										
MSCI World Index (Net) (CAD)	21.55 (81)	3.57 (54)	7.86 (25)	13.63 (36)	21.97 (31)	-0.57 (54)	19.29 (55)	22.03 (79)	21.27 (70)	2.22 (38)
Value Added	-5.10	-3.38	2.12	1.11	4.13	-2.02	0.41	-3.22	-1.40	1.82
Walter Scott ⁵	23.36 (76)	10.09 (27)	12.80 (6)	17.39 (14)	16.08 (74)	7.32 (15)	20.67 (45)	20.12 (89)	20.67 (76)	6.36 (16)
MSCI World Index (Net) (CAD)	26.65 (63)	6.95 (40)	5.74 (41)	12.52 (47)	17.84 (63)	1.45 (40)	18.88 (59)	25.25 (54)	22.67 (58)	0.40 (52)
Value Added	-3.29	3.14	7.06	4.87	-1.76	5.87	1.79	-5.13	-2.00	5.96
U.S. Equities										
TD Emerald U.S. Pooled Fund ⁷	27.92 (61)	12.02 (40)	9.66 (40)	15.79 (47)	17.80 (60)	8.14 (22)	-	-	-	-
S&P 500 (CAD)	28.01 (60)	12.05 (40)	9.69 (40)	15.85 (46)	17.90 (59)	8.18 (22)	25.91 (55)	25.81 (62)	24.80 (58)	11.39 (29)
Value Added	-0.09	-0.03	-0.03	-0.06	-0.10	-0.04	-	-	-	-
International Equities										
TD Emerald International Equity Index ⁷	20.35 (71)	-1.05 (57)	0.53 (39)	8.32 (58)	20.25 (55)	-6.47 (66)	12.46 (74)	24.85 (58)	22.93 (54)	-8.81 (67)
MSCI EAFE (Net)	20.33 (71)	-1.12 (57)	0.41 (41)	8.22 (59)	20.27 (54)	-6.55 (67)	12.26 (76)	24.77 (58)	22.76 (57)	-8.98 (69)
Value Added	0.02	0.07	0.12	0.10	-0.02	0.08	0.20	0.08	0.17	0.17

¹Parentheses contain percentile rankings. (1st percentile is the best performing). All returns are reported gross of fees.

² CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

³There was no exposure to Canadian Equities from January 2012 to April 2012.

⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are presentative only.

⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

⁶The global equities return prior to August 2018 includes Trilogy.

⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

⁸The Currency Overlay was discontinued on 20 November 2017.

Rolling Year Performance¹

As of 30 June

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Fixed Income										
TDAM Universe Bond Index	-2.67 (98)	7.77 (75)	7.29 (69)	0.70 (84)	-0.10 (95)	5.16 (57)	6.27 (28)	5.18 (83)	-0.31 (94)	9.40 (44)
FTSE TMX Canada Bond Universe	-2.43 (94)	7.88 (67)	7.36 (60)	0.76 (77)	0.02 (87)	5.22 (50)	6.25 (29)	5.34 (77)	-0.17 (90)	9.50 (36)
Value Added	-0.24	-0.11	-0.07	-0.06	-0.12	-0.06	0.02	-0.16	-0.14	-0.10
TDAM Active Short Term Corporate	2.24	4.41	4.93	0.72	1.48	2.11	-	-	-	-
FTSE Canada Short Term Corporate Bond	2.36	4.47	4.90	0.80	1.49	1.98	3.71	4.04	2.69	4.36
Value Added	-0.12	-0.06	0.03	-0.08	-0.01	0.13	-	-	-	-
Alternatives										
XRE ETF (Real Estate)	33.10	-15.60	13.39	11.85	0.62	12.40	2.25	8.46	-	-
BIP.UN (Infrastructure)	31.09	16.81	17.63	-0.66	42.17	12.33	29.29	21.71	17.37	-

¹Parentheses contain percentile rankings. (1st percentile is the best performing). All returns are reported gross of fees.

² CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

³There was no exposure to Canadian Equities from January 2012 to April 2012.

⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

⁶The global equities return prior to August 2018 includes Trilogy.

⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

⁸The Currency Overlay was discontinued on 20 November 2017.

