Board of Governors
PENSION & BENEFITS COMMITTEE
Friday 17 May 2019
9:30 a.m. to 12:00 noon
NH 3318

		OPEN SESSION	**ACTION**
9:30	1.	Approval of the 8 March 2019 Minutes (Open Session)* and Business Arising	Decision
		a. Timing of February/March meetings	Information
	2.	Execution Against the Work Plan* [Grivicic]	Information
	3.	Update on Government Pension Plan Initiatives [Shapira]	Information
9:35	4.	Previous Years' Fees and Expenses* [Sarah Hadley]	Information
	5.	Annual Audit of the Pension Plan Fund Financial Statements* [Sarah Hadley, Blaine Hertzberger of EY]	Decision
10:00	6.	Quarterly Risk Management Dashboard – Q1 2019* [Byron)	Information
10:10	7.	Presentation re: University Pension Plan* [Byron/Shapira, for information]	Information
11:00	8.	Update re: Holistic Benefits Working Group	Information
	9.	Update re: Working Group re: Data to Support Pension Funding/Design Discussions [Shapira]	Information
11:10	10.	Continuous Glucose Monitors – Cost Estimate* [Hornberger]	Information
11:20	11.	Investment Fund Performance Reports from Aon – Q4 2018*	Information
	12.	Investment Fund Performance Reports from Aon – Q1 2019*	Information
	13.	Board-approved 2019-20 Operating Budget Overview* [Rush, for information]	Information
	14.	Other Business	
		a. Benefits Canada article* (on behalf of Jha)	Information
		CONFIDENTIAL SESSION	
	15.	Approval of the 8 March 2019 Minutes (Confidential)+ and Business Arising	Decision

Next Meeting: Friday 14 June 2019, 9:30 a.m. – 12:00 noon in NH 3318

*attached
** to be distributed
+ distributed separately

10 May 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 8 March 2019 Meeting
[in agenda order]

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

Absent: Michael Steinmann

Consultant: Linda Byron, Allan Shapira

Administration: Sarah Hadley, Lee Hornberger

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

1. APPROVAL OF THE 22 FEBRARY 2019 MINUTES (OPEN SESSION) AND BUSINESS ARISING

A motion was heard to approve the minutes as distributed. Bleaney and Saunders. Carried.
a. Continuous Glucose Monitors – Cost Estimate. Hornberger indicated this will be brought to the May meeting, and will be prepared in consultation with Aon.
b. Submission to Provincial Consultation re: Employee Renewal. Rush noted this was also shared with FAUW. Members noted that working in universities following retirement happens in a minority of cases, and it is rather more often the case that faculty simply delay retirement. The impact on actuarial valuations of individuals working post-retirement is not believed to be significant, and more analysis could be done to ascertain the impact (if any).

2. EXECUTION AGAINST THE WORK PLAN

This item was received for information.

3. UPDATE ON GOVERNMENT PENSION PLAN INITIATIVES

Shapira noted the upcoming federal and provincial budgets, which may have items impacting benefits (pharmacare and OHIP+, respectively).

4. ACTUARIAL VALUATION RESULTS (RPP AND PPP)

Byron spoke to the valuation results: going concern position of -$21M, which combines with the provision for adverse deviation to bring a calculated unfunded liability of $147.3M; 2019 contributions from employees is $35.0M and $59M from the University – the latter figures represents 169% of employee contributions and includes $45.3M in current service cost under the RPP and the remainder being $8.8M for statutory special payments to amortize unfunded liabilities and $5.0 in additional contribution to also address the unfunded liability; it is not expected that the university would elect to file the valuation with the regulator this year. A motion was heard to approve the actuarial valuation results as presented. Bleaney and Macnaughton. Carried.

5. REVIEW OF CONTRIBUTION AND PROTOCOL CALCULATIONS (RPP AND PPP)

Byron and Shapira discussed: current caps/limits under the *Income Tax Act* (ITA); existing dollar caps help to manage funding risk in the event of significant changes to the ITA limits; annual increases based on average industrial wage increase; impact on liabilities if caps are removed. Members discussed: most universities utilize the ITA limit, and the Waterloo's payroll pension plan is unusual among universities; various projections of members with pension benefits in excess of caps, for capped or uncapped RPP and PPP.

6. GROUP BENEFITS PROGRAM – ANNUAL RENEWAL

Hornberger spoke to each exhibit (a)-(d).
a. The unrestricted deposit account has increased from $1.88M to $2.37M, and while funds from this account could be withdrawn but are typically used to subsidize the cost-shared life insurance benefit. The 20% subsidy level has been in place for one year, and another year of experience is seen to be desirable to assess experience at that level. A motion was heard to approve option 2 as presented. Bardswick and Macnaughton. Carried.

b. Members noted that the decision between providing benefits on an insured vs. cost-plus basis is a matter of deciding risk tolerance, and observed that carriers are generally reluctant to provide administrative services only (ASO) plans for long term disability. A member noted that the new climate action tax credit may confound the calculations for targeting 85% of pre-LTD net salary. A motion was heard to approve the 18% reduction in premium rate, as presented. Bleaney and Barr. Carried.
c. It was noted that in 2017, the University agreed to a 10% reduction in combined ASO fees and charges (excluding GMA and pooling) with a 24 month in exchange for accepting a 5% increase in May 2019. Further, the insurer has proposed a lesser increase to the pooling charge of 10% (from 28%) subject to the outcomes of two large claims and on the understanding that the University would agree to review two new potential program offerings without obligation to adopt the programs, all of which is detailed in the exhibit. Members observed: the SMART program requires a robust exceptions process; unclear what the process would be to evaluate the pharmacoeconomic value of a drug; should be wary that such provision could leave individuals in difficult circumstances. A motion was heard to approve the changes to ASO fees and charges as detailed in the table on page 49 of the agenda package, including a 10% increase to the pooling charge, and to commit to review the HCM and SMART programs as part of the work of the Holistic Benefits Working Group. Bleaney and Barr. Carried.
d. Hadley observed that this represents a set aside from payroll, which helps to budget for parties like the AFIW, part-time employee etc. A motion was heard to approve option 2 as presented. Macnaughton and Bleaney. Carried.

7. PRESENTATION RE: UNIVERSITY PENSION PLAN

Shapira provided an abbreviated overview, and the full presentation will be provided at the next meeting. He discussed: overall structure of the joint plan; member universities are responsible for deficits brought into the plan with fixed payments over 15 years; equal cost sharing between employers and employees; plan not covered under provincial pension guarantees fund; comparison of plan design vs. Waterloo pension plan; funding of conditional indexation; governance of plan is designed to be scalable as potential new members may be added; consent process to approve at prospective member universities.

8. UPDATE RE: HOLISTIC BENEFITS WORKING GROUP

Members provided a short update of the process to date.

9. WORKING GROUP RE: DATA TO SUPPORT PENSION FUNDING/DESIGN DISCUSSIONS

This group aims to meet and complete its work before the May P&B meeting.

10. OTHER BUSINESS

a. Timing of February/March meeting. Aon will work with the secretary and Huber to ascertain whether more optimal timing for committee meetings could be arranged in the February/March period.
b. Annual Committee Self-Assessment. Members were asked to submit their assessments to the secretary.
c. Huber noted that the Q4 2018 investment fund performance reports will be distributed following the meeting, and will be brought for discussion at the next meeting.
d. Macnaughton noted that with the tight timing and late arrival of certain items of the agenda within the seven day notice period of the meeting, it can be difficult for members to provide their full attention to the material ahead of the meeting.

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

NEXT MEETING

The next meeting is scheduled for Friday 17 May 2019 from 9:30 a.m. – 12:00 noon in NH 3318.

1 April 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)**	**18 May 2018**	**26 June 2018**	**21 Sept 2018**	**19 Oct 2018**	**9 Nov 2018**	**14 Dec 2018**	**18 Jan 2019**	**22 Feb 2019**	**8 Mar 2019**	**16 May 2019**
Approval of Actuarial Valuation Assumptions	Annual (Jan)							✓			
Investment Status of PPP	Annual (Jan)							✓			
Preliminary Valuation Results (RPP and 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 May 2018**	**26 June 2018**	**21 Sept 2018**	**19 Oct 2018**	**9 Nov 2018**	**14 Dec 2018**	**18 Jan 2019**	**22 Feb 2019**	**8 Mar 2019**	**16 May 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											

Pension Plan Management and Administrative Fees Incurred in 2018[1]
with 4 prior years of comparative information

Expense Category	2018 ('000s)	2017 ('000s)	2016 ('000s)	2015 ('000s)	2014 ('000s)
Investment Management Fees [2]					
TD Asset Management	598	504	504	494	239
Oldfield	1157	1072	876	881	770
Trilogy Global Advisors	672	1023	856	857	730
Walter Scott and Partners Ltd.	1555	1411	1254	1342	1168
Sionna Investment Managers	216	209	185	178	179
Total Investment Management Fees	**$4,198**	**$4,219**	**$3,675**	**$3,752**	**$3,086**
Custodian Fees	273	211	213	216	214
Aon Hewitt	235	280	301	262	243
Administration Fees	692	663	850	433	498
Ernst & Young - Audit Fees	19	20	20	18	20
Total Pre-Tax Management and Administrative Fees	**$5,417**	**$5,393**	**$5,059**	**$4,681**	**$4,061**
HST [3]	**696**	**554**	**398**	**490**	**533**
Total Management and Administrative Fees [4]	**$6,113**	**$5,947**	**$5,457**	**$5,171**	**$4,594**

[1] Amounts from the audited annual financial statements

[2] TDAM US Treasuries added March 2014 and TDAM Short Term Bond Mandate added December 2014
TDAM US Treasuries sold in 2016 and proceeds reinvested in other TDAM mandates
TDAM pension overlay unwould November 2017
Trilogy investment liquidated August 2018 and proceeds reinvested in TDAM mandates

[3] UW recovers HST paid by the pension fund where possible through HST rebates

[4] This total exceeds the total management and administrative expenses in the financial statements by the amount of Oldfield fees noted above. The Oldfield fees are deducted directly from the investment pool and this presentation (netting against investment income) is followed in the financial statements

The University of Waterloo Pension Plan for Faculty and Staff

31 December 2018

Building a better working world

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Members of the Pension & Benefits Committee of
The University of Waterloo Pension Plan for Faculty and Staff

24 April 2019

We are pleased to provide the required communications related to our audit of the pension plan of the University of Waterloo Pension Plan for Faculty and Staff (the Plan).

Our audit was designed to express an opinion on the statement of net assets available for benefits and the statement of changes in net assets available for benefits as at 31 December 2018 and for the year then ended. We received the full support and assistance of your personnel in conducting our audit. Open and candid dialogue with you is a critical step in the audit process and in the overall corporate governance process and we appreciate this opportunity to share the insights from our audit with you.

This report is intended solely for the information and use of the Pension & Benefit Committee and management. It is not intended to be, and should not be, used by anyone other than these specified parties. We disclaim any responsibility to any third party who may rely on it. Further, this report is a by-product of our audit and indicates matters identified during the course of our audit. Our audit did not necessarily identify all matters that may be of interest to the Pension & Benefits Committee in fulfilling its responsibilities.

If you have any questions or comments, please do not hesitate to contact us.

Sincerely

Ernst & Young LLP

Chartered Professional Accountants
Licensed Public Accountants

Blaine Hertzberger, CPA, CA, LPA
Partner
519 571 3339

EY services

Our primary deliverable was to express an opinion on the statement of net assets available for benefits and the statement of changes in net assets available for benefits of the Plan. We have completed substantially all our audit procedures and expect to issue an unqualified audit opinion upon finalization of the following matters:

- ► Receipt of signed letter of representation from management
- ► Approval of the financial statements by the Pension & Benefits Committee

Auditors' responsibility under Canadian Auditing Standards (CAS)

The financial statements are the responsibility of management. Our audit is designed in accordance with the CAS to obtain reasonable, rather than absolute, assurance about whether the financial statements are free of material misstatement.

Independence

We confirm our independence to management and the Pension & Benefits Committee pursuant to CAS 260. We are not aware of any relationships that may reasonably be thought to bear on our independence and we reconfirm our independence up to the date of this report.

Summary of the audit approach

For the audit of the financial statements, our audit plan is developed after considering the inherent risks and control risks and the effectiveness of the internal controls related to the Plan. A variety of factors are considered when establishing the audit scope including size, specific risks, the volumes and types of transactions processed, changes in the business environment, and other factors. Our audit strategy focuses on those financial statement items that may be more vulnerable to material misstatement, including the risk of fraud. Our procedures for your Plan were primarily of a substantive nature.

Our principal areas of focus were:

- ► Completeness and measurement of pension contributions
- ► Measurement and occurrence of benefit payments
- ► Completeness and occurrence of investment income, and
- ► Valuation of investments

While most of our procedures were substantive procedures, we have relied on the Service Organization Control (SOC1) report issued for CIBC Mellon, the Fund's custodian, and BNY Mellon, a subservice provider to CIBC Mellon providing custody and valuation services.

At the conclusion of the audit, we formulate our opinion on the financial statements of the Fund as to their fair presentation in all material respects. Our estimation of materiality requires professional judgment and necessarily takes into account qualitative as well as quantitative considerations. Materiality can be set at 1-2% of net assets. Materiality for the 2018 audit was set at approximately 1.9% (2017 – 1.9%) of net assets, or $32,000,000 (2017 - $32,000,000).

Critical policies, estimates, areas of audit emphasis, and significant risks

Disclosure requirements

There were no changes made to the disclosure requirements in Fiscal 2018.

Auditing the valuation of fixed income investments

Canadian auditing standards require us to perform additional procedures to audit the valuation of investments with higher valuation risk or measurement uncertainty risk by performing the following:

- ► Document an understanding of Management's investment strategy
- ► Understand how the investment portfolio is priced and which pricing sources are used
- ► Understand the types of securities that compose the portfolio and evaluate them to determine the appropriate classification as higher or lower estimation uncertainty, and
- ► For securities classified as higher uncertainty estimation, if applicable, perform additional procedures to gain comfort over the appropriateness of the valuations

EY reviewed the individual fixed income securities held in the Plan for any that may be considered to have higher estimation uncertainty and performed additional procedures where necessary. Based on procedures performed in 2018, there were no fixed income investments identified that exhibited higher estimation uncertainty. The fixed income investments held by the Plan are valued based on inputs that have observable market data and therefore are classified as level 2. We did not identify any issues with the valuation of fixed income investments.

Auditing the valuation of equity investments

We updated our understanding of how the fair values of the Plan's investments have been determined and tested the fair values to assess the appropriateness of these fair values. We confirmed all investments held at year-end with the custodian (CIBC Mellon) and respective investment managers. In addition, we obtained the CIBC Mellon and BYN Mellon Service Organization Control report and could place reliance on the custodian's controls as no significant deficiencies were identified within the reports.

On a sample basis, we tested the market values of equity investments held by the Plan. EY noted no issues with the investment valuation when compared to independent market information. The equity investments held by the Plan are lower estimation uncertainty since they are exchange traded or there is daily pricing and therefore they are classified as level 1 in the fair value hierarchy disclosure. The pooled fund investments held by the Plan are valued based on inputs that have observable market data and therefore are classified as Level 2. As a result of the procedures performed, we did not identify any issues with the valuation of equity or pooled fund investments.

Employer contributions

We updated our understanding of the employer contributions process. With reference to the latest actuarial funding valuation report as of 1 January 2018 we verified that the employer contributions made by the Plan were in accordance with the recommendations of the actuary.

We tested and recalculated on a sample basis the employee and employer contributions. No issues were noted.

Benefit payments

We confirmed our understanding of the benefit payments process and examined, on a test basis, benefit payments to verify they were accurately processed. We performed an analytical review of benefit payments and investigated variances from the prior year. In addition, we confirmed that members who withdrew from the pension plan in the current year, but had not yet received payment were properly accrued for at year-end. No issues were noted.

Accounting estimates

There are no significant judgments or estimates required to prepare the financial statements where actual amounts are likely to be significantly different from the estimates.

Fraud considerations and the risk of management override

We are responsible for planning and performing our audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether caused by error or by fraud (CAS 240, *The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements*).

