



City of Hamilton
HMRF-HWRF PENSIONADMINISTRATION
SUB-COMMITTEE REVISED

Meeting #: 23-001
Date: March 30, 2023
Time: 9:30 a.m.
Location: Room 264, 2nd Floor, City Hall (hybrid) (RM)
71 Main Street West

Tamara Bates, Legislative Coordinator (905) 546-2424 ext. 4102

	Pages
1. CEREMONIAL ACTIVITIES	
2. APPROVAL OF AGENDA	
(Added Items, if applicable, will be noted with *)	
3. DECLARATIONS OF INTEREST	
4. APPROVAL OF MINUTES OF PREVIOUS MEETING	
4.1 December 1, 2021	3
5. COMMUNICATIONS	
*5.1 Jim Garchinski, respecting Resignation from HMRF-HWRF Pension Administration Committee	7
Recommendation: Be received and referred to staff for appropriate action.	
6. DELEGATION REQUESTS	
7. DELEGATIONS	
8. STAFF PRESENTATIONS	
8.1 Hamilton Municipal Retirement Fund (HMRF) Valuation at December 31, 2021 (FCS23003) (City Wide)	9

8.2	Hamilton Wentworth Retirement Fund (HWRF) Valuation at December 31, 2021 (FCS23005) (City Wide)	55
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9. CONSENT ITEMS

9.1	2021 Hamilton Municipal Retirement Fund Financial Statements (FCS23002) (City Wide)	111
9.2	2021 Hamilton Wentworth Retirement Fund Financial Statements (FCS23004) (City Wide)	135
9.3	Master Trust Pension Investment Performance Report as at December 31, 2021 (FCS21091(a)) (City Wide)	159
9.4	Master Trust Pension Investment Performance Report as at June 30, 2022 (FCS23044) (City Wide)	191
*9.5	Master Trust Pension Investment Performance Report as at December 31, 2022 (FCS23044(a)) (City Wide)	263

10. DISCUSSION ITEMS

10.1	2022 Master Trust Pension Statement of Investment Policies and Procedures (FCS23009) (City Wide)	337
10.2	Hamilton Municipal Retirement Fund (HMRF), Hamilton Wentworth Retirement Fund (HWRF) Plan Wind-Up (FCS23006) (City Wide)	379

11. MOTIONS

12. NOTICES OF MOTION

13. GENERAL INFORMATION / OTHER BUSINESS

14. PRIVATE AND CONFIDENTIAL

15. ADJOURNMENT



Hamilton

HMRF/HWRF PENSION ADMINISTRATION SUB-COMMITTEE MINUTES 21-001

1:30 p.m.

Wednesday, December 1, 2021

Virtual Meeting

Hamilton City Hall

71 Main Street West

Present: Councillors M. Pearson (Chair) and L. Ferguson
HMRF Members: D. Skarratt (Co-Vice Chair) and D. Alford
HWRF Members: R. Slack

Regrets: HWRF Member: H. Hicks and J. Garchinski (Co-Vice Chair)

THE FOLLOWING ITEMS WERE REFERRED TO THE AUDIT, FINANCE AND ADMINISTRATION COMMITTEE FOR CONSIDERATION:

1. CONSENT ITEMS (Item 7)

(Ferguson/Skarratt)

That the following Consent Items, be received:

- (a) 2020 Hamilton-Wentworth Retirement Fund Financial Statements (FCS21098) (City Wide) (Item 7.1)
- (b) 2020 Hamilton Municipal Retirement Fund Financial Statements (FCS21099) (City Wide) (Item 7.2)
- (c) Master Trust Pension Investment Performance Report as at December 31, 2020 (FCS20075(a)) (City Wide) (Item 7.3)
- (d) Master Trust Pension Investment Performance Report as at June 30, 2021 (FCS21091) (City Wide) (Item 7.4)

CARRIED

2. 2021 Master Trust Pension Statement of Investment Policies and Procedures (FCS21095) (City Wide) (Item 10.1)**(Slack/Alford)**

- (a) That Appendix "A" attached to Report FCS21095 respecting the 2021 City of Hamilton Defined Benefit Pension Plans Master Trust Statement of Investment Policies and Procedures be approved and replace the previous 2020 City of Hamilton Defined Benefit Pension Plans Master Trust Statement of Investment Policies and Procedures contained in Report FCS20074 and approved by Council on December 16, 2020; and,
- (b) That Appendix "A" attached to Report FCS21095 respecting the 2021 City of Hamilton Defined Benefit Pension Plans Master Trust Statement of Investment Policies and Procedures be forwarded to the Hamilton Street Railway Pension Advisory Committee for their information.

CARRIED**3. Outsourced Chief Investment Officer (FCS21116) (City Wide) (Added Item 10.2)****(Skarratt/Alford)**

- (a) That Council, as the Administrator of the City Hamilton Defined Benefit Pension Plans Master Trust, authorizes:
 - (i) the General Manager, Finance and Corporate Services, to negotiate any agreements for contractual or consulting services to develop the selection process to hire an Outsourced Chief Investment Officer (OCIO) in a form satisfactory to the City Solicitor which may include sole sourcing or single sourcing to the applicable service provider;
 - (ii) the General Manager, Finance and Corporate Services, to negotiate any agreements for the selection and hiring of an Outsourced Chief Investment Officer (OCIO) in a form satisfactory to the City Solicitor; and,
 - (iii) the General Manager, Finance and Corporate Services, to make any changes to applicable pension plan agreements, by-laws and policies in a form satisfactory to the City Solicitor; and,
- (b) That staff of the Corporate Services, Financial Planning and Administration Policy, inform the HMRF/ HWRF Pension Administration Sub-Committee and Hamilton Street Railway Pension Advisory Committee through a Communication Update or Information Report of the successful Outsourced Chief Investment Officer (OCIO) after awarding of the contract.

CARRIED

FOR INFORMATION:**(a) APPROVAL OF AGENDA (Item 2)**

The Committee Clerk advised of the following change to the agenda:

10. DISCUSSION ITEMS (Item 10)

10.2 Outsourced Chief Investment Officer (FCS21116) (City Wide)

(Alford/Slack)

That the agenda for the December 1, 2021 meeting of the HMRF/HWRF Pension Administration Sub-committee be approved, as amended.

CARRIED

(b) DECLARATIONS OF INTEREST (Item 3)

There were no declarations of interest.

(c) APPROVAL OF MINUTES OF PREVIOUS MEETING (Item 4)**(i) November 24, 2020 (Item 4.1)****(Alford/Skarratt)**

That the November 24, 2020 Minutes of the HMRF / HWRF Pension Administration Sub-Committee meeting be approved, as presented.

CARRIED

(d) ADJOURNMENT (Item 15)**(Alford/Skarratt)**

That there being no further business, the HMRF/HWRF Pension Administration Sub-Committee be adjourned at 1:55 p.m.

CARRIED

Respectfully submitted,

Councillor M. Pearson, Chair
HMRF/HWRF Pension Administration
Sub-Committee

Angela McRae
Legislative Coordinator
Office of the City Clerk

Bates, Tamara

Subject: FW: HMRF-HWRF Pension Administration Committee

From: Jim and Kim Garchinski < >
Sent: Tuesday, March 28, 2023 4:32 PM
To: Bates, Tamara <Tamara.Bates@hamilton.ca>
Subject: Re: HMRF-HWRF Pension Administration Committee

Hi Tamara

Due to my husbands health () he will be resigning.