Performance Summary (Net of Fees)¹

As of 30 June 2021

	Performance (%)								
	1 Quarter	Year To Date	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	15 Years
Total Fund	4.13	5.44	14.54	8.87	8.00	7.41	7.86	8.00	6.29
CPI+3.6% ²	2.19	4.75	6.77	5.52	5.58	5.72	5.50	5.33	5.38
Value Added	1.94	0.69	7.77	3.35	2.42	1.69	2.36	2.67	0.91
Canadian Equities³									
TD Emerald Canadian Equity Index ⁴	8.52	17.33	33.88	14.43	10.80	10.69	10.75	7.43	6.86
S&P/TSX Composite Index	8.54	17.28	33.85	14.43	10.80	10.70	10.77	7.44	6.85
Value Added	-0.02	0.05	0.03	0.00	0.00	-0.01	-0.02	-0.01	0.01
Sionna ⁵	5.66	15.09	34.56	7.57	5.65	6.66	8.42	6.62	6.13
S&P/TSX Composite	8.54	17.28	33.85	14.43	10.80	10.70	10.77	7.44	6.85
Value Added	-2.88	-2.19	0.71	-6.86	-5.15	-4.04	-2.35	-0.82	-0.72
Global Equities⁶									
MSCI World Index (Net) (CAD)	6.12	9.92	26.65	16.38	12.72	12.67	13.69	13.45	8.57
Value Added	0.47	-3.91	-6.44	-5.09	-2.84	-2.02	-1.01	-1.26	-2.28
Walter Scott ⁵	6.59	6.01	22.62	15.81	14.55	15.05	15.09	14.53	10.37
MSCI World Index (Net) (CAD)	6.12	9.92	26.65	16.38	12.72	12.67	13.69	13.45	8.57
Value Added	0.47	-3.91	-4.03	-0.57	1.83	2.38	1.40	1.08	1.80
U.S. Equities									
TD Emerald Pooled U.S. Fund ⁷	6.92	11.98	27.88	19.67	16.22	16.11	16.43	-	-
S&P 500 (CAD)	6.95	12.02	28.01	19.76	16.31	16.19	16.53	17.74	11.52
Value Added	-0.03	-0.04	-0.13	-0.09	-0.09	-0.08	-0.10	-	-
International Equities									
TD Emerald International Equity Index ⁷	3.63	5.81	20.32	9.10	6.16	6.68	9.26	8.63	5.21
MSCI EAFE (Net)	3.62	5.78	20.33	9.08	6.11	6.63	9.23	8.56	5.15
Value Added	0.01	0.03	-0.01	0.02	0.05	0.05	0.03	0.07	0.06

¹Parentheses contain percentile rankings. (1st percentile is the best performing). Reported net returns are based on estimated fees.² CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.³There was no exposure to Canadian Equities from January 2012 to April 2012.⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.⁶The global equities return prior to August 2018 includes Trilogy.⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

Performance Summary (Net of Fees)¹

As of 30 June 2021

	Performance (%)								
	1 Quarter	Year To Date	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	15 Years
Fixed Income									
TDAM Universe Bond Index	1.62	-3.57	-2.68	2.40	3.99	3.14	2.47	3.76	4.47
FTSE Canada Universe Bond	1.66	-3.46	-2.43	2.60	4.16	3.30	2.64	3.90	4.60
Value Added	-0.04	-0.11	-0.25	-0.20	-0.17	-0.16	-0.17	-0.14	-0.13
TDAM Active Short Term Corporate	0.14	-0.44	2.15	3.22	3.76	2.96	2.65	-	-
FTSE Canada Short Term Corporate Bond	0.18	-0.30	2.36	3.41	3.91	3.12	2.79	3.07	4.00
Value Added	-0.04	-0.14	-0.21	-0.19	-0.15	-0.16	-0.14	-	-

¹Parentheses contain percentile rankings. (1st percentile is the best performing). Reported net returns are based on estimated fees.

²CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

³There was no exposure to Canadian Equities from January 2012 to April 2012.

⁴TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

⁵Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

⁶The global equities return prior to August 2018 includes Trilogy.