Our audit procedures encompassed the requirements of CAS 240: brainstorming, gathering information to facilitate the identification of and response to fraud risks and performing certain procedures to address the risk of management override, including examining journal entries, reviewing accounting estimates and evaluating the business rationale of significant unusual transactions.

We are not aware of any fraud or non-compliance with laws and regulations involving senior management or any fraud or non-compliance with laws and regulations that could cause a material misstatement of the financial statements.

Summary of audit differences (SAD)

During the course of our audit, we accumulate differences between amounts and disclosures recorded by the Plan, and amounts and disclosures that we believe are required to be recorded under Canadian accounting standards for pension plans. In fiscal 2018, no audit adjustments were identified during the audit.

Summary of significant disclosure deficiencies

During the course of our audit, we identify those significant disclosures required in the financial statements of the Plan, that we believe were not adequately reflected. We did not identify any significant disclosure deficiencies.

Other required communications

- ► There were no major issues discussed with the Pension & Benefits Committee or those charged with governance in connection with our initial or recurring retention as the auditors, including, among other matters, any discussions regarding the application of accounting principles and auditing standards, the scope of the audit, financial statement disclosures and the wording of the auditors' report.
- ► There were no disagreements with management about matters that individually or in the aggregate could be significant to the Plan's financial statements or the auditors' report.
- ► We are not aware of any instances where management consulted with other accountants about auditing or accounting matters.
- ► There were no serious difficulties encountered in dealing with management related to the performance of the audit.
- ► We are not aware of any significant unusual transactions recorded by the Fund or of any significant accounting policies used by the Plan related to controversial or emerging areas for which there is a lack of authoritative guidance.
- ► We are not aware of any related party transactions that are not in the normal course of operations and that involve significant judgments made by management concerning measurement or disclosure.
- ► There were no material alternative accounting treatments that have been discussed with management during the current audit period.
- ► There were no significant matters arising during the audit in connection with the Plan's related parties.
- ► There are no other findings or issues arising from the audit that are, in our judgment, significant and relevant to those charged with governance regarding the oversight of the financial reporting process.
- ► Based on our inquiries of management and those charged with governance, we are not aware of any subsequent events which might affect the financial statements.

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Financial Statements

University of Waterloo Pension Plan for Faculty and Staff

[Ontario Registration Number 0310565]
December 31, 2018

Building a better
working world

Placeholder for Independent auditors' report

University of Waterloo Pension Plan for Faculty and Staff
[Ontario Registration Number 0310565]

Statement of net assets available for benefits

As at December 31

	2018	2017
	$	$
Assets		
Investment income receivable	3,297,331	3,968,009
HST receivable	—	421,813
Investments, at fair value *[note 4[a]]*	1,691,003,976	1,673,574,830
Total assets	1,694,301,307	1,677,964,652
Liabilities		
Benefits payable		
Retirement	16,696	43,648
Termination	424,803	428,861
Management and administrative fees payable *[note 7[b]]*	1,225,264	1,289,286
Total liabilities	1,666,763	1,761,795
Net assets available for benefits	1,692,634,544	1,676,202,857

See accompanying notes

University of Waterloo Pension Plan for Faculty and Staff

Statement of changes in net assets available for benefits

Year ended December 31

	2018	2017
	$	$
Increase in net assets		
Employee contributions		
Required	33,072,572	30,928,086
Employer contributions		
Current service	42,315,000	35,660,336
Special	13,434,655	14,817,016
Transfers from other plans *[note 8]*	1,392,021	2,122,220
Interest income *[note 4[d]]*	21,694,956	19,531,511
Dividend income *[note 4[d]]*	28,786,607	21,305,671
Realized gains on investments	92,926,431	40,509,797
Unrealized gains on investments	—	79,559,217
Unrealized foreign exchange gains	7,310,418	—
Total increase in net assets	240,932,660	244,433,854
Decrease in net assets		
Benefit expenses		
Retirement benefits	60,236,575	56,413,474
Terminations benefits	7,586,600	6,642,575
Death benefits	4,930,495	911,769
Unrealized losses on investments	146,790,803	—
Unrealized foreign exchange losses	—	16,884,487
Management and administrative expenses *[note 7[a]*	4,956,500	4,874,769
Total decrease in net assets	224,500,973	85,727,074
Net increase in net assets for the year	16,431,687	158,706,780
Net assets available for benefits, beginning of year	1,676,202,857	1,517,496,077
Net assets available for benefits, end of year	1,692,634,544	1,676,202,857

See accompanying notes

Notes to financial statements

December 31, 2018

1. Basis of presentation

These financial statements of the University of Waterloo Pension Plan [the "Plan"] have been prepared on a going concern basis and in accordance with the significant accounting policies set out below that comply with the financial reporting provisions prescribed by the Financial Services Commission of Ontario for financial statements under Regulation 909, Section 76 of the Pension Benefits Act (Ontario). The basis of accounting used in these financial statements materially differs from Canadian accounting standards for pension plans in Section 4600, Pension Plans, in Part IV of the CPA Canada Handbook in part because it excludes the Plan's pension obligations and related disclosures. Consequently, these pension fund financial statements do not purport to show the adequacy of the Plan's assets to meet its pension obligations. These financial statements present the information of the Plan as a separate reporting entity independent of the Sponsor and Plan participants.

In accordance with Section 4600, Canadian accounting standards for private enterprises in Part II of the CPA Canada Handbook have been adopted for policies that do not relate to the Plan's investment portfolio to the extent that those standards do not conflict with the requirements of Section 4600.

2. Description of the plan

The Plan is a contributory defined benefit pension plan covering employees of the University of Waterloo [the "University" or the "Sponsor"]. The Board of Governors of the University is the administrator of the Plan [the "Administrator"]. The University's Pension and Benefits Committee has been appointed by the Board of Governors to administer the Plan. CIBC Mellon Trust Company is the custodian and trustee of the Plan. The assets of the Plan are held "in trust" within CIBC Mellon Trust Company. Aon has served as the actuary of the Plan during 2018. The Plan is registered under the Pension Benefits Act (Ontario) under Registration Number 0310565.

Funding policy

The Plan is open to all full-time and part-time salaried employees who meet certain eligibility requirements. Under the terms of the Plan, the employees are required to contribute 6.25% of base earnings up to the Canada Pension Plan's Yearly Maximum Pensionable Earnings ["YMPE"] limit plus 8.95% of base earnings exceeding the YMPE and up to two times the YMPE, plus 9.95% of base earnings exceeding two times the YMPE. The University contributes the balance of the cost required to fund the Plan, as determined by an actuarial valuation of the Plan.

Funding valuation

The most recent actuarial valuation, filed with the Financial Services Commission of Ontario, was as of January 1, 2018 and was prepared by Aon. The rate of compensation increase used was 4.00% per year and the discount rate was 5.6%. The next required actuarial valuation is as of January 1, 2021.

Benefits

On the normal retirement date, a member is entitled to an annual pension benefit equal to 1.4% of his or her Final Average Earnings ["FAE"] up to the YMPE average, plus 2.0% of his or her FAE in excess of the YMPE average multiplied by his or her years of credited service. FAE is the member's average annual base earnings during the averaging period's continuous months of highest earnings during the member's last 10 years of employment at the University. The averaging period for FAE is a 60-month averaging period. The YMPE average is determined by averaging the YMPE in the year of retirement plus the YMPE in the four preceding years.

Effective May 1, 2014, the Plan adjusted its guaranteed indexation related to post-retirement cost of living adjustments. Any pension benefits earned as at December 31, 2013 will be indexed at 100% of the Consumer Price Index ["CPI"] to a maximum of 5%, and any pension benefit earned as of an employee's date of retirement less the pension benefit earned as at December 31, 2013 will be indexed at 75% of CPI to a maximum of 5%.

Vested retirement benefits of the Plan are payable upon satisfaction of early retirement eligibility requirements [as early as age 55] and prior to the member's normal retirement date [age 65]. Vested retirement benefits are also payable in the case of termination of employment prior to retirement. A death benefit is payable to the beneficiary of a member as designated.

Income taxes

The Plan is a Registered Pension Trust as defined in the Income Tax Act (Canada) and, as such, is not subject to income taxes.

3. Summary of significant accounting policies

Recognition of contributions and benefits

All contributions from the Sponsor and the Plan participants are reflected in the year of the related participant's earnings.

Contributions and benefits payable are recognized on the accrual basis of accounting. Termination benefits payable consist of amounts owing but not yet paid to employees who were terminated from the Plan before the year end. Retirement benefits payable consist of amounts owing but not yet paid to employees who retired before the year end.

Lump-sum payments or transfers out of the Plan are accounted for in the period in which the election to effect such payment or transfer is made.

Notes to financial statements

December 31, 2018

Investments

Investments are recorded at fair market value on the statement of net assets available for benefits.

Fair value is the amount of consideration that would be agreed upon in an arm's length transaction between knowledgeable, willing parties who are under no compulsion to act. The fair value of investment assets is determined as follows:

[a] Cash and short-term deposits are valued at amortized cost which approximates fair value.

[b] Bonds, debentures, equities, preferred shares and derivative financial instruments are valued by reference to quoted market prices.

[c] Investments in pooled funds are valued based on fair value information provided by the fund managers.

Investment liabilities are stated at fair value and represent liabilities that are incurred by the Plan in investment related activities. These may include, but are not limited to, derivatives in a liability position, repurchase agreements, financial instruments sold but not yet purchased, and cash collateral received from counterparties.

Net realized gains or losses on disposal and unrealized changes in fair value for the year are recognized in the statement of changes in net assets available for benefits. Interest earned on investments is recorded on an accrual basis. Dividend income is recorded on the ex-dividend date. Transaction costs are expensed as incurred.

Foreign currency translation

Investments denominated in foreign currencies are translated into Canadian dollars at rates of exchange as at the year-end date. Transactions of investments denominated in foreign currencies are translated into Canadian dollars at rates of exchange applicable on the transaction dates.

Use of estimates

The preparation of financial statements requires the Plan's Administrator to make estimates and assumptions. These estimates and assumptions affect the reported amounts of assets and liabilities and disclosure of contingencies as at the date of the financial statements, and the reported amounts of increases and decreases in net assets available for benefits during the reporting period. Actual results could differ from those estimates.

Notes to financial statements

December 31, 2018

4. Investments

[a] Summary of investments

Investments are comprised of the following:

	2018		2017	
	Fair value	Cost	Fair value	Cost
	$	$	$	$
Equities				
Canadian companies	**227,751,127**	**168,730,351**	248,402,139	156,452,267
Foreign companies	—	—	195,276,165	151,134,808
Foreign equity pooled funds	**632,016,302**	**520,731,096**	417,378,093	249,354,636
	859,767,429	**689,461,447**	861,056,397	556,941,711
Bonds, cash and short-term deposits				
Canadian fixed term bonds	**320,295,927**	**326,361,260**	315,815,554	321,271,630
Bond pooled funds	**316,840,611**	**311,473,073**	312,456,372	301,809,488
Cash and short-term deposits	**194,100,009**	**194,099,977**	184,246,507	184,454,310
	831,236,547	**831,934,310**	812,518,433	807,535,428
	1,691,003,976	**1,521,395,757**	1,673,574,830	1,364,477,139

Notes to financial statements

December 31, 2018

[b] Investment managers

The investments are managed by the following investment managers:

	2018		2017	
	Fair value	**Cost**	**Fair value**	**Cost**
	$	$	$	$
TD Asset Management				
Bonds				
Canadian fixed term bonds	**320,295,927**	**326,361,260**	315,815,554	321,271,629
Bond pooled funds	**316,840,611**	**311,473,073**	312,456,372	301,809,488
Foreign equity pooled funds	**214,698,877**	**239,819,041**	17,697,930	17,349,821
Cash and short-term deposits	**2,742,463**	**2,742,463**	576,168	576,168
	854,577,878	**880,395,837**	646,546,024	641,007,106
University of Waterloo managed fund				
Equities				
Canadian equities [infrastructure and real estate]	**170,415,522**	**112,326,779**	185,616,836	105,513,829
Cash and short-term deposits	**162,669,496**	**162,669,489**	158,871,118	158,871,127
	333,085,018	**274,996,268**	344,487,954	264,384,956
Sionna				
Equities				
Canadian companies	**57,335,605**	**56,403,572**	62,785,302	50,938,438
Cash and short-term deposits	**1,504,263**	**1,504,263**	2,485,165	2,485,165
	58,839,868	**57,907,835**	65,270,467	53,423,603

Notes to financial statements

December 31, 2018

	2018		2017	
	Fair value	Cost	Fair value	Cost
	$	$	$	$
Trilogy Global Advisors				
Equities				
Foreign companies	—	—	195,276,166	151,134,808
Cash and short-term deposits	**198**	**195**	8,230,913	8,438,707
	198	**195**	203,507,079	159,573,515
Oldfield Partners				
Equities				
Foreign equity pooled funds	**148,979,836**	**79,898,043**	151,201,852	77,549,323
Walter Scott & Partners				
Equities				
Foreign equity pooled funds	**268,337,589**	**201,014,012**	248,478,311	154,455,493
Operating fund at CIBC Mellon Trust Company				
Cash and short-term deposits	**27,183,589**	**27,183,567**	14,083,143	14,083,143
Total investments	**1,691,003,976**	**1,521,395,757**	1,673,574,830	1,364,477,139

Notes to financial statements

December 31, 2018

[c] Significant investments

The Plan contains the following individual investments, which exceed 1% of the cost or market value of the total investments as at December 31, 2018:

	Fair value $	Cost $
Short-term deposits		
CIBC Mellon cash sweep 0.45%	**29,610,078**	**29,610,078**
Royal Bank BA 1.97% due January 9, 2019	**55,876,240**	**55,876,240**
First Bank BA 1.97% due January 9, 2019	**46,896,130**	**46,896,130**
Toronto Dominion BA 1.97% due January 9, 2019	**46,896,130**	**46,896,130**
Pooled funds		
TD Emerald Canadian Bond Index Fund	**316,840,611**	**311,473,073**
TD Emerald Pooled US Equity Fund	**128,706,436**	**144,609,262**
TD Emerald International Equity Fund	**85,992,441**	**95,209,779**
Overstone Global Equity Fund	**148,979,836**	**79,898,043**
Walter Scott & Partners Global Equity Fund	**268,337,589**	**201,014,012**
Canadian Equities		
Brookfield Infrastructure Partners	**117,208,158**	**59,619,829**
Ishares S&P/TSX Capped REIT	**53,207,308**	**52,706,908**

Notes to financial statements

December 31, 2018

[d] Investment income by type

	2018	2017
	$	$
Dividend income		
Canadian equities	**10,278,494**	9,542,284
Foreign companies	**3,416,477**	3,961,107
Foreign pooled funds	**15,091,636**	7,802,280
	28,786,607	21,305,671
Interest income		
Bonds, cash and short-term deposits	**2,670,226**	1,344,302
Canadian fixed term bonds	**9,357,450**	8,792,526
Pooled funds	**9,667,280**	9,394,683
	21,694,956	19,531,511

[e] Forward foreign exchange contracts

There were no forward foreign exchange contracts as at December 31, 2018 or December 31, 2017.

Notes to financial statements

December 31, 2018

5. Fair value measurements

Canadian accounting standards for pension plans require disclosure of a three-level hierarchy for fair value measurements based on the transparency of inputs to the valuation of an asset or liability as at the financial statement date. The three levels are defined as follows:

Level 1: Fair value is based on quoted market prices in active markets for identical assets or liabilities. Level 1 assets and liabilities generally include equity securities traded in an active exchange market.

Level 2: Fair value is based on observable inputs other than Level 1 prices, such as quoted market prices for similar [but not identical] assets or liabilities in active markets, quoted market prices for identical assets or liabilities in markets that are not active, and other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Level 2 assets and liabilities include debt securities with quoted prices that are traded less frequently than exchange-traded instruments and derivative contracts whose value is determined using a pricing model with inputs that are observable in the market or can be derived principally from or corroborated by observable market data. This category generally includes pooled funds, hedge funds, Government of Canada, provincial and other government bonds, Canadian corporate bonds, and certain derivative contracts.

Level 3: Fair value is based on non-observable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. This category generally includes private equity investments and securities that have liquidity restrictions.