Thank you,
Kim Garchinski

On Tue, Mar 28, 2023 at 9:29 AM Bates, Tamara <Tamara.Bates@hamilton.ca> wrote:

Thank you, Jim, for getting back to me. Can you please confirm that you just mean for this meeting, and not future meetings? That is, you aren't resigning?

Best,

Tamara


From: Jim and Kim Garchinski < >
Sent: Monday, March 27, 2023 2:22 PM
To: Bates, Tamara <Tamara.Bates@hamilton.ca>
Subject: Re: HMRF-HWRF Pension Administration Committee

Sorry, I am unable to attend/participate at this time.

Jim Garchinski



INFORMATION REPORT

TO:	Chair and Members HMRF/HWRF Pension Administration Committee
COMMITTEE DATE:	March 30, 2023
SUBJECT/REPORT NO:	Hamilton Municipal Retirement Fund (HMRF) Valuation at December 31, 2021 (FCS23003) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Barb Howe (905) 546-2424 Ext 5599
SUBMITTED BY:	Shelley Hesmer Acting Director, Financial Services, Taxation and Corporate Controller Corporate Services Department
SIGNATURE:	

COUNCIL DIRECTION

That Appendix "A" to Report FCS23003 "Hamilton Municipal Retirement Fund (HMRF) Valuation at December 31, 2021", be received.

INFORMATION

The December 31, 2021 valuation attached as Appendix "A" to Report FCS23003, showed significant improvements since the last valuation. The funded status on a going concern basis is a \$15.4 million surplus compared to the previous surplus of \$2.5 million. This surplus is inclusive of the cost of future indexing and a provision for adverse deviation. Despite this \$9.9 million cost, the plan is still in a surplus on a going concern basis.

On a solvency basis, the plan currently has a surplus of \$24.6 million compared to a \$13.4 million surplus at December 31, 2019. On a windup basis the plan has a \$12.9 million surplus compared to the previous \$1.5 million deficit.

Since the solvency ratio is currently 1.51 (1.23 – 2019) there are no solvency concerns and consequently no funding is required.

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

SUBJECT: Hamilton Municipal Retirement Fund (HMRF) Valuation at December 31, 2021 (FCS23003) (City Wide) - Page 2 of 4

The HMRF plan is a closed plan and is comprised mainly of fire personnel and some former non-fire City of Hamilton employees hired prior to July 1, 1965. The following chart provides a synopsis of the plan position and membership data as of December 31, 2021, compared to the December 31, 2019 valuation:

	(\$ in millions)	
	2021	2019
Going Concern Basis		
Valuation Assets	\$73.7	\$71.4
Less: Accrued Liabilities	\$55.1	\$65.2
Actuarial Surplus/(Deficit) before PfAD	\$18.6	\$ 6.2
Less: Provision for Adverse Deviation (PfAD)	\$ 3.2	\$ 3.7
Actuarial Surplus/(Deficit)	\$15.4	\$ 2.5
Solvency Basis		
Solvency Assets ¹	\$73.6	\$71.3
Less: Solvency Liabilities	\$49.0	\$57.9
Solvency Surplus/(Deficit)	\$24.6	\$13.4
Solvency Ratio	1.51	1.23
Windup Basis		
Market Value of Assets ¹	\$73.6	\$71.3
Less: Windup Liabilities	\$60.7	\$72.8
Windup Surplus/(Deficit)	\$12.9	\$ (1.5)
Transfer Ratio	1.22	.98
# of members	151	177

¹ Market value of assets reduced by windup expenses of \$150,000

The going concern valuation increased by \$12.9 million and most of the increase is attributed to investment and mortality gains. Since the plan is in a surplus on both a going concern and solvency basis and the solvency ratio is greater than 0.85, then there are no funding issues and therefore no special payments are required during the three-year valuation period.

The last valuation filed was as at December 31, 2019, and a new valuation is required no later than every three years and within nine months of the valuation date. However, due to the volatility and decline in global markets in early 2022, it was determined that it would be prudent to file an off-cycle valuation at December 31, 2021. This valuation was filed with the legislated authorities by the September 30, 2022 deadline.

SUBJECT: Hamilton Municipal Retirement Fund (HMRF) Valuation at December 31, 2021 (FCS23003) (City Wide) - Page 3 of 4

Each valuation requires the plan to be valued using three different methods:

- (i) **Going Concern Basis** – this valuation assumes that the plan will continue indefinitely. Consequently, to calculate funding requirements, an actuary selects an interest rate for the pension fund based on an assumed long-term average return. Any funding deficiencies must be eliminated through payments made over a period of 10 years. Under current legislation, post retirement indexation is included in the going concern valuation as well as a provision for adverse deviation.
- (ii) **Solvency Basis** – is intended to calculate the funding required to pay for all benefits if the plan were to wind up on the valuation date. To determine solvency funding requirements, an actuary selects a rate that is an approximation of the annuity purchase rate. On a solvency basis the plan must be at least 85% funded. If the funded status falls below this level, then solvency special payments are required for the unfunded portion below 85%. The unfunded portion can be eliminated through payments made over a period of 5 years. Under current legislation, post retirement indexation can be excluded from the solvency valuation.
- (iii) **Wind-up Basis** – similar to the solvency basis, this valuation assumes that the plan would be wound up at the valuation date, but includes all benefit obligations, such as post-retirement indexing.

This valuation is the second valuation reflecting the new funding rules under Regulation 250/18 which came into effect May 1, 2018.

Key changes to the funding rules included:

Effective Date: The new funding rules apply to actuarial valuation reports dated on or after December 31, 2017.

Solvency Funding: A pension plan is required to be funded at 85% (previously 100%) on a solvency basis. If the funded level is less than 85%, then solvency special payments are required and must be amortized over a five-year period. In addition, these payments must begin one year after the date of the valuation report.

Going Concern Funding: A pension plan must still be funded at 100% on a going concern basis, however now it must include the estimated cost of indexation in the going concern liabilities. In addition, the amortization period has been reduced from 15 years to 10 years with a fresh start each valuation and any special payments required will commence one year after the date of the valuation report. Further, the going concern valuation must include a **Provision for Adverse Deviation (PfAD)**.

SUBJECT: Hamilton Municipal Retirement Fund (HMRF) Valuation at December 31, 2021 (FCS23003) (City Wide) - Page 4 of 4

Provision for Adverse Deviation (PfAD). Under Reg. 250/18, the PfAD is a formula that is applied to the going concern liabilities. It is the sum of three percentages:

- (a) a fixed percentage depending on whether the plan is a closed plan,
- (b) a percentage depending on the asset mix of the plan, as allocated between fixed and non-fixed income in accordance with the plan's Statement of Investment Policies and Procedures (SIPP).
- (c) a percentage reflecting the excess of the pension plan's going concern discount rate over a benchmark discount rate.

Although the cost of indexation must be included in the going concern liabilities, it may be excluded when determining the value of the PfAD.

Restrictions on Benefit Improvements: Restrictions on plan amendments that would negatively impact the funding of a plan have been introduced. Immediate funding will trigger if the pension plan is not funded at 80% on both a solvency and going concern basis. The additional unfunded liability associated with the benefit improvement must be funded on a going concern basis over 8 years rather than 10 years.

Overall, the HMRF plan is in a healthy financial state and as a result the next valuation is not required until December 31, 2024.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report FCS23003 – Hamilton Municipal Retirement Fund (HMRF) Actuarial Valuation at December 31, 2021.