⁷In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

Performance Relative to Investment Policy Objectives

4-Year Performance vs. Market Index Benchmark

As at 30 June 2021

Manager	4-Year Manager Return	Market Index	4-Year Index Return	4-Year Tracking / Value Added	Target Objective	Performance Objective	Achieved Objective	IMF ³
Passive Mandates:								
TD Emerald Canadian Equity Index ⁴	n/a	S&P/TSX Composite Index	n/a	n/a	n/a	n/a	n/a	0.025%
TDAM - Universe Bond Index	3.18%	FTSE Canada Bond Universe	3.30%	-0.12%	+/-0.06%	3.24% to 3.36%	No	0.025%
TD Emerald U.S. Pooled Fund ¹	16.14%	S&P 500	16.19%	-0.05%	+/-0.08%	16.11% to 16.27%	Yes	0.025%
TD Emerald International Equity Index ¹	6.71%	MSCI EAFE (Net)	6.63%	0.08%	+/-0.20%	6.43% to 6.83%	Yes	0.025%
Active Mandates:								
Sionna - Canadian Equities	7.04%	S&P/TSX Composite	10.70%	-3.66%	+1.0%	11.70%	No	0.334%
Walter Scott - Global Equities	15.80%	MSCI World (Net)	12.67%	3.13%	+2.0%	14.67%	Yes	0.536%
TDAM Short Term Corporate Bonds	3.06%	FTSE Canada Short Term Corporate	3.12%	-0.06%	+0.5%	3.62%	No	0.097%
Total Fund ex. Currency Overlay	7.67%	CPI + 3.6%²	5.72%	1.95%			Yes	0.147%

¹ Invested on 18 November 2016

² CPI + 3.6% benchmark has been implemented retrospectively since 1 November 2018. Prior to that, CPI + 3.5% benchmark was implemented since 1 January 2017. CPI + 3.7% benchmark was implemented since 1 January 2016, CPI + 3.75% benchmark was implemented since 1 January 2014 and CPI + 3.85% prior to that.

³ IMF: Investment management fees

⁴ Invested in July 2020

Pension Administration System: Ariel

APS Agreement with LifeWorks (formerly Morneau Shepell)

Ariel is the system provided through LifeWorks (LW) that has supported the University’s internal administration of the defined benefit pension plan since November 1, 2016. The Application Services Provider (ASP) agreement which provides the University with a license to utilize the Ariel software and to engage LW for corresponding services was a 5-year less one-month agreement effective November 30, 2016, renewable for up to a total of five years. As per direction from the Pension & Benefits Committee at the March 2021 meeting, the University’s administration notified LW of the intention to renew the agreement effective November 1, 2021 for a five-year period due to the University administration’s general satisfaction with the system.

Following several discussions and negotiations between the University (Procurement & Contract Services, Human Resources) and LW, the renewal position is outlined in the table below:

Fee Type	Initial Term	5-Year Renewal Term
	<i>November 30, 2016 to October 31, 2021</i>	<i>November 1, 2021 to October 31, 2026</i>
License	<ul style="list-style-type: none"> • \$330,000 per year, payable in equal monthly payments commencing on August 1, 2015 • Exclusive of taxes and disbursements (e.g. printing or supply costs, courier costs, mailing costs, and travel expenses) 	<ul style="list-style-type: none"> • Annual increase of 3%: <ul style="list-style-type: none"> ○ \$339,900 effective November 1, 2021 ○ \$350,100 effective November 1, 2022 ○ \$360,600 effective November 1, 2023 ○ \$371,400 effective November 1, 2024 ○ \$382,500 effective November 1, 2025
Maintenance and Hosting Services	<ul style="list-style-type: none"> • Cost included in license fees • Subject to change if there is a material change in the scope or circumstances of the Services (e.g. number of users, number and type of plans being administered, the number and format of payroll and other data fees, or material change in the aggregate number of plan members) 	<ul style="list-style-type: none"> • No change
Support	<ul style="list-style-type: none"> • Discounted hourly rate of \$200 per hour initially, increased to \$227 per hour effective June 1, 2021 (delayed from January 1, 2021 due to delay in LW signing initial ASP) and subject to annual adjustment based on CPI +1% thereafter • Support for additional administration or developmental services 	<ul style="list-style-type: none"> • Annual increase of CPI + 1% commencing January 1, 2022

Action Required: *Decision (acceptance of renewal, RFP to commence in late 2024/early 2025)*

Commutated Value – Potential Enhancement to myPENSIONinfo

What is a Commuted Value?