Notes to financial statements

December 31, 2018

	2018			
	Level 1	Level 2	Level 3	Total
	$	$	$	$
Assets				
Cash and short-term deposits	—	**194,100,009**	—	**194,100,009**
Equities	**227,751,127**	—	—	**227,751,127**
Pooled funds	—	**948,856,913**	—	**948,856,913**
Bonds	—	**320,295,927**	—	**320,295,927**
	227,751,127	**1,463,252,849**	—	**1,691,003,976**

	2017			
	Level 1	Level 2	Level 3	Total
	$	$	$	$
Assets				
Cash and short-term deposits	—	**184,246,507**	—	**184,246,507**
Equities	**443,678,304**	—	—	**443,678,304**
Pooled funds	—	**729,834,465**	—	**729,834,465**
Bonds	—	**315,815,554**	—	**315,815,554**
	443,678,304	**1,229,896,526**	—	**1,673,574,830**

6. Financial risks and risk management

The Plan's investment performance is subject to financial risks as a result of its investing activities. These financial risks could impact net assets available for benefits. These financial risks include credit risk, liquidity risk, interest rate risk, other price risk and foreign exchange risk. The Administrator manages these risks in accordance with the Statement of Investment Policies and Procedures [the "SIPP"]. The SIPP includes aggregate investment limits by asset class in order to achieve the Plan's investment objectives at an acceptable level of risk. In addition, the SIPP outlines individual investment limits and diversification objectives within different asset classes and permitted investment categories within the asset classes. The Pension and Benefits Committee monitors adherence to the policy and the performance of investment managers relative to the applicable benchmarks and action is taken as deemed necessary.

Credit risk

Credit risk relates to the potential exposure that the other party to a financial instrument will fail to discharge an obligation and cause the Plan to incur a financial loss. Concentration of credit risk exists when a significant proportion of the portfolio is invested in securities with similar characteristics or subject to similar economic, political or other conditions.

The SIPP restrictions require Canadian bonds or debentures to be rated a minimum of BBB or equivalent, establishes a cap of U.S. denominated fixed income securities, and bans the purchase of foreign currency fixed income securities. In addition, the SIPP states that no single investment holding shall represent more than 10% of the market value of the Plan's assets.

All of the Plan's fixed term investments are invested in Canadian short term bonds. The credit risk of the Canadian short term bonds as at December 31, 2018 and as at December 31, 2017 are detailed in the following chart:

Credit ratings	AAA	AA	A	BBB	Total
As at December 31 2018	**1.0%**	**31.9%**	**27.0%**	**40.1%**	**100%**
As at December 31 2017	1.3%	35.6%	29.7%	33.4%	100%

Liquidity risk

Liquidity risk is the risk that the Plan may be unable to meet pension payment obligations as they come due. The SIPP requires that all investments should be reasonably liquid so that they can be converted into cash on short notice. As such, the Plan's exposure to liquidity risk is considered negligible.

The following is a maturity analysis of the fixed-term bonds held by the plan:

	2018	**2017**
	$	$
<1 year	**4,205,208**	3,961,363
1 – 5 years	**258,765,207**	274,887,532
5 – 10 years	**57,325,512**	36,966,659
Total	**320,295,927**	315,815,554

Interest rate risk

Interest rate risk refers to the adverse consequences of interest rate changes on the Plan's net assets available for benefits and changes in net assets available for benefits. This risk arises as changes in market interest rates affect the fair market value of the Plan's assets as well as the returns that the plan can earn. The SIPP outlines a range of 30% – 70% for fixed income securities. The Administrator adjusts the investment mix in the portfolio in response to changes in market interest rates.

The following analysis summarizes the impact on the Plan's net assets available for benefits, following reasonably possible changes in interest rates to each bond category to which the Plan has a significant exposure.

			Impact of change in interest rates	
	Market value	**Duration**	**-1%**	**+1%**
Canadian fixed term bonds	320,295,927	2.65	8,487,842	-8,487,842
Bond pooled funds	316,840,611	7.45	23,604,626	- 23,604,626
			32,092,468	- 32,092,468

Other price risk

Other price risk is the risk that the value of the investments will fluctuate as a result of changes in market prices. As the Plan records all investments at fair value, investment values reflected in the statement of net assets available for benefits represent the maximum exposure to market risk. The SIPP outlines a range of 30% – 70% for equities. The Administrator adjusts the investment mix in the portfolio in response to changes in market conditions.

Notes to financial statements

December 31, 2018

Foreign exchange risk

The Plan is exposed to foreign currency fluctuations to the extent that its foreign investments are denominated in foreign currencies. Fluctuations in the value of the Canadian dollar against foreign currencies can have an impact on the fair value of foreign investments. The SIPP allows for hedging of portfolio assets denominated in foreign currencies into Canadian dollars as a strategy to mitigate foreign exchange risk.

The following sensitivity analysis summarizes the impact on the Plan's net assets available for benefits, following reasonably possible changes in foreign currency exchange rates, for each currency to which the Plan has a significant exposure.

	Impact of change in exchange rates	
	+5%	**-5%**
Euro	3,969,506	(3,969,506)
United States dollar	14,866,929	(14,866,929)
British pound sterling	2,952,920	(2,952,920)
Japanese yen	2,233,196	(2,233,196)

Market risk for equity investments

The table below demonstrates the sensitivity of the fair value of the Plan's investments in equities to a possible change of 10% in the relevant equity indices. The beta of each equity mandate, a measure of volatility, has been applied in estimating this sensitivity.

	Fluctuation of	Impact of % change in fair value on net assets	Sensitivity $
Equities			
Canadian	Stock market indices	+10	16,960,892
		-10	(16,960,892)
Pooled funds	Stock market indices	+10	60,100,347
		-10	(60,100,347)

7. Management and administrative expenses

[a] Management and administrative expenses

Management and administrative expenses consist of the following:

	2018 $	2017 $
Investment management	3,040,795	3,147,295
Custodial	273,298	211,112
Actuarial	235,266	279,694
Administration	691,602	663,196
Audit	19,352	19,126
Non-recoverable Harmonized Sales Tax	696,187	554,346
	4,956,500	4,874,769

[b] Management and administrative fees payable

Management and administrative fees payable consist of the following:

	2018 $	2017 $
Investment management	773,683	921,402
Custodial	39,683	21,511
Actuarial	48,136	31,744
Administration	341,953	293,272
Audit	21,809	21,357
	1,225,264	1,289,286

[c] Contributions

There were no required contributions past due at December 31, 2018.

8. Transfers from other plans

Transfers from other plans represent transfers into the Plan from external pension plans of a previous employer.

9. Capital management

The capital of the Plan is represented by the net assets available for benefits. The Plan's objectives when managing its capital are to [i] safeguard its ability to continue as a going concern including compliance with regulatory requirements under the Pension Benefits Act (Ontario) and [ii] satisfy its obligations to pay benefits to the Plan participants. In meeting these objectives, the Sponsor periodically reviews the funding and investment policies of the Plan, the results of the actuarial funding valuation and the level of benefits provided to participants.

The Administrator has adopted a SIPP which states investment objectives, guidelines and benchmarks used in investing the capital of the Plan, permitted categories of investments, asset mix diversification and rate of return expectations. The SIPP was last updated effective November 1, 2018. The amendments to the SIPP reflect updated information on how Environmental, Social and Governance factors are considered in selecting and monitoring investment managers and other minor text amendments to harmonize the document with current regulations.

The portfolio return expectations for the Plan per the SIPP is that the annualized rate of return of the Plan must exceed the annualized rate of increase in the CPI by at least 360 basis points ["bps"], net of the associated investment management fees over any 10-year period. Reporting from the actuary of the Plan as at December 31, 2018 shows a return of 8% on the total pension fund, excluding the currency overlay, for the last 10 year period. The Bank of Canada reports total average annual CPI of 1.95% for the relevant 10 year period. The return on the total pension fund for the last 10 year period achieves the portfolio return expectations for the Plan per the SIPP.

The SIPP prescribes asset categories that the Plan can invest in along with a targeted asset allocation for each of these categories. The following table presents the asset categories, the permitted asset mix allocation, and the asset mix allocation as at December 31, 2018.

Asset categories	**Asset mix allocation**	**Asset mix allocation as at December 31, 2018**
Cash and short-term deposits	0-15%	11%
Fixed income	30-70%	38%
Equities	30-70%	41%
Alternatives [Infrastructure and Real Estate Equity]	0-20%	10%
		100%

The investments fell within the targeted asset mix ranges as specified in the SIPP at December 31, 2018.

Pension Risk Management Dashboard

University of Waterloo
As of March 31, 2019

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?

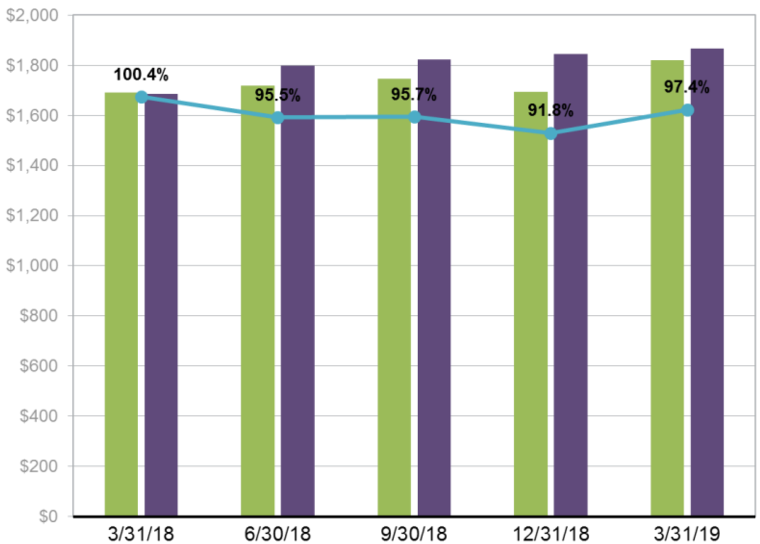
For the Risk-Free Benchmark Basis, the following information is also shown:

- 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 3/31/19

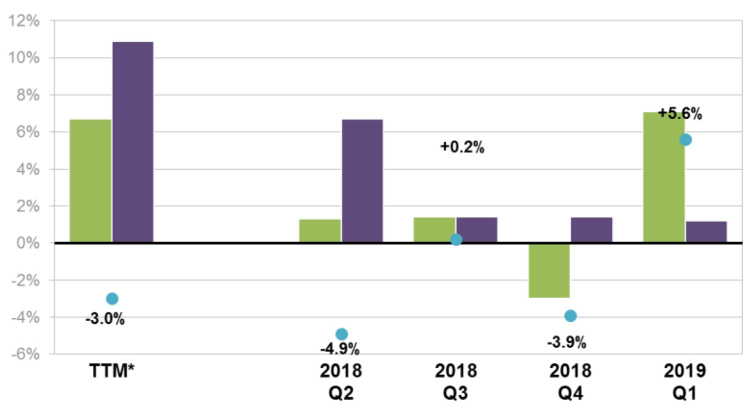
The plans' funded ratio increased to 97.4% at 3/31/19. This result was primarily due to the combined effects of:

- Asset performance exceeding expectations, and
- Contributions of $22.3 million, offset by
- Impact of a new valuation as at January 1, 2019 and changes in discount rate, PfAD, and demographic experience.

	3/31/18	6/30/18	9/30/18	12/31/18	3/31/19
Market Value of Assets	$ 1,690.8	$ 1,717.3	$ 1,744.7	$ 1,694.3	$ 1,819.1
Going Concern Liability	1,684.7	1,798.2[1]	1,822.2[1]	1,845.1[1]	1,866.8[2]
Surplus/(Deficit)	$ 6.1	$ (80.9)	$ (77.5)	$ (150.8)	$ (47.7)
Periodic Contributions	20.9	$ 21.8	$ 22.8	$ 23.3	$ 22.3
Effective Interest Rate	5.50%	5.60%	5.60%	5.60%	5.70%
Funded Ratio (Market):	100.4%	95.5%	95.7%	91.8%	97.4%
Funded Ratio (Actuarial)[3]:	97.7%	95.5%	95.7%	91.8%	97.4%
Asset Duration:	2.0	2.0	2.0	2.0	2.0
Going Concern Liability Duration:	14.1	14.1	14.1	14.1	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%
[3]Reflects funding reserve of $44.4 million due to sale of Real Return Bonds until March 31, 2018

Asset-Liability Return



Asset Liability Return for Quarter-Ending 3/31/19

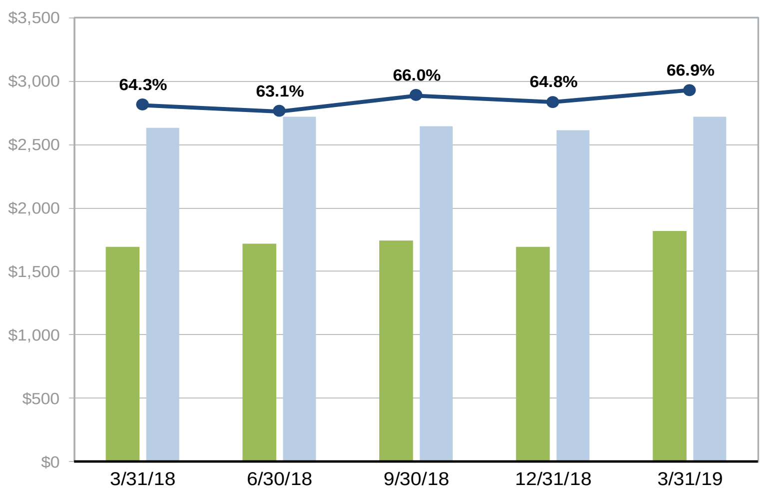
Assets returned 7.1% during the quarter while liabilities returned 1.2%, resulting in a funded status increase of 5.6%.

Periodic Return/Change	Cumulative	6/30/18	9/30/18	12/31/18	3/31/19
Market Value of Assets Return	6.7%	1.3%	1.4%	-3.0%	7.1%
Going Concern Return	10.9%	6.7%	1.4%	1.4%	1.2%
Funded Ratio Change[2]	-3.0%	-4.9%	0.2%	-3.9%	5.6%

Executive Summary – Risk- Free Benchmark

Values in $1,000,000 (CAD)

Funded Status



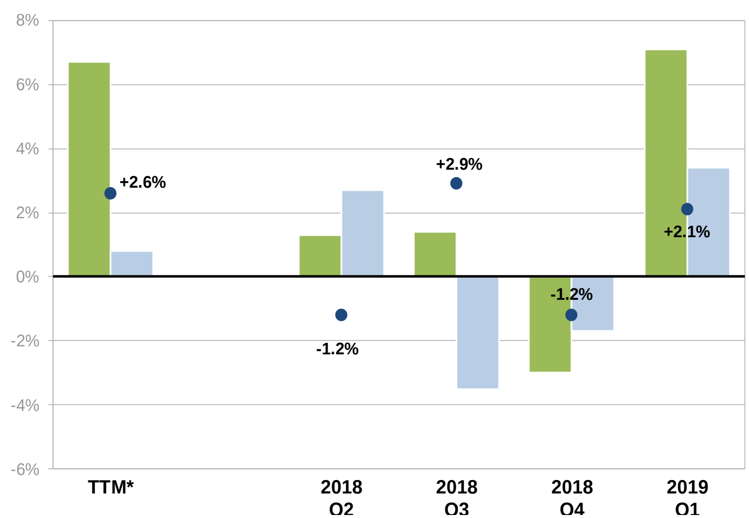
Highlights for the Quarter-Ending 3/31/19

The plans' funded ratio increased to 66.9% at 3/31/19. This result was primarily due to the combined effects of:

- ■Asset performance exceeding expectations,
- ■Contributions of $22.3 million, and
- ■ Impact of a new funding valuation at January 1, 2019, offset by
- ■An increase in liabilities due to a decrease in risk-free rates.