BH/dw

THE CORPORATION OF THE CITY OF HAMILTON
HAMILTON MUNICIPAL RETIREMENT FUND
Actuarial Valuation as at December 31, 2021

September 22, 2022

Registration Number: 0275123

This document is being filed with the Pension Authorities as required by statute and contains confidential financial information regarding the plan, the plan sponsor, and the plan members. Therefore, pursuant to subsection 20(1)(b) of the *Access to Information Act (Canada)*, or a corresponding provision under any comparable federal or provincial legislation, a government institution shall not disclose this document to any party as a result of a request under the *Access to Information Act (Canada)* or other applicable legislation.



DISCLAIMERS

This document is an actuarial valuation report of a pension plan. It is technical in nature and the reader should seek expert advice to fully understand it. The actuarial results presented here are based on numerous economic and demographic assumptions as to future events. Emerging experience, differing from the assumptions, will result in gains or losses that will be revealed in future actuarial valuations.

This report is based on the terms of engagement listed in Appendix A.

This report is based on the premise that all the plan's assets, including any letters of credit, are available to meet the plan's liabilities included in this valuation.

This report is based on the premise that the plan remains a going concern. This report does not address the disposition of any surplus assets remaining in the event of plan windup. If an applicable pension regulator or other entity with jurisdiction directs otherwise, certain financial measures contained in this report, including contribution requirements, may be affected.

The results presented in this report have been developed using a particular set of actuarial assumptions. Other results could have been developed by selecting different actuarial assumptions. The results presented in this report are reasonable actuarial results based on actuarial assumptions reflecting our expectation of future events.

Future contribution levels may change as a result of future changes in the actuarial methods and assumptions, the membership data, the plan provisions and the legislative rules, or as a result of future experience gains or losses, none of which have been anticipated at this time.

The results were developed with various data as at the valuation date that were provided to us: plan membership data, plan assets data, plan provisions and statement of investment policy. Towers Watson Canada Inc. ("WTW") has relied on these data after verifying them and assessing their reasonableness. However, WTW has not independently audited these data.

The information contained in this report was prepared for The Corporation of the City of Hamilton, for its internal use and for filing with the Pension Authorities, in connection with the actuarial valuation of the plan prepared by WTW. This report is not intended, nor necessarily suitable, for other parties or for other purposes. Furthermore, some results in this report are based on assumptions mandated by legislation. These results may not be appropriate for purposes other than those for which they were prepared. Further distribution of all or part of this report to other parties (except where such distribution is required by applicable legislation) or other use of this report is expressly prohibited without WTW's prior written consent. WTW is available to provide additional information with respect to this report to the above-mentioned intended users upon request.

The numbers in this report are not rounded. The fact that numbers are not rounded does not imply a greater level of precision than if the numbers had been rounded.

Definitions

CIA means the Canadian Institute of Actuaries.

Pension Authorities means the Financial Services Regulatory Authority of Ontario and the Canada Revenue Agency ("CRA").

Pension Legislation means the *Pension Benefits Act (Ontario)* and Regulation thereto and the *Income Tax Act (Canada)* and Regulations thereto ("ITA").

Table of Contents

Introduction	3
Section 1 : Going Concern Financial Position	5
1.1 <i>Statement of Financial Position.....</i>	5
1.2 <i>Reconciliation of Financial Position and Provision for Adverse Deviations</i>	6
1.3 <i>Contributions (Ensuing Year).....</i>	8
Section 2 : Solvency and Hypothetical Windup Financial Position	9
2.1 <i>Statement of Solvency and Hypothetical Windup Financial Position.....</i>	9
2.2 <i>Determination of the Statutory Solvency Excess (Deficiency).....</i>	11
Section 3 : Contributions.....	12
3.1 <i>Estimated Minimum Employer Contribution (Ensuing Years).....</i>	12
3.2 <i>Estimated Maximum Employer Contribution (Ensuing Year).....</i>	13
3.3 <i>Timing of Contributions</i>	14
Section 4 : Actuarial Opinions	15
Appendix A : Significant Terms of Engagement and Certificate of the Plan Administrator.....	16
A.1 <i>Significant Terms of Engagement.....</i>	16
A.2 <i>Certificate of the Plan Administrator.....</i>	17
Appendix B : Assets.....	18
B.1 <i>Statement of Market Value.....</i>	18
B.2 <i>Asset Class Distribution</i>	19
B.3 <i>Reconciliation of Total Assets (Market Value)</i>	20
Appendix C : Actuarial Basis – Going Concern Valuation	21
C.1 <i>Methods.....</i>	21
C.2 <i>Actuarial Assumptions.....</i>	22
C.3 <i>Rationale for Actuarial Assumptions</i>	23
Appendix D : Actuarial Basis – Solvency and Hypothetical Windup Valuations.....	25
D.1 <i>Methods.....</i>	25
D.2 <i>Solvency Incremental Cost Actuarial Method</i>	26
D.3 <i>Actuarial Assumptions.....</i>	27
D.4 <i>Rationale for Actuarial Assumptions</i>	28
Appendix E : Membership Data.....	30

The Corporation of the City of Hamilton
Hamilton Municipal Retirement Fund
Actuarial Valuation as at December 31, 2021

ii

Appendix F : Summary of Plan Provisions	35
Appendix G : Sensitivity Analysis and Other Disclosures	36
<i>G.1 Sensitivity Information</i>	36
<i>G.2 Past-Service Benefit Restriction</i>	36
<i>G.3 Solvency Incremental Cost</i>	36
<i>G.4 Provision for Adverse Deviations Level</i>	37
<i>G.5 Effects of Plausible Adverse Scenarios</i>	39

Introduction

Purpose

This report with respect to the Hamilton Municipal Retirement Fund has been prepared for The Corporation of the City of Hamilton, the plan administrator, and presents the results of the actuarial valuation of the plan as at December 31, 2021.

The principal purposes of the report are:

- to present information on the financial position of the plan on going concern, solvency and hypothetical windup bases; and
- to provide the basis for employer contributions.

Significant Events since Previous Actuarial Valuation (December 31, 2019)

There have been no changes to the plan provisions or the legislative and actuarial standards having an impact on the valuation results.

Changes to the going concern basis, if any, are described in Appendix C. Changes to the solvency and hypothetical windup bases are described in Appendix D.

On March 11, 2020, the World Health Organization declared COVID-19 to be a pandemic. Various public health measures have been taken worldwide to contain the spread of COVID-19. Long-term effects of COVID-19 on financial markets, regulations, and experience are uncertain and still evolving. Per discussions with The Corporation of the City of Hamilton, the assumptions used in this report make no specific allowances for the future effects of COVID-19. There may be effects on the financial position of the plan that will be reflected in future actuarial valuations.

Subsequent Events

We completed this actuarial valuation on September 22, 2022.

Since the valuation date, there has been market instability, characterized by rising interest rates and volatile equity markets. On February 24, 2022, Russia initiated military action against Ukraine, and in response, multiple jurisdictions have imposed economic sanctions on Russia, and a number of large companies have voluntarily curtailed their business activities in Russia. The war in Ukraine and related events are likely to intensify the effects of current market conditions. The assumptions used in this report make no specific allowances for future effects of these events. The effects on the financial position of the plan will be reflected in future actuarial valuations.