A commuted value (CV) is a lump sum payment in lieu of an immediate or deferred pension entitlement, payable when plan membership ends due to death, or termination of employment prior to age 55. It is the present value of the future series of pension payments and as such, must be determined in accordance with pension legislation and the Canadian Institute of Actuaries Standards of Practice.

A CV is determined:

- as of a point in time,
- with the rates in effect at that point in time (i.e. the rates in effect the month the CV is determined), and
- only in the circumstances described above (note: pension legislation dictates a different pension valuation methodology for pension splitting due to marriage/relationship breakdown).

The rates used to determine the CV change (increase or decrease) from month to month. As a result, **the CV can increase or decrease from one month to the next, and even from one year to the next** even though the pension accrual has increased due to another year of service/salary growth.

There are several reasons why some plan members are interested in understanding their pension accrual expressed as a CV; some of the typical reasons include the following:

- Plan members who must file personal U.S. tax returns are required to report the value of their Canadian pension holdings. The value requested is as of December 31st each year.
- Plan members request the value of their UW pension, at various times throughout the year, to update their personal “net worth” records.
- Plan members who have separated from their spouse sometimes only want an estimate of the value of their UW pension at the beginning stages of their separation*.

**Pension is considered family property, and if the parties agree that the former spouse of the UW plan member will be paid a portion of the member’s pension directly from the UW pension plan, UW must calculate the Family Law Value, which requires a formal application, certified copies of documents, and a \$600 administration fee as allowed by pension legislation. The CV cannot be used for marriage breakdown purposes.*

Background

When the myPENSIONinfo portal was first introduced in June 2008, a plan member’s CV estimate was displayed upon login. The estimate was based on the individual’s pension accrual to the end of the prior month, and the most current rates loaded in the system at the time of login. To run a pension projection, the individual would need to leave the page on which the CV estimate was displayed. The CV estimate was accompanied by cautionary wording that was developed with the assistance of lawyers to mitigate the risk associated with providing a value that was not guaranteed and could decrease, or that used inappropriately.

When the University implemented Ariel at the end of 2016, it was decided that the CV would no longer be displayed through the myPENSIONinfo portal. In addition to the expense associated with the

enhancement, there was some reluctance due to the potential misunderstanding associated with displaying the figure. As such, plan members who have required a CV estimate have needed to contact the Pension Services team within Human Resources to obtain the value since December 2016. When the CV is provided by the Pension Services team, plan members are provided with cautionary information with respect to the figure itself.

Earlier this year, Human Resources was asked by the Pension & Benefits Committee to investigate whether the portal could be enhanced to provide a commuted value estimate of a member’s pension entitlement. The section below provides options available through LifeWorks and the corresponding cost for this addition.

LifeWorks’ Options

When LifeWorks configures a new Ariel functionality, they structure the new programming so that a subsequent client who also wants the same functionality would only require installing, adjusting and testing the programming under the subsequent customer’s plan setup on Ariel.

LifeWorks has proposed two options that leverage existing programming within Ariel:

Option	Description	Estimated Cost*
1 – Projected Date	Existing programming within Ariel could be leveraged to show a CV estimate on the pension projection tool; calculation based on the future date entered	\$10,780 for 48 hours of work
2 – Current Date	Adjusting the existing programming within Ariel could occur to show a CV estimate on the projection tool; calculation based on “today’s” date	\$11,395 for 50.2 hours of work

*Excludes any additional adjustments that may be required to handle special cases

Neither of the above options would be aligned with the CV calculation that was provided through the myPENSIONinfo portal prior to December 2016.

LifeWorks has indicated that including a calculation that is based on a date in the past could be problematic for the tool but they would be willing to analyze further if it is of interest. If it’s achievable, LifeWorks will provide a cost but they have advised that this will be the most expensive option since it would not leverage existing programming.

Action Required: *Discussion regarding next steps*

Pension Projection Tool (screen shot taken from UW's myPENSIONinfo portal)

CV is added under the Pension Projection Tool: The light blue shaded area (circled above) would be expanded to include a Termination scenario, similar to what is circled below (image from one of LifeWorks customer's Portal) and in addition to the bar graphs shown above which depict the pension projections, the termination scenario will also be depicted as shown on the right below.