	3/31/18	6/30/18	9/30/18	12/31/18	3/31/19
Market Value of Assets	$ 1,690.8	$ 1,717.3	$ 1,744.7	$ 1,694.3	$ 1,819.1
Risk-Free Liability	2,629.1	2,720.0	2,643.8	2,612.9	2,718.4
Surplus/(Deficit)	$ (938.3)	$ (1,002.7)	$ (899.1)	$ (918.6)	$ (899.3)
Periodic Contributions		$ 21.8	$ 22.8	$ 23.3	$ 22.3
Discount Rate	0.93%	0.87%	1.07%	1.18%	0.86%
Funded Ratio:					
Assets/Risk-Free Liability	64.3%	63.1%	66.0%	64.8%	66.9%
Asset Duration:	2.0	2.0	2.0	2.0	2.0
Risk-Free Liability Duration:	18.5	18.6	19.0	19.0	18.9

Asset-Liability Return



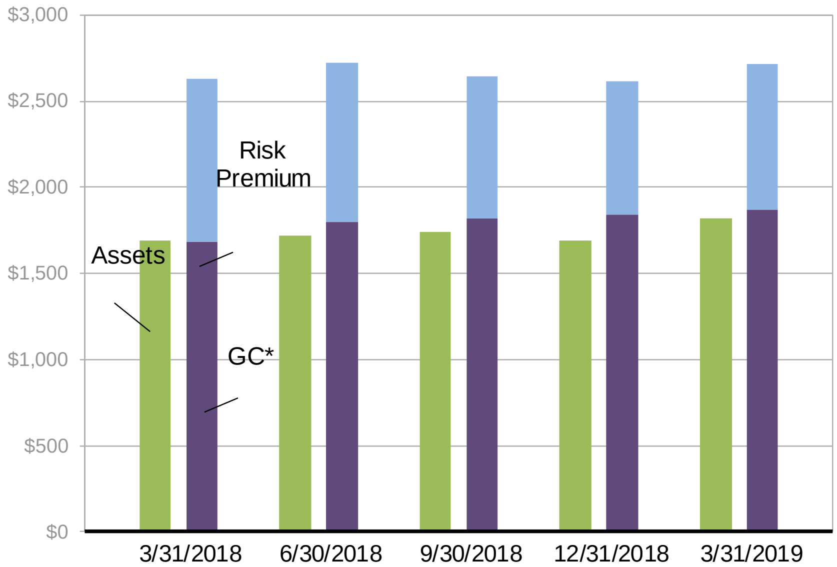
Asset Liability Return for Quarter-Ending 3/31/19

Assets returned 7.1% during the quarter while liabilities returned 3.4%, resulting in a funded status increase of 2.1%.

Periodic Return/Change	Cumulative	6/30/18	9/30/18	12/31/18	3/31/19
Market Value of Assets Return	6.7%	1.3%	1.4%	-3.0%	7.1%
Risk-Free Liability: Return	0.8%	2.7%	-3.5%	-1.7%	3.4%
Funded Ratio Change	2.6%	-1.2%	2.9%	-1.2%	2.1%

Reconciliation of Risk-Free Benchmark and Going Concern Funded Status

Values in $1,000,000 (CAD)



*Going Concern

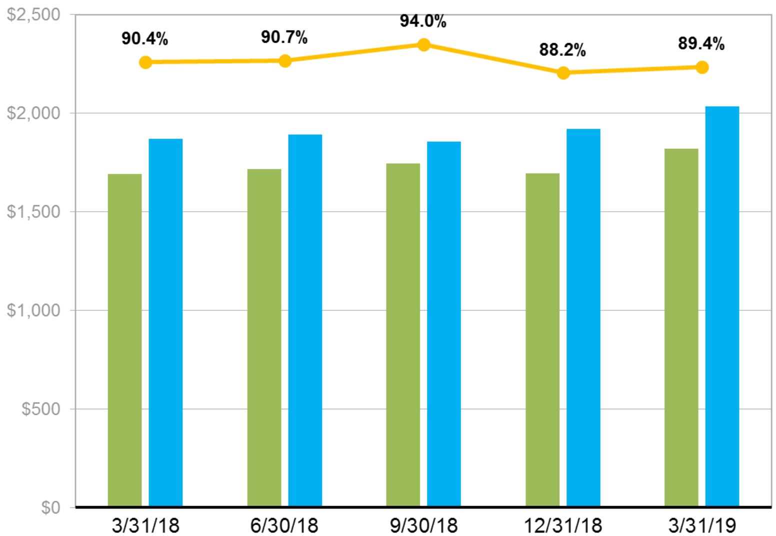
		3/31/18		6/30/18		9/30/18		12/31/18		3/31/19
Market Value of Assets	$	1,690.8	$	1,717.3	$	1,744.7	$	1,694.3	$	1,819.1
Going Concern Liability	$	1,684.7	$	1,798.2	$	1,822.2	$	1,845.1	$	1,866.8
Risk Premium		944.4		921.80		821.6		767.8		851.6
Risk-Free Liability	$	2,629.1	$	2,720.0	$	2,643.8	$	2,612.9	$	2,718.4

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

Funded Status

Values in $1,000,000 (CAD)



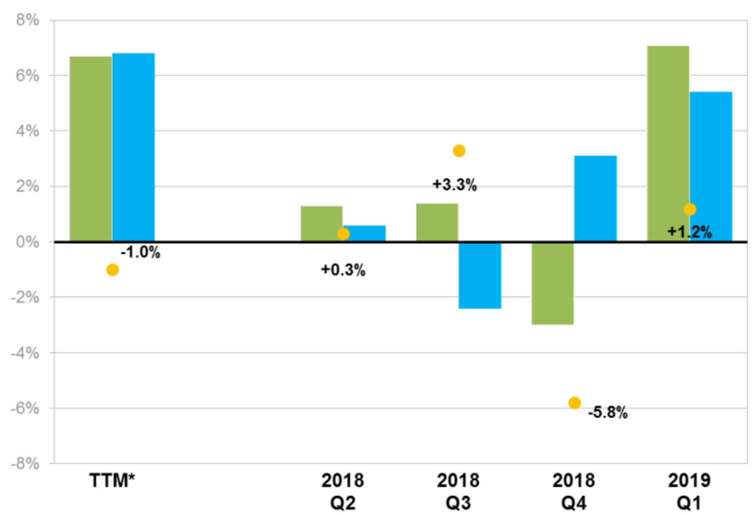
Highlights for the Quarter-Ending 3/31/19

The plans' funded ratio increased to 89.4% at 3/31/19. This result was primarily due to the combined effects of:

- Asset performance exceeding expectations, and
- Contributions of $22.3 million, offset by
- An increase in liabilities due to a decrease in risk-free rates and new funding valuation at January 1, 2019.

	3/31/18	6/30/18	9/30/18	12/31/18	3/31/19
Market Value of Assets	$ 1,690.8	$ 1,717.3	$ 1,744.7	$ 1,694.3	$ 1,819.1
Solvency Liability	1,870.6	1,892.6	1,856.2	1,920.9	2,035.6
Surplus/(Deficit)	$ (179.8)	$ (175.3)	$ (111.5)	$ (226.6)	$ (216.5)
Periodic Contributions		$ 21.8	$ 22.8	$ 23.3	$ 22.3
Effective Interest Rate	3.05%	3.10%	3.33%	3.19%	2.90%
Funded Ratio: Assets/Solvency Liability	90.4%	90.7%	94.0%	88.2%	89.4%
Assets Duration:	2.0	2.0	2.0	2.0	2.0
Solvency Liability Duration:	14.3	14.3	14.4	14.4	14.1

Asset-Liability Return



Asset Liability Return for Quarter-Ending 3/31/19

Assets returned 7.1% during the quarter while liabilities returned 5.4%, resulting in a funded status increase of 1.2%.

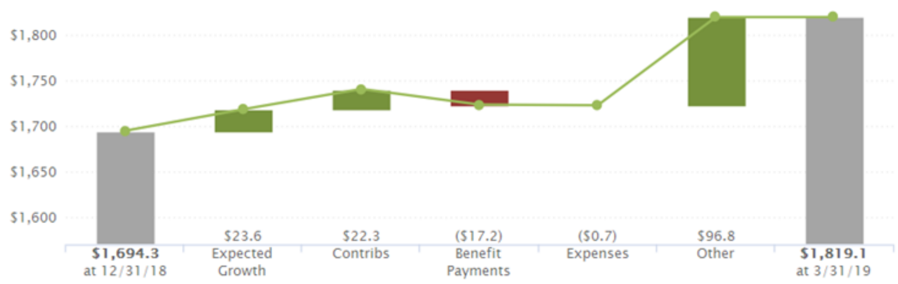
Periodic Return/Change	Cumulative	6/30/18	9/30/18	12/31/18	3/31/19
Market Value of Assets Return	6.7%	1.3%	1.4%	-3.0%	7.1%
Funding Target: Return	6.8%	0.6%	-2.4%	3.1%	5.4%
Funded Ratio Change	-1.0%	0.3%	3.3%	-5.8%	1.2%

Appendix

Asset-Liability Performance Attribution – Going Concern

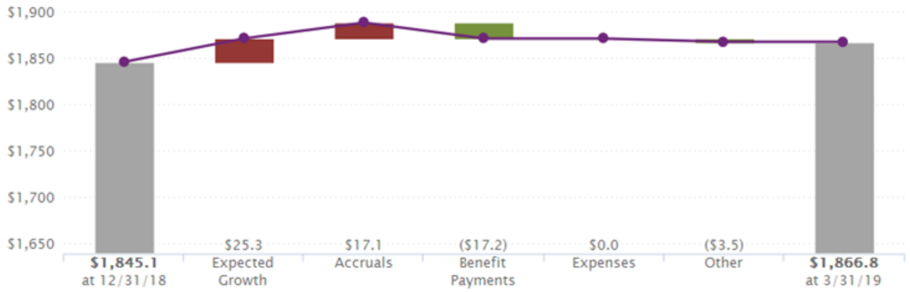
Values in $1,000,000 (CAD)

Assets



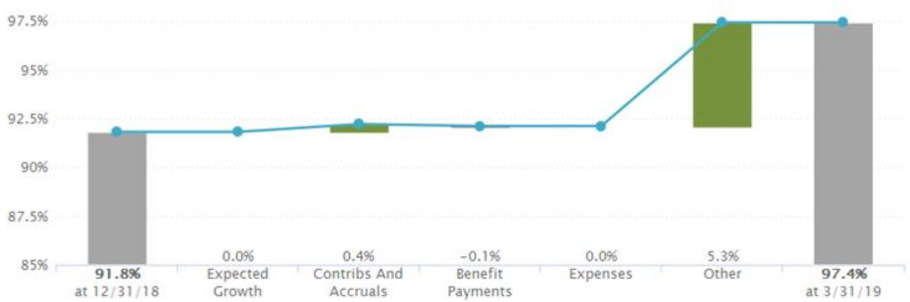
- Overall, assets returned 7.1% during this quarter, as opposed to an expected growth assumption of about 1.3% per quarter.
- The fixed income assets gained value due to a decrease in the underlying risk-free rates and shrinking credit spreads.
- $22.3 million in contributions were made during the quarter and the trust paid $17.2 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 3/31/19 are based on 5.70%.
- Liabilities were expected to grow by $25.3 million due to interest cost during the quarter.
- New benefit accruals increased the liability by $17.1 million during the quarter.
- Plan liabilities decreased by $17.2 million during the quarter as benefits were paid.
- "Other" reflects the impact of a new valuation at January 1, 2019 and changes in the discount rate, PfAD, and demographic experience.

Funded Ratio

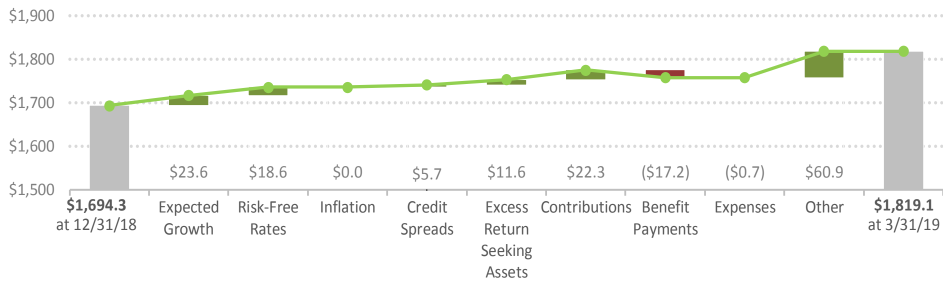


- Overall, assets returned 7.1% during the quarter while liabilities returned 1.2%, resulting in a funded status increase of 5.6%.
- Contributions exceeded benefit accruals during the quarter, resulting in a net increase of 0.4% in the funded status.

Asset-Liability Performance Attribution – Risk-Free Benchmark

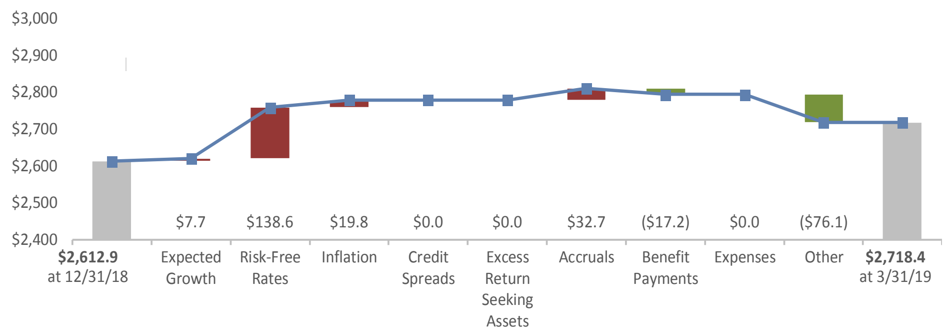
Values in $1,000,000 (CAD)

Assets



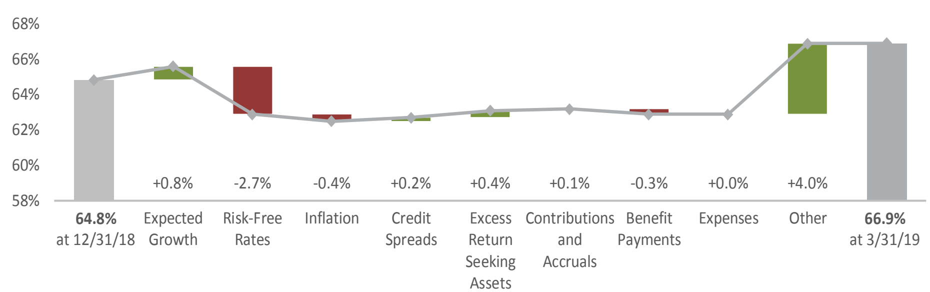
- Overall, assets returned 7.1% during this quarter.
- The fixed income assets gained value due to a decrease in the underlying risk-free rates and shrinking credit spreads.
- The plans' return-seeking assets (Alternatives and International Equities) were a significant contributor to the performance of the portfolio.
- $22.3 million in contributions during the quarter and the trust paid $17.2 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 $7.7 million due to interest cost during the quarter.
- New benefit accruals increased the liability by $32.7 million during the quarter.
- Risk-free rates decreased resulting in an increase of $138.6 million.
- Inflation rates increased resulting in an increase in liabilities of $19.8.
- Plan liabilities decreased by $17.2 million during the quarter as benefits were paid.
- "Other" reflects the impact of a new valuation at January 1, 2019.

Funded Ratio

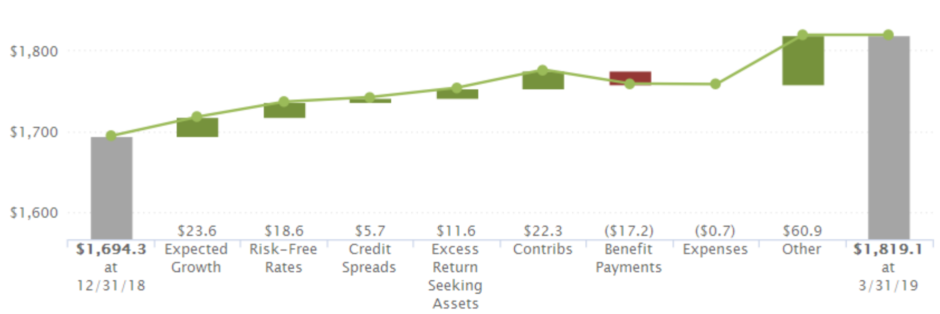


- Overall, the difference in exposure to risk-free rates between assets and liabilities combined with changes in risk-free rates resulted in a decrease in funded status of 2.7%.
- Changes in credit spreads resulted in an increase in funded status of 0.2%.
- Inflation resulted in a decrease in funded status of 0.4%.
- Return-seeking assets experienced gains during the quarter in excess of expected, adding 0.4% to the plans' funded status during the period.