The Corporation of the City of Hamilton
Hamilton Municipal Retirement Fund
Actuarial Valuation as at December 31, 2021

4

To the best of our knowledge and on the basis of our discussions with The Corporation of the City of Hamilton, no other events which would have a material financial effect on the actuarial valuation occurred between the actuarial valuation date and the date this actuarial valuation was completed.

Next Valuation

The next actuarial valuation of the plan must be performed with an effective date not later than December 31, 2024.

Section 1: Going Concern Financial Position

1.1 Statement of Financial Position

	December 31, 2021			December 31, 2019
	Fire	Others	Total	Total
Going Concern Value of Assets	\$ 68,996,013	\$ 4,725,552	\$ 73,721,565	\$ 71,445,290
Actuarial Liability				
Active members	\$ 0	\$ 0	\$ 0	\$ 0
Retired members	30,431,280	551,095	30,982,375	38,471,763
Beneficiaries	15,509,263	1,743,648	17,252,911	18,337,071
Terminated vested members	0	131,969	131,969	129,484
Provision for future pension increases	6,455,228	312,533	6,767,761	8,273,523
Total actuarial liability	\$ 52,395,771	\$ 2,739,245	\$ 55,135,016	\$ 65,211,841
Actuarial Surplus (Unfunded Actuarial Liability)	\$ 16,600,242	\$ 1,986,307	\$ 18,586,549	\$ 6,233,449
Funded Ratio			133.7%	109.6%
Provision for Adverse Deviation (PfAD)	\$ 2,986,135	\$ 157,736	\$ 3,143,871	\$ 3,700,990
Actuarial Surplus (Unfunded Actuarial Liability) After PfAD	\$ 13,614,107	\$ 1,828,571	\$ 15,442,678	\$ 2,532,459
Excess Actuarial Surplus ¹			\$ 872,956	\$ 0

Note:

¹ Considered to be nil if there is a hypothetical windup or solvency deficit.

Comments:

- The plan provides for indexation (escalated adjustments, as defined in the Pension Legislation). The actuarial liability as at December 31, 2021 shown above includes \$6,767,761 in respect of indexation. The actuarial liability in respect of indexation has not been included in determining the PfAD.
- The split of assets between "Fire" and "Others" groups is provided by The Corporation of the City of Hamilton, based on the pension payroll in effect at the valuation date.

The Corporation of the City of Hamilton
Hamilton Municipal Retirement Fund
Actuarial Valuation as at December 31, 2021

6

1.2 Reconciliation of Financial Position and Provision for Adverse Deviations

1.2.1 Reconciliation of Financial Position

Actuarial surplus (unfunded actuarial liability) as at December 31, 2019	\$	6,233,449	
Net special payments			0
Expected interest on:			
■ Actuarial surplus (unfunded actuarial liability)	\$	418,196	
■ Amortization payments and PfAD contributions		<u>0</u>	418,196
Plan experience:			
■ Investment gains (losses)	\$	9,258,592	
■ Mortality gains (losses)		3,672,577	
■ Pension increases less than 2% per annum assumed		158,779	
■ Miscellaneous		<u>6,202</u>	13,096,150
Change in Actuarial Basis			
■ Economic assumptions			<u>(1,161,246)</u>
Actuarial surplus (unfunded actuarial liability) as at December 31, 2021	\$		18,586,549

The Corporation of the City of Hamilton
Hamilton Municipal Retirement Fund
Actuarial Valuation as at December 31, 2021

7

1.2.2 Reconciliation of Provision for Adverse Deviations

Provision for adverse deviations as at December 31, 2019	\$	3,700,990
Change in provision for adverse deviations:		
■ Increase (decrease) due to change in PfAD level	\$	0
■ Increase (decrease) due to change in actuarial liability	<u>(557,119)</u>	(557,119)
Provision for adverse deviations as at December 31, 2021	\$	3,143,871

The Corporation of the City of Hamilton
 Hamilton Municipal Retirement Fund
 Actuarial Valuation as at December 31, 2021

1.3 Contributions (Ensuing Year)

	December 31, 2021	December 31, 2019
Employer Normal Actuarial Cost		
Normal actuarial cost in respect of benefit accruals	\$ 0	\$ 0
Provision for adverse deviations (PfAD)	0	0
Estimated member contributions	(0)	(0)
Employer normal actuarial cost	\$ 0	\$ 0

Section 2: Solvency and Hypothetical Windup Financial Position

2.1 Statement of Solvency and Hypothetical Windup Financial Position

	December 31, 2021			December 31, 2019
	Fire	Others	Total	Total
Solvency Value of Assets				
Market value of assets	\$ 68,996,013	\$ 4,725,552	\$ 73,721,565	\$ 71,445,290
Provision for plan windup expenses	(140,385)	(9,615)	(150,000)	(150,000)
Total solvency value of assets	\$ 68,855,628	\$ 4,715,937	\$ 73,571,565	\$ 71,295,290
Solvency Liability				
Active members	\$ 0	\$ 0	\$ 0	\$ 0
Retired members	30,643,392	532,080	31,175,472	38,941,792
Beneficiaries	15,866,459	1,786,577	17,653,036	18,788,666
Terminated vested members	0	131,969	131,969	129,484
Total actuarial liability	\$ 46,509,851	\$ 2,450,626	\$ 48,960,477	\$ 57,859,942
Solvency Surplus (Unfunded Solvency Liability)	\$ 22,345,777	\$ 2,265,311	\$ 24,611,088	\$ 13,435,348
Solvency ratio			150.6%	123.5%
Value of excluded benefits	\$ 11,174,746	\$ 555,298	\$ 11,730,044	\$ 14,959,982
Total hypothetical windup liability	\$ 57,684,597	\$ 3,005,924	\$ 60,690,521	\$ 72,819,924
Hypothetical Windup Surplus (Unfunded Hypothetical Windup Liability)	\$ 11,171,031	\$ 1,710,013	\$ 12,881,044	\$ (1,524,634)
Lesser of estimated employer contributions for the period until the next actuarial valuation and the prior year credit balance			\$ 0	\$ 0
Transfer ratio			121.5%	98.1%

Comments:

- As a result of Ontario Regulation 73/95, coverage under the Pension Benefit Guarantee Fund (PBGF) is exempted and PGBF assessment is not required.
- The solvency actuarial valuation results presented in this report are determined under a scenario where, following a plan windup, the employer continues its operations.
- The split of assets between "Fire" and "Others" groups is provided by the Corporation of the City of Hamilton, based on the pension payroll in effect at the valuation date.
- The hypothetical windup valuation results presented in this report are determined under the same scenario used for the solvency valuation.
- As the transfer ratio is not less than 100%, payments of the commuted value of pension entitlements for terminated members can be paid in full. Pursuant to Regulations 19(4) or 19(5) to the Pension Legislation, approval of the Financial Services Regulatory Authority of Ontario Chief Executive Officer will be required to make commuted value transfers if there has been a significant decline in the transfer ratio after the actuarial valuation date.

2.2 Determination of the Statutory Solvency Excess (Deficiency)

In calculating the statutory solvency excess (deficiency), various adjustments may be made to the solvency financial position.