Asset-Liability Performance Attribution – Solvency

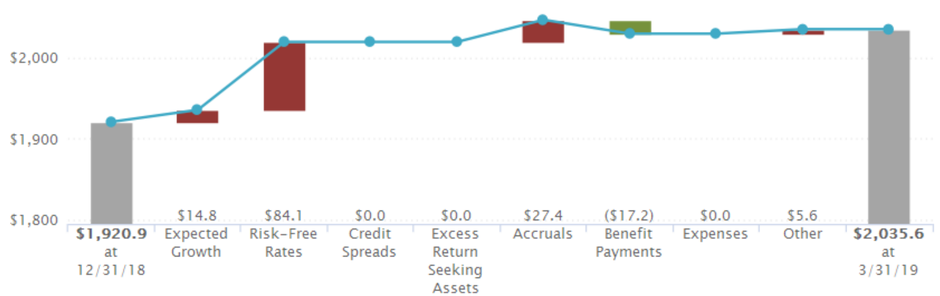
Values in $1,000,000 (CAD)

Assets



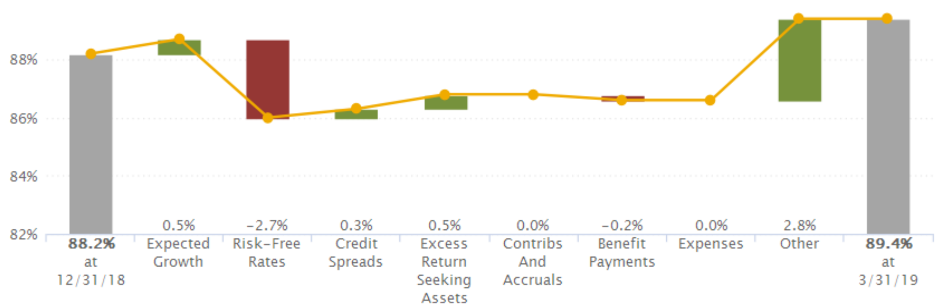
- ■ Overall, assets returned 7.1% during this quarter, as opposed to an expected growth assumption of about 1.3% per quarter.
- ■ The fixed income assets gained value due to a decrease in the underlying risk-free rates and shrinking credit spreads.
- ■ The plans' return-seeking assets were a significant contributor to the performance of the portfolio.
- ■$22.3 million in contributions during the quarter and the trust paid $17.2 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 $14.8 million due to interest cost during the quarter.
- ■Risk-free rates decreased, and credit spreads were unchanged, resulting in a net increase of $84.1 million ($84.1 million + $0.0 million).
- ■ New benefit accruals increased the liability by $27.4 million during the quarter.
- ■ Plan liabilities decreased by $17.2 million during the quarter as benefits were paid.
- ■ "Other" reflects the impact of a new funding valuation at January 1, 2019.

Funded Ratio



- ■ Overall, 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 2.7%.
- ■Return-seeking assets experienced gains during the quarter in excess of expected, adding 0.5% to the plans' funded status during the period.

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:

	3/31/18	6/30/18	9/30/18	12/31/18	3/31/19
Going Concern					
Discount Rate	5.50%	5.60%	5.60%	5.60%	5.70%
Inflation	2.00%	2.00%	2.00%	2.00%	2.00%
PfAD	n/a	6.95%	6.95%	6.95%	8.50%
Risk-Free Benchmark					
Discount Rate	0.93%	0.87%	1.07%	1.18%	0.86%
Solvency					
Annuity Purchase Interest Rate	3.01%	3.10%	3.33%	3.23%	2.93%
Effective Date of Annuity Purchase Guidance Used	3/31/18	6/30/18	9/30/18	12/31/18	3/31/19
Lump Sum Value Interest Rate (Years 1-10)[1]	3.00%	2.90%	3.30%	2.80%	2.40%
Lump Sum Value Interest Rate (Years 10+)[1]	3.30%	3.20%	3.40%	3.20%	2.90%
Mortality[2]	CPM2014	CPM2014	CPM2014	CPM2014	CPM2014
Underlying Canadian Reference Data					
CANSIM v39054 (7 Year)	2.15%	2.12%	2.36%	1.90%	1.55%
CANSIM v39056 (30 Year Long Term)	2.23%	2.20%	2.41%	2.18%	1.90%
CANSIM v39057 (30 Year Real Return)	0.53%	0.47%	0.67%	0.78%	0.46%
CANSIM v39062 (Over 10 Years)	2.20%	2.20%	2.43%	2.13%	1.83%

[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 March 31, 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.

May 2019

Asset Allocation and Benchmarking

Asset Class	03/31/19
Alternatives	
■ MSCI USA REIT Index	3.4%
■ MSCI USA Infrastructure Index	5.2%
Fixed Income	
■ FTSE TMX Universe Bond Index	49.6%
Equities	
■ MSCI World Index	38.2%
■ S&P TSX	3.6%
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.

Overview of University Pension Plan Ontario (UPP)

Presentation to University of Waterloo Pension & Benefits Committee

March 8, 2019

Prepared by Retirement & Investment

AON
Empower Results®

Agenda

- Overall Structure
- Funding Framework for UPP
- UPP Plan Design / Comparison to UW Pension Plan
- Funded Conditional Indexing
- Treatment of Losses/Gains – Post-Conversion Service
- Funding in Respect of Pre-Conversion Liabilities and Assets Transferred to UPP
- Contribution Rates
- Governance
- Regulatory Process and Consent
- Process to Date for Three Universities

Overall Structure

- Jointly Sponsored Pension Plan (JSPP) in accordance with the *Pension Benefits Act* (PBA)
- Multi-Employer Pension Plan (MEPP)
- Contributory defined benefit (DB) plan
- Separate Sponsor and Administrator functions with members and employers or their representatives jointly responsible for making all decisions about the terms and conditions of the JSPP

Overall Structure (Cont'd)

- Each participating university will merge their pension plan(s) into the newly created UPP
- Provisions in effect prior to date of conversion (expected to be July 1, 2021) continue to apply to pre-conversion service:
  - Pension benefits based on pensionable service earned to the conversion date and final average earnings at retirement/termination/death
  - Existing provisions such as indexation and early retirement rules continue to apply to these benefits
  - No changes to benefits for pensioners
- Pension benefit provisions for post-conversion service harmonized for all participating universities/members
- Eligibility for early retirement benefits for both past service and future service benefits would be based on total service

Overall Structure (Cont'd)

Pension Fund Invested as One Fund

Pre-conversion Service (Past Service) Assets & Liabilities Transferred from Existing Pension Plans into UPP

- Pre-conversion service benefits maintained under plan provisions in effect prior to conversion (imported into UPP)
- Assets and liabilities for current plans transferred into UPP
- Going concern deficits brought into UPP (based on a common set of actuarial assumptions) remain responsibility of universities – funded by fixed special payments from each university over 15 years
- Agreement on future gains and losses on the assets and liabilities transferred in

+

Assets & Liabilities for Pension Benefits Earned from Conversion Date (Future Service)

- Harmonization of future benefit provisions for all participating universities/employees
- One joint cost and risk-sharing arrangement
- Benefit levers, such as conditional indexation, to control cost and risk
- Transition periods/arrangements for cost sharing and benefit levers
- Grandparenting provisions for early retirement as and if needed

Joint Sponsorship and Joint Governance

Funding Framework for UPP

- 50/50 sharing of current service cost (transition period permitted)
- Combined contribution rate of 20% of capped salary[1]
- Current service cost for benefits at 19.50% of capped salary, providing for a 0.50% of capped salary margin, based on actuarial assumptions used for costing (real discount rate of 3.60%; 95% of CPM Public Mortality Table)
- 50/50 sharing of losses/gains on post–conversion service
- Funded conditional indexation at 75% of CPI
- Full funding on plan conversion through initial going concern deficits paid by each university over 15 years (fixed payments)
- Transition arrangement for post-conversion losses/gains on pre-conversion service (i.e., liabilities and assets transferred into UPP)

[1] Capped salary is the estimated final year salary in the 4-year average salary at which the ITA maximum pension is reached in the calendar year ($169,500 in 2019)

Funding Framework for UPP (Cont'd)

- Expect UPP to be a listed JSPP under PBA:
  - No solvency funding requirements
  - New funding rules do not apply
  - 15-year amortization for going concern deficits
- JSPPs are not covered under Pension Benefits Guarantee Fund (PBGF):
  - Single employer pension plans covered under PBGF for pension benefits up to $1,500 per month; PBGF would cover any unfunded portion on plan wind-up
  - Universities pay significant premiums to PBGF; premiums unrelated to risk of employer insolvency
  - Under pension legislation, universities remain responsible to fund accrued benefits transferred into the UPP in the event of a future wind-up of the UPP

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UPP Design / Comparison to UW Pension Plan

Provision	Future Service Under UPP	UW Pension Plan
Average Earnings	Best 48 months (non-consecutive)	Best 60 consecutive months
Average YMPE	Last 48 months	Last 5 years
Benefit Rate (Below YMPE/Above YMPE)	1.6% / 2.0%	1.4% / 2.0%
Bridge Benefit to Age 65	none	none
Subsidized Payment Form:		
▪ With Spouse	50% J&S	LG10
▪ Without Spouse	LG10	LG10
Eligibility for Unreduced Early Retirement	Age 60 + 80 points (age-plus-service)	Age 62
Reductions on Reduced Early Retirement	5% per year from ages 55 to 65	6% per year from age 62

Note: For service from January 1, 2025 onward, breakpoint in benefit and contribution formulas will use the new Year's Additional Maximum Pensionable Earnings (YAMPE); YAMPE = YMPE x 1.14

UPP Plan Design / Comparison to UW Pension Plan (Cont'd)

Provision	Future Service Under UPP	UW Pension Plan
Indexation after Pension Commencement	75% of increase in CPI (Funded Conditional)	75% of increase in CPI (Guaranteed)
Indexation in Deferral Period	None	Yes for members who terminate within 10 years of NRD or with 20 or more years of credited service
Disability Benefits	Continued accrual, employee contributions not required	Continued accrual, employee contributions not required
Maximum Pension	Indexed ITA maximum pension	Indexed ITA maximum pension (hard dollar cap of $3,200)
Supplemental Plan	No	Yes (Payroll Pension Plan)
Ultimate Member Contribution Rates (Below YMPE/Above YMPE)	9.20% / 11.50% up to salary cap of $169,500 (2019 dollars)	6.25% / 8.95% / 9.95%[1] up to salary cap of $224,511 (2019 dollars)

[1] Breakpoints are YMPE and 2 x YMPE

Funded Conditional Indexing

- Funded conditional indexation at 75% of increase in CPI:
  - Contribution rates to the UPP will be based on 75% of increase in CPI
  - Subject to lever not being applied during a 7-year transitional period from conversion date, to reduce indexation below 75% of CPI for pensioners in respect of post-conversion service
- After 7-year transitional period, indexation will be paid at 75% of increase in CPI unless there is a joint sponsor agreement to use conditional indexation lever to reduce indexation level below 75%

Treatment of Losses/Gains – Post-Conversion Service

- Losses and gains arising post-conversion relating to post-conversion service will be shared 50/50:
  - To the extent there is a funding shortfall under a filed actuarial valuation, shortfall is addressed through an increase in member and university contributions and/or a decrease in the benefits being earned in the future (including using conditional indexation lever)

Funding in Respect of Pre-Conversion Liabilities and Assets Transferred to UPP

Initial Deficits at Conversion Date

- Initial going concern deficits at conversion date of the UPP calculated using actuarial assumptions adopted to value new benefits being earned under UPP
- Initial deficits of each university to be funded over 15 years from UPP conversion date through fixed special payments to be made for full 15-year period regardless of any subsequent gains or losses

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Funding in Respect of Pre-Conversion Liabilities and Assets Transferred to UPP (Cont'd)

Treatment of Losses and Gains Arising Post-Conversion (for Pre-Conversion Service)

- Transition of responsibility for losses and allocation of gains will occur over three phases after conversion:
  - **First 10 years**, universities are responsible for 100% of the losses on pre-conversion service and benefit from 100% of the gains to the extent there have been previous losses (if there are no previous losses, gains are retained as a reserve to be applied against future losses)
  - **In years 11 through 20**, responsibility for losses and allocation of gains on pre-conversion service transitions from 100% to the universities to 100% to the JSPP, with the JSPP then sharing those losses 50/50
  - **After 20 years**, 50/50 sharing of any losses or gains on pre-conversion service; universities remain responsible for any university payment streams that were being amortized beyond 20 years

Contribution Rates

- 50/50 sharing of contributions
- Contribution rates for both members and universities estimated to be:
  – 9.2% up to the YMPE, plus;
  – 11.5% above the YMPE
- Pensionable salary cap set at $169,500 in 2019 and increased each year at the same rate of increase in the *Income Tax Act* maximum pension
- YAMPE will be used as the breakpoint starting in 2025

Governance

UPP will be a “two” Sponsor model – employers are one Sponsor and employees are the other Sponsor

Joint Sponsors (employee and employer representatives)		
Determine contributions and benefit formula	Funding policy	Appoint Administrator

↓

Administrator – Board of Trustees (appointed by Sponsors)		
Actuarial valuation	Investment of assets	Payment of benefits

Governance (Cont'd)

The UPP Joint Sponsors:

- Set benefits, contributions and funding policies for the UPP
- Have equal representation of the participating universities on one hand, and the faculty associations and unions representing UPP members on the other hand
- Responsible for appointing Administrator (Board of Trustees)
- Representatives of the non-unionized employees will have access to information from the Sponsors and will meet with the Sponsors annually

Governance (Cont'd)

The UPP Board of Trustees:

- Legal Administrator of the UPP responsible for making decisions about administration (including the preparation of actuarial valuations, ensuring compliance with all applicable laws, investment of the UPP assets, and payment of pension benefits to members
- Will consist of 6 Board members appointed by the universities; 6 Board members appointed by the faculty associations and unions; and 1 Board member nominated by the non-unionized employees (without a tie breaking vote)
- Independent Chair of the Board of Trustees to be appointed jointly by the Sponsors (first seven years)
- 14 Board members in total (first seven years)
- Board of Trustees anticipated to be recruited and in place by January 1, 2020, together with the Sponsors, in order to ensure UPP is ready to accept contributions, assets and start pension accrual, effective July 1, 2021

Regulatory Process and Consent

- All members, unions, retired members and former members must receive detailed notification of the proposed conversion to the UPP and there is a consent/objection process as well
- Conversion requires that:
  - **At least 2/3 (two-thirds)** of all the active members of the current Plan give their consent; **and**,
  - **No more than 1/3 (one-third)** of the retired members, former members and other persons entitled to benefits under the current plan (inactive members), as a group, object
- Conversion also requires the prior approval of the Superintendent of Financial Services

Regulatory Process and Consent (Cont'd)

For Unionized Members of the Plan:

- Union must determine whether to consent on members' behalf
- If union consents on members' behalf, all members represented by that union are deemed to consent
- If union does not consent, all members represented by that union are deemed not to consent to the conversion

Regulatory Process and Consent (Cont'd)

For Retired and Former Members of the Plan:

- Even if members were unionized while employed at the University, that union will not consent on their behalf
- Members will have an individual right to object to the conversion
- If no more than 1/3 of the retired members, former members and other persons entitled to benefits from the current plan object, the inactive member threshold will be met and conversion can go ahead (subject to the active member consent threshold)

Regulatory Process and Consent (Cont'd)

For Non-unionized Members of the Plan:

- Members will have an individual right to consent to the conversion
- Members' consent will be added to all of the deemed consents by unionized members to determine the total

Process to Date for Three Universities

Notice Preparation

- Information in notices prepared as at **September 30, 2018** (6 months before date notices given)

Notice and Consent Period

- Notices mailed **Monday March 25, 2019**
- Notices deemed to have been given **March 30, 2019** (fifth day after mailing)
- Consent period ends **Friday June 28, 2019**

Application

- Application for Superintendent's approval filed **December 30, 2019** (9 months from date notices given)
- Effective date of transfer of assets **July 1, 2021**
- Notice of application to active, former and retired members and trade unions
- Report on notice of application filed

Registration

- File Application to register new JSPP effective as of **January 1, 2020**
- Establish New Plan Governance
- Board of Administration and Joint Sponsors to ensure Plan is operational by **July 1, 2021**

Effective Date

- Effective date of Transfer of Assets and Liabilities **July 1, 2021**
- Pension accrual starts; contributions commence
- Asset transfer to be completed within 120 days of approval/ effective date, with report to Superintendent 90 days thereafter

Legal Disclaimer

Continuous Glucose Monitors – Cost Estimate

Background

Effective August 1, 2018, Great-West Life (GWL) extended coverage for continuous glucose monitors (CGMs), transmitters, and sensors as a standard provision through their insured contracts. This change was in line with the broader industry, as CGMs have become a commonly covered item under insurers' standard plans. Since the University's contract is an Administrative Services Only (ASO) arrangement, the standard provision for GWL's insured contracts is not automatically applied but the expense could be added at the University's request through a plan amendment. CGMs continue to be an ineligible expense under the University's program at this time.

The continuous glucose monitoring system includes a wearable sensor and transmitter to measure glucose levels. Results automatically go to a smart device or reader every five minutes. This means continuous monitoring all day and night. Users can avoid glucose highs and lows and are alerted right away when levels stray out of the norm.

If added to the University's Healthcare plan, members would need to complete and submit a pre-treatment form for initial request for CGMs and associated supplies. The pre-treatment form will require the member's physician to confirm the patient manages their diabetes with insulin. A CGM unit tends to cost between $4,000 to $6,000 per year, and GWL's standard provision includes an annual maximum of $4,000 to limit the impact to an employer's plan.

Costing

It is difficult to cost the impact of this plan enhancement, as CGMs are still relatively new in the market and not a lot of data has been collected yet to show the ongoing impact of this plan enhancement.

GWL initially provided a cost estimate of $400,000 to $500,000 per year (excluding administration fees and taxes) based on high level diabetes prevalence data applied to the University's population. GWL's costing factored in only the costs associated with future claims for CGMs and associated supplies, and was not tempered by the reduction in costs associated with claims for current therapies. As such, GWL admitted this cost estimate was overstated.

Aon independently calculated its costing of this plan enhancement based on University-specific claims experience from 2018 related to diabetes and insulin-related drugs/supplies. Based on the University's own experience, and factoring in the expected uptake and cost of this new treatment, Aon estimates an annual cost impact of $50,000 - $62,000 per year (excluding administration fees and taxes).

Other insurers have estimated the cost impact of this plan enhancement to be less than 1% of Healthcare claims, which for the University would amount to less than $130,000 per year (excluding administration fees and taxes).

Action Required: *Decision*

University of Waterloo Pension Plan | Quarterly Period Ending 31 December 2018

Detailed Investment Review

Visit the Aon Retirement and Investment Blog *(http://retirementandinvestmentblog.aon.com); sharing our best thinking.*

Empower Results®

Executive Summary

Empower Results®

Performance Summary

As of 31 December 2018

	Allocation		Performance (%)						
	Market Value ($000)	%	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
Total Fund	1,694,301	100.0	-3.08	0.46	4.67	5.17	6.02	6.90	8.02
CPI + 3.5% - Moving			0.64	5.56	5.50	5.42	5.42	5.39	5.45
Value Added			-3.72	-5.10	-0.83	-0.25	0.60	1.51	2.57
Sionna	59,037	3.5	-10.44 (54)	-9.80 (71)	-0.15 (50)	7.75 (11)	3.76 (30)	4.62 (51)	8.20 (76)
S&P/TSX Composite			-10.11 (49)	-8.89 (56)	-0.30 (56)	6.37 (37)	2.49 (69)	4.06 (65)	7.92 (86)
Value Added			-0.33	-0.91	0.15	1.38	1.27	0.56	0.28
Global Equities	417,552	24.6	-5.90 (21)	3.78 (16)	9.58 (24)	8.55 (12)	10.94 (23)	10.86 (35)	11.83 (43)
MSCI World Index (Net) (CAD)			-8.60 (58)	-0.59 (43)	6.62 (54)	5.67 (58)	8.84 (54)	9.93 (55)	10.80 (70)
Value Added			2.70	4.37	2.96	2.88	2.10	0.93	1.03
Oldfield	148,980	8.8	-4.19 (13)	-1.04 (48)	4.77 (74)	8.50 (12)	9.80 (39)	8.72 (76)	10.33 (79)
MSCI World Index (Net) (CAD)			-8.60 (58)	-0.59 (43)	6.62 (54)	5.67 (58)	8.84 (54)	9.93 (55)	10.80 (70)
Value Added			4.41	-0.45	-1.85	2.83	0.96	-1.21	-0.47
Walter Scott	268,338	15.8	-6.83 (34)	7.99 (4)	12.82 (10)	9.60 (7)	12.46 (10)	12.71 (15)	12.71 (27)
MSCI World Index (Net) (CAD)			-8.60 (58)	-0.59 (43)	6.62 (54)	5.67 (58)	8.84 (54)	9.93 (55)	10.80 (70)
Value Added			1.77	8.58	6.20	3.93	3.62	2.78	1.91
TD Emerald U.S. Pooled Fund*	128,706	7.6	-8.59 (34)	4.20 (50)	8.86 (50)	8.58 (43)	11.69 (45)	-	-
S&P 500			-8.71 (36)	4.13 (50)	8.87 (50)	8.61 (43)	11.73 (45)	14.07 (41)	14.29 (55)
Value Added			0.12	0.07	-0.01	-0.03	-0.04	-	-
TD Emerald International Equity Index*	85,992	5.1	-7.51 (32)	-5.84 (35)	4.88 (51)	2.39 (49)	6.32 (68)	5.82 (73)	7.52 (80)
MSCI EAFE (Net)			-7.67 (34)	-6.12 (37)	4.72 (55)	2.26 (53)	6.21 (72)	5.69 (76)	7.41 (83)
Value Added			0.16	0.28	0.16	0.13	0.11	0.13	0.11

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

Performance Summary

As of 31 December 2018

	Allocation		Performance (%)						
	Market Value ($000)	%	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
TDAM Universe Bond Index	316,841	18.7	1.83 (23)	1.40 (63)	1.93 (75)	1.79 (89)	2.22 (85)	3.49 (76)	4.06 (96)
FTSE Canada Universe Bond			1.77 (31)	1.41 (61)	1.96 (70)	1.86 (87)	2.27 (79)	3.54 (67)	4.16 (92)
Value Added			0.06	-0.01	-0.03	-0.07	-0.05	-0.05	-0.10
TDAM Active Short Term Corporate	325,376	19.2	0.96	1.72	1.36	1.72	1.95	-	-
FTSE Canada Short Term Corporate Bond			1.01	1.81	1.42	1.71	1.97	2.28	3.75
Value Added			-0.05	-0.09	-0.06	0.01	-0.02	-	-
XRE ETF (Real Estate)	53,426	3.2	-3.22	5.69	7.62	10.53	6.47	7.06	-
BIP.UN (Infrastructure)	117,208	6.9	-7.40	-12.26	7.12	16.31	15.12	16.83	-
Operating Account	190,152	11.2							
Currency Overlay Effect (Historical)^									
Value Added			0.00	0.00	-0.30	0.17	-0.44	-0.33	-0.10

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

Empower Results®

Rolling Year Performance

As of 31 December 2018

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total Fund	0.46	9.06	6.19	8.61	10.48	9.72	7.29	6.13	8.66	14.11
CPI + 3.5% - Moving	5.56	5.43	5.26	5.42	5.27	5.14	4.71	6.24	6.29	5.22
Value Added	-5.10	3.63	0.93	3.19	5.21	4.58	2.58	-0.11	2.37	8.89
Canadian Equities	-9.80 (71)	10.53 (23)	25.49 (16)	-7.36 (72)	8.15 (77)	15.69 (83)	-	-	-	-
S&P/TSX Composite	-8.89 (56)	9.10 (54)	21.08 (36)	-8.32 (82)	10.55 (57)	12.99 (95)	7.19 (81)	-8.71 (49)	17.61 (43)	35.05 (47)
Value Added	-0.91	1.43	4.41	0.96	-2.40	2.70	-	-	-	-
Sionna	-9.80 (71)	10.53 (23)	25.49 (16)	-7.36 (72)	8.15 (77)	15.69 (83)	9.21 (60)	-4.76 (28)	17.03 (54)	24.57 (95)
S&P/TSX Composite	-8.89 (56)	9.10 (54)	21.08 (36)	-8.32 (82)	10.55 (57)	12.99 (95)	7.19 (81)	-8.71 (49)	17.61 (43)	35.05 (47)
Value Added	-0.91	1.43	4.41	0.96	-2.40	2.70	2.02	3.95	-0.58	-10.48
Global Equities	3.78 (16)	15.70 (53)	6.52 (23)	18.44 (59)	10.55 (81)	31.24 (76)	13.73 (59)	-1.55 (39)	7.97 (48)	15.12 (46)
MSCI World Index (Net) (CAD)	-0.59 (43)	14.35 (64)	3.80 (44)	18.94 (54)	14.37 (45)	35.14 (54)	13.31 (64)	-3.22 (51)	5.93 (74)	10.65 (70)
Value Added	4.37	1.35	2.72	-0.50	-3.82	-3.90	0.42	1.67	2.04	4.47
Oldfield	-1.04 (48)	10.92 (85)	16.38 (3)	13.76 (86)	4.51 (97)	32.83 (68)	6.30 (97)	0.43 (28)	15.51 (9)	7.39 (83)
MSCI World Index (Net) (CAD)	-0.59 (43)	14.35 (64)	3.80 (44)	18.94 (54)	14.37 (45)	35.14 (54)	13.31 (64)	-3.22 (51)	5.93 (74)	10.65 (70)
Value Added	-0.45	-3.43	12.58	-5.18	-9.86	-2.31	-7.01	3.65	9.58	-3.26
Walter Scott	7.99 (4)	17.87 (38)	3.44 (47)	21.49 (34)	13.70 (54)	27.92 (86)	16.83 (25)	0.02 (31)	6.21 (70)	14.53 (48)
MSCI World Index (Net) (CAD)	-0.59 (43)	14.35 (64)	3.80 (44)	18.94 (54)	14.37 (45)	35.14 (54)	13.31 (64)	-3.22 (51)	5.93 (74)	10.65 (70)
Value Added	8.58	3.52	-0.36	2.55	-0.67	-7.22	3.52	3.24	0.28	3.88
TD Emerald U.S. Pooled Fund*	4.20 (50)	13.72 (55)	8.03 (36)	21.55 (50)	-	-	-	-	-	-
S&P 500	4.13 (50)	13.82 (54)	8.09 (36)	21.65 (50)	23.91 (31)	41.23 (69)	13.48 (45)	4.62 (37)	9.06 (56)	7.65 (63)
Value Added	0.07	-0.10	-0.06	-0.10	-	-	-	-	-	-
TD Emerald International Equity Index*	-5.84 (35)	16.83 (69)	-2.43 (56)	19.06 (68)	3.83 (65)	31.12 (62)	14.90 (70)	-9.82 (59)	2.22 (81)	12.00 (57)
MSCI EAFE (Net)	-6.12 (37)	16.81 (69)	-2.49 (57)	19.01 (69)	3.65 (69)	30.98 (63)	14.77 (71)	-9.98 (62)	2.13 (81)	12.17 (56)
Value Added	0.28	0.02	0.06	0.05	0.18	0.14	0.13	0.16	0.09	-0.17

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

Empower Results®

Rolling Year Performance

As of 31 December 2018

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
TDAM Universe Bond Index	1.40 (63)	2.46 (73)	1.52 (94)	3.51 (47)	8.75 (44)	-1.35 (86)	3.46 (97)	9.72 (23)	6.66 (86)	4.95 (99)
FTSE TMX Canada Bond Universe	1.41 (61)	2.52 (71)	1.66 (89)	3.52 (46)	8.79 (39)	-1.19 (83)	3.60 (95)	9.67 (24)	6.74 (86)	5.41 (96)
Value Added	-0.01	-0.06	-0.14	-0.01	-0.04	-0.16	-0.14	0.05	-0.08	-0.46
TDAM Active Short Term Corporate	1.72	1.00	2.46	2.66	-	-	-	-	-	-
FTSE Canada Short Term Corporate Bond	1.81	1.03	2.29	2.74	3.57	2.40	3.93	4.75	4.31	10.97
Value Added	-0.09	-0.03	0.17	-0.08	-	-	-	-	-	-
XRE ETF (Real Estate)	5.69	9.59	16.58	-4.82	9.45	-7.79	-	-	-	-
BIP.UN (Infrastructure)	-12.26	30.77	37.13	11.63	23.91	23.63	27.01	-	-	-

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

Performance Summary (Net of Fees)

As of 31 December 2018

	Performance (%)						
	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
Total Fund	-3.19	0.15	4.34	4.86	5.71	6.59	7.73
CPI + 3.5% - Moving	0.64	5.56	5.50	5.42	5.42	5.39	5.45
Value Added	-3.83	-5.41	-1.16	-0.56	0.29	1.20	2.28
Sionna	-10.52	-10.14	-0.52	7.36	3.38	4.24	7.76
S&P/TSX Composite	-10.11	-8.89	-0.30	6.37	2.49	4.06	7.92
Value Added	-0.41	-1.25	-0.22	0.99	0.89	0.18	-0.16
Global Equities	-6.07	3.08	8.90	7.86	10.27	10.19	11.11
MSCI World Index (Net) (CAD)	-8.60	-0.59	6.62	5.67	8.84	9.93	10.80
Value Added	2.53	3.67	2.28	2.19	1.43	0.26	0.31
Oldfield	-4.38	-1.78	3.99	7.70	9.02	7.94	9.52
MSCI World Index (Net) (CAD)	-8.60	-0.59	6.62	5.67	8.84	9.93	10.80
Value Added	4.22	-1.19	-2.63	2.03	0.18	-1.99	-1.28
Walter Scott	-6.99	7.26	12.04	8.83	11.67	11.90	11.87
MSCI World Index (Net) (CAD)	-8.60	-0.59	6.62	5.67	8.84	9.93	10.80
Value Added	1.61	7.85	5.42	3.16	2.83	1.97	1.07
TD Emerald Pooled U.S. Fund*	-8.60	4.16	8.82	8.54	11.65	-	-
S&P 500	-8.71	4.13	8.87	8.61	11.73	14.07	14.29
Value Added	0.11	0.03	-0.05	-0.07	-0.08	-	-
TD Emerald International Equity Index*	-7.52	-5.87	4.85	2.35	6.29	5.78	7.48
MSCI EAFE (Net)	-7.67	-6.12	4.72	2.26	6.21	5.69	7.41
Value Added	0.15	0.25	0.13	0.09	0.08	0.09	0.07
TDAM Universe Bond Index	1.82	1.37	1.86	1.74	2.17	3.45	4.02
FTSE Canada Universe Bond	1.77	1.41	1.96	1.86	2.27	3.54	4.16
Value Added	0.05	-0.04	-0.10	-0.12	-0.10	-0.09	-0.14
TDAM Active Short Term Corporate	0.93	1.62	1.25	1.62	1.85	-	-
FTSE Canada Short Term Corporate Bond	1.01	1.81	1.42	1.71	1.97	2.28	3.75
Value Added	-0.08	-0.19	-0.17	-0.09	-0.12	-	-

Parentheses contain percentile rankings. (1st percentile is the best performing).
There was no exposure to Canadian Equities from January 2012 to April 2012. *In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.CPI+3.5% benchmark has been implemented retrospectively since 1 January 2017. Prior to that, 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.Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns. The global equities return prior to August 2018 includes Trilogy. The Currency Overlay was discontinued on 20 November 2017.