	December 31, 2021	December 31, 2019
Solvency surplus (unfunded solvency liability)	\$ 24,611,088	\$ 13,435,348
Adjustments to solvency position:		
■ Present value of existing amortization payments	\$ 0	\$ 0
■ Smoothing of asset value	0	0
■ Averaging of liability discount rate	0	0
■ Prior year credit balance	0	0
■ Total	<u>\$ 0</u>	<u>\$ 0</u>
Pre-adjustment solvency excess (solvency deficiency)	\$ 24,611,088	\$ 13,435,348
■ Adjustment to reflect reduced solvency deficiency ¹	<u>7,344,072</u>	<u>8,678,991</u>
Solvency excess (reduced solvency deficiency)	\$ 31,955,160	\$ 22,114,339

Note:

¹ The adjustment to reflect reduced solvency deficiency is included to take into account the funding target of 85% on a solvency basis. The adjustment is equal to 15% of the solvency liability

Section 3: Contributions

3.1 Estimated Minimum Employer Contribution (Ensuing Years)

The estimated minimum employer contributions for the next three years are as follows:

Year	2022	2023	2024
Normal actuarial cost (excluding the PfAD)	\$ 0	\$ 0	\$ 0
PfAD	0	0	0
Estimated member contributions	(0)	(0)	(0)
Employer normal actuarial cost	\$ 0	\$ 0	\$ 0
Amortization payments			
■ Going concern	0	0	0
■ Solvency	0	0	0
■ Sub-total	\$ 0	\$ 0	\$ 0
Application of prior year credit balance	(0)	(0)	(0)
Application of available actuarial surplus ¹	(0)	(0)	(0)
Estimated minimum employer contribution	\$ 0	\$ 0	\$ 0

Notes:

¹ The available actuarial surplus is the lesser of the going concern actuarial surplus after PfAD and the amount that, if it were deducted from the solvency assets of the plan, would reduce the transfer ratio to 105%.

3.2 Estimated Maximum Employer Contribution (Ensuing Year)

	December 31, 2021	
Employer normal actuarial cost	\$	0
Greater of the unfunded actuarial liability and the unfunded hypothetical windup liability		0
Estimated maximum employer contribution	\$	0

Comment:

- In general terms, the employer may contribute its total normal actuarial cost plus the largest of the going concern and hypothetical windup deficits and accrued interest. This amount shall be reduced by any excess actuarial surplus and any contributions made since the valuation date. The provincial Pension Legislation may require that certain minimum contributions be nevertheless remitted.

3.3 Timing of Contributions

Employer normal cost and member contributions: monthly and within 30 days of the month to which they pertain.

Amortization payments: monthly before the end of the month to which they pertain (or replaced by an equivalent letter of credit), if applicable.

Adjustment to contributions made since the valuation date: within 60 days from the date that this report is filed with the Pension Authorities.

Onetime special improvement contribution: upon filing of this report plus interest accrued since the valuation date.

Contributions that are remitted to the plan in the taxation year or within 120 days after the end of such taxation year are deductible in such taxation year provided they were made to fund benefits in respect of periods preceding the end of the taxation year.

Section 4: Actuarial Opinions

In our opinion, for the purposes of the going concern, solvency and hypothetical windup valuations:

- the membership data on which the actuarial valuations are based are sufficient and reliable,
- the assumptions are appropriate based on the confirmation that the plan administrator is taking corrective measures to ensure the asset mix will be in compliance with the asset allocation range identified in the investment policy, and
- the methods employed in the actuarial valuations are appropriate.

This report has been prepared, and our opinions have been given, in accordance with accepted actuarial practice in Canada. The actuarial valuations have been conducted in accordance with our understanding of the funding and solvency standards prescribed by the Pension Legislation.

Towers Watson Canada Inc.



Bill Liu

Fellow of the Canadian Institute of Actuaries



Philip A. Morse

Fellow of the Canadian Institute of Actuaries

Toronto, Ontario
September 22, 2022

Appendix A: Significant Terms of Engagement and Certificate of the Plan Administrator

A.1 Significant Terms of Engagement

For purposes of preparing this actuarial valuation report, the plan administrator has directed that:

- The actuarial valuation is to be prepared as at December 31, 2021.
- No margins for adverse deviations are to be used.
- For the purpose of determining the going concern discount rate, the investment policy dated December 15, 2021, which is the most up-to-date version, should be considered. The current investment policy does not provide for any changes to the target asset class distribution in the future.
- For purposes of determining the provision for adverse deviations level as at December 31, 2021, the target asset allocation should be that contained in the investment policy statement in effect at December 15, 2021.
- For purposes of determining the provision for adverse deviations level, the plan is to be considered closed to new entrants.
- The going concern value of assets is to be determined using the market value of assets described in the Asset Valuation Method section in Appendix C.
- The going concern valuation should use the projected unit credit cost method.
- For purposes of determining the solvency liabilities of the plan, certain benefits are to be excluded without requiring an election from the employer.
- The solvency and hypothetical windup valuation results are to be determined under a scenario where the employer continues to operate and certain expenses are paid from the pension fund (consistent with past practice) while the employer pays other plan expenses.
- This report is to be prepared on the basis that the employer is entitled to apply the available actuarial surplus, if any, to meet its contribution requirements under the plan.

Should these directions from the plan administrator be amended or withdrawn, WTW reserves the right to amend or withdraw this report.

A.2 Certificate of the Plan Administrator

I hereby certify that to the best of my knowledge and belief:

- the significant terms of engagement contained in Appendix A of this report are accurate and reflect the plan administrator's judgement of the plan provisions and/or an appropriate basis for the actuarial valuation of the plan;
- the information on plan assets, including the information on the investment policy and intended changes to the asset mix distribution after the valuation date, if any, forwarded to Towers Watson Canada Inc. and summarized in Appendix B of this report is complete and accurate;
- as December 31, 2021, the Plan was not in compliance with the asset allocation range identified in the investment policy and the plan administrator is making corrective measures to fix the problem;
- the data forwarded to Towers Watson Canada Inc. and summarized in Appendix E of this report are a complete and accurate description of all persons who are members of the plan, including beneficiaries who are in receipt of a retirement income, in respect of service up to the date of the actuarial valuation;
- the summary of plan provisions contained in Appendix F of this report is accurate;
- for purposes of determining the provision for adverse deviations level, the fixed income allocation for each asset class shown in Appendix G is appropriate; and
- except as noted in the introduction of the report, there have been no events which occurred between the actuarial valuation date and the date this actuarial valuation was completed that may have a material financial effect on the actuarial valuation.

Shelley Hesmer

Signature

September 30, 2022

Date

Shelley Hesmer

Name

Acting Director - Financial Services, Taxation
and Corporate Controller

Title

Appendix B: Assets

B.1 Statement of Market Value

	December 31, 2021	December 31, 2019
Invested assets:		
■ Canadian equities	\$ 20,127,246	\$ 22,910,445
■ Foreign equities	12,087,624	13,466,602
■ Fixed income	40,771,470	34,102,866
■ Cash and short-term investments	727,310	946,932
■ Total invested assets	\$ 73,713,650	\$ 71,426,845
Net outstanding amounts:		
■ Investment income receivable	\$ 79,589	\$ 66,040
■ Expenses and other payables	(71,674)	(47,595)
■ Total net outstanding amounts	\$ 7,915	\$ 18,445
Total assets	\$ 73,721,565	\$ 71,445,290

Comments:

- The data relating to the invested assets and net outstanding amounts are based on the audited financial statements issued by KPMG.

B.2 Asset Class Distribution

The following table shows the target asset allocation stipulated by the plan's investment policy in respect of major asset classes and the actual asset allocation as at December 31, 2021.