Empower Results®

Rolling Year Performance (Net of Fees)

As of 31 December 2018

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total Fund	0.15	8.70	5.90	8.33	10.18	9.41	7.01	5.88	8.41	13.84
CPI + 3.5% - Moving	5.56	5.43	5.26	5.42	5.27	5.14	4.71	6.24	6.29	5.22
Value Added	-5.41	3.27	0.64	2.91	4.91	4.27	2.30	-0.36	2.12	8.62
Canadian Equities	-9.80	10.43	25.03	-7.71	7.75	15.26	-	-	-	-
S&P/TSX Composite	-8.89	9.10	21.08	-8.32	10.55	12.99	7.19	-8.71	17.61	35.05
Value Added	-0.91	1.33	3.95	0.61	-2.80	2.27	-	-	-	-
Sionna	-10.14	10.13	25.03	-7.71	7.75	15.26	8.76	-5.23	16.46	23.97
S&P/TSX Composite	-8.89	9.10	21.08	-8.32	10.55	12.99	7.19	-8.71	17.61	35.05
Value Added	-1.25	1.03	3.95	0.61	-2.80	2.27	1.57	3.48	-1.15	-11.08
Global Equities	3.08	15.05	5.82	17.83	9.86	30.37	12.96	-2.22	7.24	14.35
MSCI World Index (Net) (CAD)	-0.59	14.35	3.80	18.94	14.37	35.14	13.31	-3.22	5.93	10.65
Value Added	3.67	0.70	2.02	-1.11	-4.51	-4.77	-0.35	1.00	1.31	3.70
Oldfield	-1.78	10.10	15.52	13.08	3.74	31.86	5.51	-0.32	14.65	6.59
MSCI World Index (Net) (CAD)	-0.59	14.35	3.80	18.94	14.37	35.14	13.31	-3.22	5.93	10.65
Value Added	-1.19	-4.25	11.72	-5.86	-10.63	-3.28	-7.80	2.90	8.72	-4.06
Walter Scott	7.26	17.05	2.69	20.61	12.85	26.97	15.95	-0.74	5.40	13.64
MSCI World Index (Net) (CAD)	-0.59	14.35	3.80	18.94	14.37	35.14	13.31	-3.22	5.93	10.65
Value Added	7.85	2.70	-1.11	1.67	-1.52	-8.17	2.64	2.48	-0.53	2.99
TD Emerald Pooled U.S. Fund*	4.16	13.69	7.98	21.51	-	-	-	-	-	-
S&P 500	4.13	13.82	8.09	21.65	23.91	41.23	13.48	4.62	9.06	7.65
Value Added	0.03	-0.13	-0.11	-0.14	-	-	-	-	-	-
TD Emerald International Equity Index*	-5.87	16.79	-2.46	19.02	3.79	31.07	14.86	-9.85	2.18	11.96
MSCI EAFE (Net)	-6.12	16.81	-2.49	19.01	3.65	30.98	14.77	-9.98	2.13	12.17
Value Added	0.25	-0.02	0.03	0.01	0.14	0.09	0.09	0.13	0.05	-0.21
TDAM Universe Bond Index	1.37	2.36	1.49	3.48	8.71	-1.38	3.43	9.68	6.63	4.92
FTSE Canada Universe Bond Index - C$	1.41	2.52	1.66	3.52	8.79	-1.19	3.60	9.67	6.74	5.41
Value Added	-0.04	-0.16	-0.17	-0.04	-0.08	-0.19	-0.17	0.01	-0.11	-0.49
TDAM Active Short Term Corporate	1.62	0.89	2.34	2.54	-	-	-	-	-	-
FTSE Canada Short Term Corporate Bond	1.81	1.03	2.29	2.74	3.57	2.40	3.93	4.75	4.31	10.97
Value Added	-0.19	-0.14	0.05	-0.20	-	-	-	-	-	-

Parentheses contain percentile rankings. (1st percentile is the best performing).
There was no exposure to Canadian Equities from January 2012 to April 2012. *In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only. CPI+3.5% benchmark has been implemented retrospectively since 1 January 2017. Prior to that, 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.Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.The global equities return prior to August 2018 includes Trilogy. The Currency Overlay was discontinued on 20 November 2017.

Performance Relative to Investment Policy Objectives

4-Year Performance vs. Market Index Benchmark

As at 31 December 2018

Manager	4-Year Manager Return	Market Index	4-Year Index Return	4-Year Tracking / Value Added	Target Objective	Performance Objective	Achieved	IMF[3]
Passive Mandates:								
TDAM - Universe Bond Index	2.22%	FTSE Canada Bond Universe	2.27%	-0.05%	+/-0.06%	2.21% to 2.33%	Yes	0.029%
TD Emerald U.S. Pooled Fund[1]	na	S&P 500	11.73%	na	+/-0.08%	11.65% to 11.81%	na	0.029%
TD Emerald International Equity Index[1]	na	MSCI EAFE (Net)	6.21%	na	+/-0.20%	6.01% to 6.41%	na	0.029%
Active Mandates:								
Sionna - Canadian Equities	3.76%	S&P/TSX Composite	2.49%	1.27%	+1.0%	3.49%	Yes	0.367%
Oldfield - Global Equities	9.80%	MSCI World (Net)	8.84%	0.96%	+2.0%	10.84%	No	0.750%
Walter Scott - Global Equities	12.46%	MSCI World (Net)	8.84%	3.62%	+2.0%	10.84%	Yes	0.689%
TDAM Short Term Corporate Bonds	1.95%	FTSE Canada Short Term Corporate	1.97%	-0.02%	+0.5%	2.47%	No	0.101%
Total Fund ex. Currency Overlay	6.02%	CPI + 3.5%[2]	5.42%	0.60%			Yes	0.216%

[1] Invested on 18 November 2016

[2] CPI + 3.5% benchmark has been implemented retrospectively since 1 January 2017. Prior to that, 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

University of Waterloo Pension Plan | Quarterly Period Ending 31 March 2019

Detailed Investment Review

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Executive Summary

Performance Summary

As of 31 March 2019

	Allocation		Performance (%)						
	Market Value ($000)	%	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
Total Fund	1,819,129	100.0	7.04	6.74	6.17	7.95	5.85	7.63	8.83
CPI + 3.5% - Moving			2.38	5.45	5.67	5.54	5.41	5.33	5.54
Value Added			4.66	1.29	0.50	2.41	0.44	2.30	3.29
Sionna	65,742	3.6	11.35 (71)	4.59 (71)	4.04 (54)	9.47 (21)	5.69 (40)	5.77 (53)	9.81 (72)
S&P/TSX Composite			13.29 (10)	8.11 (28)	4.86 (42)	9.26 (30)	5.07 (58)	5.44 (60)	9.49 (82)
Value Added			-1.94	-3.52	-0.82	0.21	0.62	0.33	0.32
Global Equities	459,814	25.3	10.12 (41)	10.99 (16)	11.42 (23)	14.77 (14)	10.31 (22)	12.10 (32)	13.93 (40)
MSCI World Index (Net) (CAD)			10.17 (40)	7.80 (36)	8.81 (46)	11.91 (42)	8.41 (49)	10.94 (52)	13.07 (61)
Value Added			-0.05	3.19	2.61	2.86	1.90	1.16	0.86
Oldfield	157,632	8.7	6.37 (93)	3.56 (70)	5.68 (81)	14.21 (18)	7.70 (60)	9.06 (78)	12.08 (81)
MSCI World Index (Net) (CAD)			10.17 (40)	7.80 (36)	8.81 (46)	11.91 (42)	8.41 (49)	10.94 (52)	13.07 (61)
Value Added			-3.80	-4.24	-3.13	2.30	-0.71	-1.88	-0.99
Walter Scott	301,956	16.6	12.53 (15)	16.60 (3)	15.63 (8)	15.83 (10)	12.80 (6)	14.61 (11)	14.17 (36)
MSCI World Index (Net) (CAD)			10.17 (40)	7.80 (36)	8.81 (46)	11.91 (42)	8.41 (49)	10.94 (52)	13.07 (61)
Value Added			2.36	8.80	6.82	3.92	4.39	3.67	1.10
TD Emerald U.S. Pooled Fund*	143,032	7.9	11.13 (54)	13.41 (44)	11.77 (50)	14.67 (48)	11.89 (41)	-	-
S&P 500			11.32 (52)	13.48 (43)	11.84 (49)	14.77 (47)	11.95 (40)	15.23 (43)	16.63 (49)
Value Added			-0.19	-0.07	-0.07	-0.10	-0.06	-	-
TD Emerald International Equity Index*	92,472	5.1	7.54 (70)	0.06 (37)	5.33 (57)	8.53 (53)	4.62 (71)	6.41 (77)	9.71 (78)
MSCI EAFE (Net)			7.72 (62)	-0.21 (40)	5.25 (58)	8.46 (54)	4.55 (72)	6.32 (77)	9.62 (82)
Value Added			-0.18	0.27	0.08	0.07	0.07	0.09	0.09

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

Empower Results®

Performance Summary

As of 31 March 2019

	Allocation		Performance (%)						
	Market Value ($000)	%	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
TDAM Universe Bond Index	328,977	18.1	3.83 (74)	5.21 (72)	3.25 (71)	2.61 (89)	2.13 (92)	3.72 (79)	4.30 (96)
FTSE Canada Universe Bond			3.91 (60)	5.27 (59)	3.30 (66)	2.70 (87)	2.21 (87)	3.77 (73)	4.41 (91)
Value Added			-0.08	-0.06	-0.05	-0.09	-0.08	-0.05	-0.11
TDAM Active Short Term Corporate	332,862	18.3	2.30	3.84	1.99	2.24	2.02	-	-
FTSE Canada Short Term Corporate Bond			2.25	3.84	2.00	2.26	2.02	2.46	3.68
Value Added			0.05	0.00	-0.01	-0.02	0.00	-	-
XRE ETF (Real Estate)	61,994	3.4	15.56	20.64	13.70	12.43	8.47	9.09	-
BIP.UN (Infrastructure)	94,088	5.2	20.66	10.22	9.37	20.91	15.31	19.67	-
Operating Account	240,137	13.2							
Currency Overlay Effect (Historical)^									
Value Added			0.00	0.00	0.02	-0.28	-0.25	-0.30	0.05

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

Rolling Year Performance

As of 31 March 2019

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total Fund	6.74	5.60	11.59	-0.22	15.07	9.70	8.53	7.52	8.04	16.73
CPI + 3.5% - Moving	5.45	5.89	5.27	5.05	5.00	5.43	4.87	5.85	7.26	5.31
Value Added	1.29	-0.29	6.32	-5.27	10.07	4.27	3.66	1.67	0.78	11.42
Canadian Equities	4.59 (71)	3.50 (32)	21.20 (16)	-4.89 (64)	6.08 (67)	15.71 (91)	10.28 (43)	-	-	-
S&P/TSX Composite	8.11 (28)	1.71 (65)	18.62 (35)	-6.57 (83)	6.93 (60)	15.97 (91)	6.11 (81)	-9.76 (60)	20.41 (36)	42.15 (54)
Value Added	-3.52	1.79	2.58	1.68	-0.85	-0.26	4.17	-	-	-
Sionna	4.59 (71)	3.50 (32)	21.20 (16)	-4.89 (64)	6.08 (67)	15.71 (91)	10.23 (44)	-6.59 (33)	20.56 (33)	34.09 (95)
S&P/TSX Composite	8.11 (28)	1.71 (65)	18.62 (35)	-6.57 (83)	6.93 (60)	15.97 (91)	6.11 (81)	-9.76 (60)	20.41 (36)	42.15 (54)
Value Added	-3.52	1.79	2.58	1.68	-0.85	-0.26	4.12	3.17	0.15	-8.06
Global Equities	10.99 (16)	11.85 (47)	21.77 (17)	-2.06 (59)	19.55 (64)	27.04 (72)	10.91 (83)	7.69 (27)	8.83 (69)	26.06 (40)
MSCI World Index (Net) (CAD)	7.80 (36)	9.83 (63)	18.38 (45)	-1.43 (53)	21.66 (54)	29.18 (56)	13.85 (61)	3.33 (55)	8.40 (74)	23.33 (55)
Value Added	3.19	2.02	3.39	-0.63	-2.11	-2.14	-2.94	4.36	0.43	2.73
Oldfield	3.56 (70)	7.84 (78)	33.39 (1)	-9.67 (97)	14.68 (86)	30.47 (45)	6.40 (96)	6.77 (31)	13.69 (21)	20.34 (68)
MSCI World Index (Net) (CAD)	7.80 (36)	9.83 (63)	18.38 (45)	-1.43 (53)	21.66 (54)	29.18 (56)	13.85 (61)	3.33 (55)	8.40 (74)	23.33 (55)
Value Added	-4.24	-1.99	15.01	-8.24	-6.98	1.29	-7.45	3.44	5.29	-2.99
Walter Scott	16.60 (3)	14.66 (28)	16.23 (66)	4.17 (15)	22.14 (49)	22.65 (90)	14.21 (59)	10.26 (14)	5.43 (95)	16.88 (84)
MSCI World Index (Net) (CAD)	7.80 (36)	9.83 (63)	18.38 (45)	-1.43 (53)	21.66 (54)	29.18 (56)	13.85 (61)	3.33 (55)	8.40 (74)	23.33 (55)
Value Added	8.80	4.83	-2.15	5.60	0.48	-6.53	0.36	6.93	-2.97	-6.45
TD Emerald U.S. Pooled Fund*	13.41 (44)	10.16 (57)	20.69 (44)	3.93 (19)	-	-	-	-	-	-
S&P 500	13.48 (43)	10.21 (57)	20.86 (43)	3.91 (19)	29.36 (51)	32.21 (72)	16.00 (43)	11.53 (40)	10.50 (63)	21.22 (45)
Value Added	-0.07	-0.05	-0.17	0.02	-	-	-	-	-	-
TD Emerald International Equity Index*	0.06 (37)	10.87 (72)	15.22 (51)	-6.28 (75)	13.86 (63)	27.86 (63)	13.36 (57)	-3.09 (67)	6.02 (82)	24.34 (51)
MSCI EAFE (Net)	-0.21 (40)	11.00 (69)	15.19 (52)	-6.35 (76)	13.69 (66)	27.54 (65)	13.25 (58)	-3.17 (68)	5.51 (86)	25.01 (44)
Value Added	0.27	-0.13	0.03	0.07	0.17	0.32	0.11	0.08	0.51	-0.67

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

Rolling Year Performance

As of 31 March 2019

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
TDAM Universe Bond Index	5.21 (72)	1.33 (71)	1.34 (96)	0.72 (71)	10.30 (28)	0.71 (84)	4.38 (94)	9.69 (36)	5.14 (78)	4.75 (100)
FTSE TMX Canada Bond Universe	5.27 (59)	1.36 (71)	1.51 (90)	0.78 (69)	10.26 (32)	0.84 (75)	4.54 (90)	9.74 (34)	5.13 (78)	5.13 (99)
Value Added	-0.06	-0.03	-0.17	-0.06	0.04	-0.13	-0.16	-0.05	0.01	-0.38
TDAM Active Short Term Corporate	3.84	0.18	2.75	1.35	-	-	-	-	-	-
FTSE Canada Short Term Corporate Bond	3.84	0.19	2.79	1.28	4.24	2.50	4.38	5.10	3.94	8.78
Value Added	0.00	-0.01	-0.04	0.07	-	-	-	-	-	-
XRE ETF (Real Estate)	20.64	7.17	9.92	-2.58	11.61	-3.68	-	-	-	-
BIP.UN (Infrastructure)	10.22	8.52	47.76	0.01	38.87	17.70	28.70	-	-	-

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

Performance Summary (Net of Fees)

As of 31 March 2019

	Performance (%)						
	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
Total Fund	6.98	6.43	5.84	7.63	5.54	7.33	8.54
CPI + 3.5% - Moving	2.38	5.45	5.67	5.54	5.41	5.33	5.54
Value Added	4.60	0.98	0.17	2.09	0.13	2.00	3.00
Sionna	11.26	4.21	3.67	9.08	5.31	5.38	9.37
S&P/TSX Composite	13.29	8.11	4.86	9.26	5.07	5.44	9.49
Value Added	-2.03	-3.90	-1.19	-0.18	0.24	-0.06	-0.12
Global Equities	9.94	10.24	10.73	14.04	9.64	11.42	13.20
MSCI World Index (Net) (CAD)	10.17	7.80	8.81	11.91	8.41	10.94	13.07
Value Added	-0.23	2.44	1.92	2.13	1.23	0.48	0.13
Oldfield	6.17	2.79	4.89	13.36	6.94	8.28	11.27
MSCI World Index (Net) (CAD)	10.17	7.80	8.81	11.91	8.41	10.94	13.07
Value Added	-4.00	-5.01	-3.92	1.45	-1.47	-2.66	-1.80
Walter Scott	12.35	15.82	14.84	15.03	12.00	13.79	13.33
MSCI World Index (Net) (CAD)	10.17	7.80	8.81	11.91	8.41	10.94	13.07
Value Added	2.18	8.02	6.03	3.12	3.59	2.85	0.26
TD Emerald Pooled U.S. Fund*	11.12	13.38	11.74	14.63	11.85	-	-
S&P 500	11.32	13.48	11.84	14.77	11.95	15.23	16.63
Value Added	-0.20	-0.10	-0.10	-0.14	-0.10	-	-
TD Emerald International Equity Index*	7.53	0.04	5.29	8.49	4.59	6.37	9.67
MSCI EAFE (Net)	7.72	-0.21	5.25	8.46	4.55	6.32	9.62
Value Added	-0.19	0.25	0.04	0.03	0.04	0.05	0.05
TDAM Universe Bond Index	3.84	5.19	3.19	2.56	2.09	3.67	4.27
FTSE Canada Universe Bond	3.91	5.27	3.30	2.70	2.21	3.77	4.41
Value Added	-0.07	-0.08	-0.11	-0.14	-0.12	-0.10	-0.14
TDAM Active Short Term Corporate	2.28	3.73	1.89	2.14	1.91	-	-
FTSE Canada Short Term Corporate Bond	2.25	3.84	2.00	2.26	2.02	2.46	3.68
Value Added	0.03	-0.11	-0.11	-0.12	-0.11	-	-

Parentheses contain percentile rankings. (1st percentile is the best performing).
There was no exposure to Canadian Equities from January 2012 to April 2012. *In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.CPI+3.5% benchmark has been implemented retrospectively since 1 January 2017. Prior to that, 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.Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns. The global equities return prior to August 2018 includes Trilogy. The Currency Overlay was discontinued on 20 November 2017.