	Target asset allocation	Actual asset allocation as at December 31, 2021
Canadian equities	8.0%	27.3%
Foreign equities	7.0%	16.4%
Fixed Income	85.0%	55.3%
Cash and short-term investments	0.0%	1.0%
Total	100.0%	100.0%

Comments:

- The Plan is invested in a master trust with two other City of Hamilton pension plans with a common Statement of Investment Policies and Procedures (SIPP). For purposes of determining the target asset mix for this valuation (and for the determination of the Provision for Adverse Deviation), the SIPP has been applied solely based on the funded status of the Plan.
- As at December 31, 2021, the Plan was not in compliance with the asset allocation range identified in the investment policy and the plan administrator is making corrective measures to fix the problem.

B.3 Reconciliation of Total Assets (Market Value)

Assets as at December 31, 2019	\$	71,426,845
Receipts:		
■ Contributions:		
- Employer normal actuarial cost	\$	0
- Employer amortization payments		0
- Provision for non-investment expenses		0
		\$ 0
■ Investment return		14,198,653
■ Total receipts	\$	14,198,653
Disbursements:		
■ Benefit payments:		
- Pension payments	\$	(11,391,183)
- Lump sum settlements		0
- Other benefit payments		0
		\$ (11,391,183)
■ Expenses		(520,665)
■ Total disbursements	\$	(11,911,848)
Assets as at December 31, 2021	\$	73,713,650

Comments:

- The data relating to the invested assets and net outstanding amounts are based on the audited financial statements issued by KPMG.
- The rate of return earned on the market value of assets, net of all expenses, from December 31, 2019 to December 31, 2021 is approximately 9.9% per annum.

Appendix C: Actuarial Basis – Going Concern Valuation

C.1 Methods

Asset Valuation Method

The going concern value of assets was calculated as the market value of invested assets at the actuarial valuation date, adjusted for net outstanding amounts.

Actuarial Cost Method

The actuarial liability was calculated using the unit credit cost method.

The terminated vested members are unlocated and are at advanced ages. The actuarial liability has been estimated as the members' contributions with interest at the valuation date.

C.2 Actuarial Assumptions

	December 31, 2021	December 31, 2019
Economic Assumptions (per annum)		
Liability discount rate	3.00%	3.30%
Rate of inflation	2.00%	2.00%
Post-retirement pension increases	2.00%	2.00%
Demographic Assumptions		
Mortality	2014 Public Sector Canadian Pensioners' Mortality Table (CPM2014Pub), projected generationally using MI-2017	2014 Public Sector Canadian Pensioners' Mortality Table (CPM2014Pub), projected generationally using MI-2017
Other		
Years male spouse older than female spouse	3	3
Provision for non-investment expenses	None; return on plan assets is net of all expenses	None; return on plan assets is net of all expenses

C.3 Rationale for Actuarial Assumptions

The rationale for the material actuarial assumptions used in the going concern valuation is summarized below.

The going concern assumptions do not include margins for adverse deviations as a separate provision for adverse deviations has been applied to the actuarial liability and normal actuarial cost.

Liability discount rate

Actuarial valuation economic assumptions used for establishing the liability discount rate have been developed based on WTW's capital market model which simulates economic variables and asset class returns. For purposes of calculating the expected long-term returns for each asset class, it has been assumed that key economic variables (such as price inflation and bond yields) transition over time from initial conditions to long-term normative assumptions. Long-term normative assumptions are established based on a blend of historical capital market data and future expectations and do not change frequently. In current capital market conditions, the normative assumptions reflect the expectation that bond yields will increase in the long-term.

<ul style="list-style-type: none"> ■ Best estimate long-term nominal rate of return before adjustments based on the plan target asset allocation (actual and including anticipated changes) ■ Adjustment for investment expenses paid by the plan (excluding active management fees) ■ Adjustment for non-investment expenses paid by the plan ■ Rounding effect ■ Net discount rate 	<p>3.22%</p> <p>(0.05)</p> <p>(0.20)</p> <p>0.03</p> <hr style="width: 100%;"/> <p>3.00%</p>
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Rate of inflation

Estimate of future rates of inflation considering economic and financial market conditions at the valuation date.

Post-retirement pension increases

The assumption has been determined by applying the post-retirement increase provision specified in the plan to the inflation assumption.

Mortality

Base mortality rates from the CPM2014Public table are considered reasonable for the actuarial valuation of the plan because the plan membership consists mainly of employees formerly employed in the public

sector, and there is no reason to expect the mortality experience of the plan to differ significantly from that of other public sector pension plans.

Applying improvement MI-2017 generationally provides allowance for improvements in mortality after 2014 and is considered reasonable for projecting mortality experience into the future.

Years male spouse older than female spouse

When provided, the actual data on the spouse were used for retired members. For other members, the assumption is based on surveys of the age difference in the general population and an assessment of future expectations for members of the plan.

Provision for non-investment expenses

The liability discount rate is net of all expenses (with the exception of any fees associated with employing an active investment management strategy). The assumed level of expenses reflected in the liability discount rate is based on recent experience of the plan and an assessment of future expectations.

Appendix D: Actuarial Basis – Solvency and Hypothetical Windup Valuations

D.1 Methods

Asset Valuation Method

The market value of invested assets, adjusted for net outstanding amounts, has been used for the solvency and hypothetical windup valuations. The resulting value has been reduced by a provision for plan windup expenses.

Liability Calculation Method

The solvency and hypothetical windup liabilities for members were calculated using the unit credit cost method.

The terminated vested members are unlocated and are at advanced ages. The actuarial liability has been estimated as the members' contributions with interest at the valuation date.

Other Considerations

The solvency and hypothetical windup valuations have been prepared on a hypothetical basis. In the event of an actual plan windup, the plan assets may have to be allocated between various classes of plan members or beneficiaries as required by applicable Pension Legislation. Such potential allocation has not been performed as part of these solvency and hypothetical windup valuations.

D.2 Solvency Incremental Cost Actuarial Method

To calculate the Solvency Incremental Cost ("SIC"), we used the same method as for the solvency valuation.

No new entrants have been considered on the basis that the plan is closed to new entrants and there are no current active members in the plan. The benefits were projected using the going concern valuation assumptions and the plan provisions.

We assumed that the same settlement method would apply at the end of the projection period as at the valuation date for each plan member.

The liability discount rates are assumed to remain at their current level over the projection period.

D.3 Actuarial Assumptions

	December 31, 2021	December 31, 2019
Economic Assumptions (per annum)		
Liability discount rate		
■ Annuity purchase (solvency)	2.50%	2.80%
■ Annuity purchase (windup)	(0.50)%	(0.30)%
Demographic Assumptions		
Mortality		
	CPM2014 Canadian Pensioners' Mortality Table, projected generationally using Scale CPM-B	CPM2014 Canadian Pensioners' Mortality Table, projected generationally using Scale CPM-B
Other		
Years male spouse older than female spouse	3	3
Provision for expenses		
■ Solvency	\$150,000	\$150,000
■ Hypothetical windup	\$150,000	\$150,000

D.4 Rationale for Actuarial Assumptions

The rationale for the material actuarial assumptions used in the solvency and hypothetical windup valuations is summarized below.

The actuarial assumptions used in the solvency and hypothetical windup valuations do not include margins for adverse deviations.

Liability discount rate

Portion of the solvency and hypothetical windup liabilities expected to be settled by a group annuity purchase

Based on the CIA annuity purchase guidance applicable at the valuation date which corresponds to an approximation of the annuity purchase rate. The duration of the liabilities assumed to be settled through the purchase of non-indexed annuities is 6.5. As this duration is below the range of durations covered in the guidance, we have extrapolated downwards the spreads from the medium and low durations to determine the approximate annuity purchase rate.

Portion of the solvency and hypothetical windup liabilities expected to be settled by commuted value transfer

Not applicable.

Mortality

For the benefits that are expected to be settled by a group annuity purchase

Based on CIA annuity purchase guidance.

For benefits that are expected to be settled by commuted value transfer

Not applicable.

Years male spouse older than female spouse

See rationale for going concern assumptions in Appendix C.

Provision for expenses

Allowance was made for normal administrative, actuarial, legal and other costs which would be incurred if the plan were to be wound up (excluding costs relating to the resolution of surplus or deficit issues). The actuarial valuation is premised on a scenario in which the employer continues to operate after the windup date. In establishing the allowance for plan windup costs, certain administrative costs were assumed to be paid from the pension fund (consistent with past practice) while other costs were assumed to be borne directly by the employer.

Appendix E: Membership Data

Active and Disabled Members

There are no remaining active members.

Retired Members

	Fire December 31, 2021		Others December 31, 2021	
■ Number	75		5	
■ Average age	84.1		92.9	
■ Average Annual Lifetime Pension	\$	43,954	\$	29,087

Comment:

The lifetime pension as at December 31, 2021 includes the January 1, 2022 pension increase of 2.74%.

Age Group	Fire		Others	
	December 31, 2021		December 31, 2021	
	Number	Monthly Pension	Number	Monthly Pension
<75	0	\$ 0	0	\$ 0
75-79	14	56,029	0	0
80-84	24	88,743	0	0
85-90	31	108,905	0	0
90+	6	21,038	5	12,119
TOTAL	75	\$ 274,715	5	\$ 12,119

Beneficiaries

	Fire		Others
	December 31, 2021		December 31, 2021
■ Number	58		10
■ Average age	81.8		86.7
■ Average Annual Lifetime Pension	\$ 29,559		\$ 19,754

Age Group	Fire		Others	
	December 31, 2021		December 31, 2021	
	Number	Monthly Pension	Number	Monthly Pension
60-64	1	*	0	0
65-69	2	*	0	0
70-74	4	11,719	0	0
75-79	11	27,630	1	*
80-84	24	56,363	2	*
85-90	8	18,415	3	817
90+	8	21,879	4	5,681
TOTAL	58	\$ 142,866	10	\$ 16,462

* Suppressed to preserve confidentiality.

Comment:

The lifetime pension as at December 31, 2021 includes the January 1, 2022 pension increase of 2.74%.

Terminated Vested Members

	December 31, 2021		December 31, 2019	
■ Number		3		3
■ Average age		100.2		98.2
■ Average Annual Pension	\$	1,339	\$	1,291
■ Average Accumulated Employee Contributions	\$	43,990	\$	43,162

Comment:

The lifetime pension as at December 31, 2021 includes the January 1, 2022 pension increase of 2.74%.

Review of Membership Data

The membership data were supplied by The Corporation of the City of Hamilton as at December 31, 2021.

Elements of the data review included the following:

- ensuring that the data were intelligible (i.e., that an appropriate number of records was obtained, that the appropriate data fields were provided and that the data fields contained valid information);
- preparation and review of membership reconciliations to ascertain whether the complete membership of the plan appeared to be accounted for;
- review of consistency of individual data items and statistical summaries between the current actuarial valuation and the previous actuarial valuation;
- review of reasonableness of individual data items, statistical summaries and changes in such information since the previous actuarial valuation date; and
- comparison of the membership data and the plan's financial statements for consistency.

However, the tests conducted as part of the membership data review may not have captured certain deficiencies in the data. We have also relied on the certification of the plan administrator as to the quality of the data.

The Corporation of the City of Hamilton
 Hamilton Municipal Retirement Fund
 Actuarial Valuation as at December 31, 2021

Appendix E

34

Membership Reconciliation

	Active	Terminated vested	Retired	Beneficiaries	Total
As at December 31, 2019	0	3	96	78	177
■ Deceased (without beneficiary)			(11)		(11)
■ Deceased (with beneficiary)			(5)	5	0
■ Deceased survivors				(15)	(15)
■ Data correction					
■ Net change	0	0	(16)	(10)	(26)
As at December 31, 2021	0	3	80	68	151



Appendix F: Summary of Plan Provisions

The following is an outline of the principal features of the plan which are of financial significance to valuing the plan benefits. This summary is based on the plan document as at December 31, 2021, as provided by The Corporation of the City of Hamilton and does not make any provisions for the possibility that a change or action (retroactive or otherwise) could be imposed by order of a regulatory body or a court. As the plan consists entirely of pensioners and deferred vested members, plan provisions relating to active members have not been included. It is not a complete description of the plan terms and should not be relied upon for administration or interpretation of benefits. For detailed description of the benefits, please refer to the plan document.

Normal Retirement Age

Age 60 for Fire employees other than Fire Chief, age 65 for all others.

Amounts of Annual Pension

Normal and Disability Retirement: 2% of average annual earnings in best 5 years before retirement for each year of credited service up to 35 years reduced by 0.675% of the 5-year average earnings up to the average YMPE over the last five years for each year of contributory service after January 1, 1966. Reduction suspended from date of retirement to age 65 for CPP benefit.

Death Benefit

After retirement: Based on election made within range of allowable options.

Withdrawal Benefit

Deferred pensions commence at the normal retirement age.

Inflation Protection

Pension benefits, pensions and deferred pensions shall be indexed beginning on January 1, 2006, by an inflation related adjustment formula equal to the inflation related adjustment formula used to increase pension benefits, pensions and deferred pensions under the Ontario Municipal Employees Retirement Systems Act, 2006, as amended from time to time, subject to the Income Tax Act.

Appendix G: Sensitivity Analysis and Other Disclosures

G.1 Sensitivity Information

Amounts determined with a discount rate 1% lower:

Going concern actuarial liability (prior to application of PfAD)	\$	59,344,521
■ As percent increase		7.63%
Solvency actuarial liability	\$	52,387,276
■ As percent increase		7.00%

G.2 Past-Service Benefit Restriction

The pension benefits provided under the plan are not subject to the limitation imposed under Section 8504(6) of the Regulations to the Income Tax Act (Canada).

G.3 Solvency Incremental Cost

Solvency incremental cost (up to next valuation date)	\$	2,499,893
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G.4 Provision for Adverse Deviations Level

Target Asset Allocation for Fixed Income Assets

The information below as at December 31, 2021 has been used to determine the provision for adverse deviations level. The fixed income investments listed below meet the minimum credit rating prescribed by the Pension Legislation.

	Target asset allocation	Fixed income allocation	Non-fixed income allocation	Fixed income weight
Asset classes				
– Canadian equities	8.0%	0.0%	8.0%	0.0%
– Foreign equities	7.0%	0.0%	7.0%	0.0%
– Fixed income	85.0%	85.0%	0.0%	100.0%
– Cash and accrued income	0.0%	0.0%	0.0%	0.0%
Total	100%	85.0%	15.0%	

Benchmark Discount Rate

Components	Rate
CANSIM V39056	1.68%
Risk premium on non-fixed income assets ¹	0.75%
Risk premium on fixed income assets ²	1.28%
Diversification allowance	<u>0.50%</u>
Benchmark discount rate	4.21%

Notes:

¹ 5.00% of the non-fixed proportion of the assets.