Empower Results®

Rolling Year Performance (Net of Fees)

As of 31 March 2019

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total Fund	6.43	5.26	11.29	-0.48	14.77	9.40	8.24	7.26	7.78	16.46
CPI + 3.5% - Moving	5.45	5.89	5.27	5.05	5.00	5.43	4.87	5.85	7.26	5.31
Value Added	0.98	-0.63	6.02	-5.53	9.77	3.97	3.37	1.41	0.52	11.15
Canadian Equities	4.21	3.12	20.76	-5.24	5.68	15.29	9.81	-	-	-
S&P/TSX Composite	8.11	1.71	18.62	-6.57	6.93	15.97	6.11	-9.76	20.41	42.15
Value Added	-3.90	1.41	2.14	1.33	-1.25	-0.68	3.70	-	-	-
Sionna	4.21	3.12	20.76	-5.24	5.68	15.29	9.81	-7.05	19.98	33.44
S&P/TSX Composite	8.11	1.71	18.62	-6.57	6.93	15.97	6.11	-9.76	20.41	42.15
Value Added	-3.90	1.41	2.14	1.33	-1.25	-0.68	3.70	2.71	-0.43	-8.71
Global Equities	10.24	11.22	20.98	-2.58	18.82	26.19	10.16	6.96	8.10	25.22
MSCI World Index (Net) (CAD)	7.80	9.83	18.38	-1.43	21.66	29.18	13.85	3.33	8.40	23.33
Value Added	2.44	1.39	2.60	-1.15	-2.84	-2.99	-3.69	3.63	-0.30	1.89
Oldfield	2.79	7.04	32.41	-10.23	13.83	29.52	5.61	5.98	12.85	19.46
MSCI World Index (Net) (CAD)	7.80	9.83	18.38	-1.43	21.66	29.18	13.85	3.33	8.40	23.33
Value Added	-5.01	-2.79	14.03	-8.80	-7.83	0.34	-8.24	2.65	4.45	-3.87
Walter Scott	15.82	13.86	15.40	3.41	21.23	21.73	13.35	9.43	4.63	15.99
MSCI World Index (Net) (CAD)	7.80	9.83	18.38	-1.43	21.66	29.18	13.85	3.33	8.40	23.33
Value Added	8.02	4.03	-2.98	4.84	-0.43	-7.45	-0.50	6.10	-3.77	-7.34
TD Emerald Pooled U.S. Fund*	13.38	10.12	20.65	3.89	-	-	-	-	-	-
S&P 500	13.48	10.21	20.86	3.91	29.36	32.21	16.00	11.53	10.50	21.22
Value Added	-0.10	-0.09	-0.21	-0.02	-	-	-	-	-	-
TD Emerald International Equity Index*	0.04	10.83	15.18	-6.31	13.82	27.82	13.32	-3.12	5.99	24.29
MSCI EAFE (Net)	-0.21	11.00	15.19	-6.35	13.69	27.54	13.25	-3.17	5.51	25.01
Value Added	0.25	-0.17	-0.01	0.04	0.13	0.28	0.07	0.05	0.48	-0.72
TDAM Universe Bond Index	5.19	1.23	1.31	0.69	10.26	0.68	4.35	9.66	5.10	4.72
FTSE Canada Universe Bond Index - C$	5.27	1.36	1.51	0.77	10.26	0.84	4.54	9.74	5.13	5.13
Value Added	-0.08	-0.13	-0.20	-0.08	0.00	-0.16	-0.19	-0.08	-0.03	-0.41
TDAM Active Short Term Corporate	3.73	0.08	2.64	1.23	-	-	-	-	-	-
FTSE Canada Short Term Corporate Bond	3.84	0.19	2.79	1.28	4.24	2.50	4.38	5.10	3.94	8.78
Value Added	-0.11	-0.11	-0.15	-0.05	-	-	-	-	-	-

Parentheses contain percentile rankings. (1st percentile is the best performing).
There was no exposure to Canadian Equities from January 2012 to April 2012. *In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only. CPI+3.5% benchmark has been implemented retrospectively since 1 January 2017. Prior to that, 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.Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.The global equities return prior to August 2018 includes Trilogy. The Currency Overlay was discontinued on 20 November 2017.

Empower Results®

UNIVERSITY OF WATERLOO
2019/20 Operating Income Budget (in thousands)

Senate Finance Committee
March 21, 2019

	2018/19 Base Budget	Increase / (Decrease) $	Increase / (Decrease) %	2019/20 Base Budget	Notes
INCOME					
Operating Grant					
Enrolment	224,740	-	0.0%	224,740	
Student Success and Differentiation	20,576	-	0.0%	20,576	
Special Purpose	5,601	(534)	-9.5%	5,067	
International Student Recovery	(5,584)	(170)	3.0%	(5,754)	
Graduate Expansion	3,152	1,784	56.6%	4,936	Note 1
Transfers to AFIW	(14,228)	318	-2.2%	(13,910)	
	234,257	1,398	0.6%	235,655	
Tuition					
Domestic - Undergraduate	249,527	(20,830)	-8.3%	228,697	
Domestic - Graduate	30,162	(1,776)	-5.9%	28,386	
International - Undergraduate	178,548	28,869	16.2%	207,417	
International - Graduate	40,935	2,416	5.9%	43,351	
Transfers to AFIW	(20,412)	1,184	-5.8%	(19,228)	
	478,760	9,863	2.1%	488,623	Note 2
Other Revenue					
Co-op Recovery	22,422	(183)	-0.8%	22,239	Note 3
Student Services Fee	11,813	1,074	9.1%	12,887	Note 4
Research Overhead	8,460	-	0.0%	8,460	
Interest	9,600	-	0.0%	9,600	
Services to AFIW	4,049	(166)	-4.1%	3,883	
Miscellaneous Income	9,208	(43)	-0.5%	9,165	
	65,552	682	1.0%	66,234	
Total Income	778,569	11,943	1.5%	790,512	

Note 1 - The Graduate Expansion grant provides funding for increased domestic eligible graduate students. The increase is a result of increased PhD targets and an increase in forecasted masters domestic eligible student count over 2018/2019.

Note 2 - The domestic tuition reductions and international tuition increases included in this operating budget are consistent with the tuition rates approved by the Board in its February 2019 meeting.

Note 3 - The small decrease in co-op fee is reflective of the fact that 2018/19 actuals will be slightly lower than was estimated in the 2018/19 budget. The University continues to consistently see increases in actual co-op terms and actual co-op fee revenue.

Note 4 - The increase in the student services fee revenue relates to past decisions by students through the Student Services Advisory Committee to provide specific funding to Athletics and to increase the students' funding percentage for the Student Success Office.

UNIVERSITY OF WATERLOO

2019/20 Operating Expense Budget (in thousands)

Senate Finance Committee
March 21, 2019

	2018/19 Base Budget	Increase / (Decrease) $	Increase / (Decrease) %	2019/20 Base Budget	2019/20 Base Budget as of Income	Notes
EXPENSES						
Salary and Wages						
Current salaries and wages	434,118	15,700	3.6%	449,818	56.9	Note 1
Benefits						
Current benefits	98,242	4,580	4.7%	102,822	13.0	
Faculty professional expense reimbursement plan	2,521	167	6.6%	2,688	0.3	
Parental leave supplement	1,650	350	21.2%	2,000	0.3	
Total benefits	102,413	5,097	5.0%	107,510	13.6	Note 2
Total salaries and benefits	536,531	20,797	3.9%	557,328	70.5	
Student Support						
Graduate student support	8,831	-	0.0%	8,831	1.1	
Graduate incentive fund	450	-	0.0%	450	0.1	
Support for international graduate students	9,735	(48)	-0.5%	9,687	1.2	
Senate matching scholarships	160	-	0.0%	160	0.0	
Tuition set aside	27,049	(3,203)	-11.8%	23,846	3.0	Note 3
Undergraduate scholarships/bursaries	11,580	-	0.0%	11,580	1.5	
Total student support	57,805	(3,251)	-5.6%	54,554	6.9	
Other						
Accessibility fund for students with disabilities	1,051	-	0.0%	1,051	0.1	
Insurance	1,800	200	11.1%	2,000	0.3	
Library acquisitions	8,519	-	0.0%	8,519	1.1	
Municipal taxes	2,659	141	5.3%	2,800	0.4	
University Fund	46,115	(9,000)	-19.5%	37,115	4.7	Note 4
Utilities	22,670	155	0.7%	22,825	2.9	
Total other	82,814	(8,504)	-10.3%	74,310	9.4	
Supplies and expenses - before budget reduction	113,610	12,387	10.9%	125,997	15.9	Note 5
Academic Support Unit (ASU) ongoing budget reduction	-	(4,200)	-	(4,200)	(0.5)	Note 6
Supplies and expenses - after budget reduction	113,610	8,187	7.2%	121,797	15.4	
Gross expenses	790,759	17,229	2.2%	807,988	102.2	
Cost recoveries - before additional contribution	(12,291)	376	-3.1%	(11,915)	(1.5)	
Additional ongoing contribution from Ancillary Enterprises	-	(1,000)	-	(1,000)	(0.1)	
Cost recoveries - after additional contribution	(12,291)	(624)	-3.1%	(12,915)	(1.6)	Note 7
Estimated net expenses	778,468	16,605	2.1%	795,073	100.6	
Estimated income				790,512		
			2019/20 budget deficit	(4,561)		
			One-time contribution from Faculties	3,656		Note 8
			Unfunded defici	(905)		

Note 1 - This reflects committed May 1, 2019 salary increases based on existing salary agreements with the University's employee groups. 2019/20 is the second year of a three year salary agreement with each of the employee groups.

Note 2 - This reflects increases in benefits costs related to a number of factors including changes as a result of salary increases and rate/premium increases. The increase in the budget for parental leave reflects actual experience with the number of employees on parental leave in recent years.

Note 3 - The Tuition Set Aside amount is calculated based on a formula mandated by the Ministry of Training, Colleges and Universities. It is to be used on needs based student support programs.

Note 4 - The University Fund is used strategically for funding the University's strategic priorities and managing risk. The $9m reduction in the University Fund is an allocation to faculties (see note 5).

Note 5 - The increase in Supplies and expenses, prior to the budget reduction in Academic Support Units, is comprised of an allocation of $9m to Faculties from the University Fund (see note 4) and other specific required increases in costs such as new building maintenance and software licensing fees.

Note 6 - This reflects a budget cut to Academic Support Units (ASU's) of 3%, subject to limited exemptions.

Note 7 - Chargeouts and cost recoveries primarily include recoveries from Ancillary Enterprises (Housing, Food Services, Print &Retail Solutions, Watcard and Parking) for space charges and administrative support. This budget includes additional ongoing contributions that the Ancillary Enterprises will make.

Note 8 - Faculties will contribute to funding the deficit with an amount equal to 1% of their ongoing budgets by redistributing resources available from recent underspending against available budgets.

University of Waterloo includes retirees in pension, benefits governance

Jann Lee | March 15, 2019

Despite changing demographics and rising health-care costs, it's uncommon for employers to include retirees in their pension and benefits governance.

However, the University of Waterloo Retirees Association, which has been around for more than 30 years, not only connects retired employees with each other and the university, but also allows them to weigh in on the pension and benefits programs through a designated liaison.

As a member of the university's pension and benefits committee, the liaison keeps an eye on proposed changes and helps retirees understand relevant policies and procedures, says Sue Fraser, president at the UWRA, noting former employees can also approach the association with any questions regarding their pension and benefits plans.

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Marilyn Thompson, associate provost of human resources at the University of Waterloo, says committee members shape policies around the pension plan's administration and investments, review its annual audit and financial statements and recommend any changes.

"Any time there's a discussion about our plan, any time we're considering making modifications to the plan, . . . the retirees have a voice on how that would impact them," says Thompson. "I know you hear that about universities . . . but we do take it quite seriously."

In recent years, the retiree association has provided feedback on the pension plan's funding and operations, as well as the benefits plan's design, through committee meetings, says Fraser. "We have brought to the table questions from retirees, helping to clarify policies and procedures and sometimes arguing for change."

The retiree association also nominates members to sit on related working groups such as one on responsible investment, she says.

Upsides for employers

Retirees bring valuable insight to the university's pension and benefits plans, says Thompson, noting former employees have the institutional knowledge to explain what changes worked in the past and why certain decisions were made.

The association "is a tremendous source of knowledge

Average retirement age in Canada in 2018

63.8 — Total for all retirees

61.7 — Public sector

64.4 — Private sector

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and the . . . context that a retiree brings to that discussion is really invaluable," she says.

67.7 — Self-employed

Source: Statistics Canada

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As well, retirees can offer insight on what benefits would be valuable to their community, says Karen DeBortoli, director of the Canadian Knowledge Resource Centre at Buck.

For instance, many older employees find travel insurance valuable and would benefit from a pooled rate because they're usually limited with expensive individual coverage.

"It's not as large of a cost to the employer but can have a lot of benefit to the retiree population," says DeBortoli. "So if an employer is considering making tweaks, retirees can give feedback . . . ."

Retirees can also attest to the value of their existing benefits, says Scott Anderson, regional vice-president of employee benefits at Hub International Ltd. "They're the ones using it. . . . So that group of retirees would be able to give feedback to the current employer and current employees on how much the plans benefit them in retirement."

Retiree associations are also a way for employers to stay in contact with former employees, says DeBortoli. Since pension plan administrators in most Canadian jurisdictions are required to send annual or biannual statements to retired members about their plan, "there's now more of a focus, of keeping track of retired members, knowing where they are, making sure their information is up to date because they may have moved their banking information and their physical address may have changed," she says.

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For the University of Waterloo, its retiree association helps it overcome communications challenges, says Fraser.

"We can be of help in facilitating the communication with retirees on pension matters. We try to make sure retirees are not left out of the loop and draw the attention of the university to situations when certain policies or new decisions may be unclear."

A sense of community

Besides having input on the university's pension and benefits plans, the association also offers retired employees a way to stay in touch with each other. It publishes a newsletter three times a year, with information about pension and benefits developments, social events and updates on any relevant news.

Retirees also keep in touch with the university's administrators by participating in annual pre-retirement events and allowing a representative from the community relations department to regularly attend the association's board of director meetings.

Read: **How to prepare employees for the psychological impact of retirement**

This sense of community is great for seniors who often face social isolation upon retiring, says Wanda Morris, chief advocacy and engagement officer at CARP.

"For many companies, retiree associations represent untapped potential. And I'd encourage employers to set up a structure . . . that would enable a retiree association to flourish."

Jann Lee is a former associate editor at Benefits Canada.

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