² 1.50% of the fixed proportion of the assets.

Provision for Adverse Deviations Level

Components	Provision for adverse deviations level
Fixed	5.0%
Asset mix based	1.5%
Benchmark discount rate based ¹	<u>0.0%</u>
Provision for adverse deviations level ²	6.5%

Notes:

- ¹ Reflects going concern discount rate less benchmark discount rate (subject to a minimum of zero), multiplied by the going concern liabilities duration (refer to sub-section G.1)
- ² The provision for adverse deviations is applied to the going concern actuarial liability and total normal cost, excluding any portion for future indexation.

G.5 Effects of Plausible Adverse Scenarios

In accordance with CIA Standards of Practice, the risk assessments below have been performed only for the going concern valuation of the plan.

Interest Rate Risk

Yields on the plan's fixed income investments have been assumed to decline immediately by 78 basis points on a weighted average basis, resulting in a reduction in the going concern discount rate of 66 basis points. For this purpose, fixed income investments have been deemed to include only Canadian government and corporate bonds. The market values and expected returns for equities have been assumed to be unaffected by the bond yield changes.

The provision for adverse deviations (PfAD) has been assumed to remain at 6.5%.

The adverse scenario for interest rate risk is based on the capital market assumptions from WTW's capital market model, with a 10th percentile scenario used for each relevant asset class independently.

No allowance has been made for any other effects on the going concern actuarial liability due to the change in bond yields.

Deterioration of Asset Values

Market values of equities have been assumed to decline immediately by 20.60% on a weighted average basis. Market values of Canadian government and corporate bonds, expected future returns for all asset classes, as well as the going concern discount rate, have been assumed to be unaffected by this deterioration of asset values.

No allowance has been made for any other effects of the deterioration of asset values.

The adverse scenario for a deterioration of asset values is based on the capital market assumptions from WTW's capital market model, with a 10th percentile scenario used for each relevant asset class independently.

Longevity Risk

Longevity risk has been assessed by applying a multiplier of 87.5% to the mortality rates disclosed in Appendix C while leaving the assumed mortality improvement rates unchanged.

No allowance has been made for any effects on asset values or any effects on the going concern actuarial liability or total normal cost other than the mortality assumption change.


Effects

The effects of the plausible adverse scenarios above on the funded status of the plan and on the total normal cost is shown in the following table. For this purpose, the going concern actuarial liability and total normal cost reflect application of the PfAD.

Scenario	Baseline	Interest Rate Risk	Deterioration of Asset Values	Longevity Risk
Going concern discount rate	3.00%	2.34%	3.00%	3.00%
Weighted average fixed income yield change	N/A	(0.78)%	N/A	N/A
Fixed income asset value change	N/A	12.21%	N/A	N/A
Non-fixed income asset value deterioration	N/A	N/A	(20.60)%	N/A
Market value of assets	\$ 73,721,565	\$ 78,698,806	\$ 66,933,865	\$ 73,721,565
Going concern actuarial liability (including PfAD)	\$ 58,278,888	\$ 61,176,871	\$ 58,278,888	\$ 61,965,240
Actuarial surplus (unfunded actuarial liability) after PfAD	\$ 15,442,677	\$ 17,521,935	\$ 8,654,977	\$ 11,756,325



INFORMATION REPORT

TO:	Chair and Members HMRF/HWRF Pension Administration Committee
COMMITTEE DATE:	March 30, 2023
SUBJECT/REPORT NO:	Hamilton Wentworth Retirement Fund (HWRF) Valuation at December 31, 2021 (FCS23005) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Barb Howe (905) 546-2424 Ext 5599
SUBMITTED BY:	Shelley Hesmer Acting Director, Financial Services, Taxation and Corporate Controller Corporate Services Department
SIGNATURE:	

COUNCIL DIRECTION

That Appendix "A" to Report FCS23005 "Hamilton Wentworth Retirement Fund (HWRF) Valuation at December 31, 2021", be received.

INFORMATION

The December 31, 2021 valuation attached as Appendix "A" to Report FCS23005, showed continued improvements since the last valuation. The funded status on a going concern basis is a \$6.4 million surplus compared to the previous surplus of \$2.0 million. This surplus is inclusive of the cost of future indexing and a provision for adverse deviation. Despite this \$8.3 million cost, the plan is still in a surplus on a going concern basis.

On a solvency basis, the plan currently has a surplus of \$9.1 million compared to a \$3.8 million surplus at December 31, 2019. On a windup basis the plan has a \$1.1 million deficit compared to the previous \$9.5 million deficit.

Since the solvency ratio is currently 1.21 (1.08 – 2019) there are no solvency concerns and consequently no funding is required.

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

SUBJECT: Hamilton Wentworth Retirement Fund (HWRF) Valuation at December 31, 2021 (FCS23005) (City Wide) - Page 2 of 4

The HWRF plan is a closed plan and is comprised mainly of police personnel and some non-police former City of Hamilton employees hired prior to July 1, 1965. The following chart provides a synopsis of the plan position and membership data as of December 31, 2021, compared to the December 31, 2019 valuation:

	(\$ in millions)	
	2021	2019
Going Concern Basis		
Valuation Assets	\$54.4	\$54.8
Less: Accrued Liabilities	\$44.2	\$48.5
Actuarial Surplus/(Deficit) before PfAD	\$10.2	\$ 6.3
Less: Provision for Adverse Deviation (PfAD)	\$ 3.5	\$ 4.3
Less: Prior Year Credit Balances	\$ 0.3	\$ 0.0
Actuarial Surplus/(Deficit)	\$ 6.4	\$ 2.0
Solvency Basis		
Solvency Assets ¹	\$54.4	\$54.8
Less: Solvency Liabilities	\$45.0	\$50.9
Less: Prior Year Credit Balance	\$ 0.3	\$ 0.0
Solvency Surplus/(Deficit)	\$ 9.1	\$ 3.8
Solvency Ratio	1.21	1.08
Windup Basis		
Market Value of Assets ¹	\$54.4	\$54.8
Less: Windup Liabilities	\$55.5	\$64.2
Windup Surplus/(Deficit)	\$ (1.1)	\$ (9.5)
Transfer Ratio	0.98	0.85
# of members	124	140

¹ Market value of assets reduced by windup expenses of \$70,000

The going concern valuation increased by \$4.4 million and most of the increase is attributed to investment gains. Since the plan is in a surplus on both a going concern and solvency basis and the solvency ratio is greater than 0.85, then there are no funding issues and therefore no special payments are required during the three-year valuation period.

The last valuation filed was as at December 31, 2019, and a new valuation is required no later than every three years and within nine months of the valuation date. However due to the volatility and decline in global markets in early 2022, it was determined that it would be prudent to file an off-cycle valuation at December 31, 2021. This valuation was filed with the legislated authorities by the September 30, 2022 deadline.

SUBJECT: Hamilton Wentworth Retirement Fund (HWRP) Valuation at December 31, 2021 (FCS23005) (City Wide) - Page 3 of 4

Each valuation requires the plan to be valued using three different methods:

- (i) **Going Concern Basis** – this valuation assumes that the plan will continue indefinitely. Consequently, to calculate funding requirements, an actuary selects an interest rate for the pension fund based on an assumed long-term average return. Any funding deficiencies must be eliminated through payments made over a period of 10 years. Under current legislation, post retirement indexation is included in the going concern valuation as well as a provision for adverse deviation.
- (ii) **Solvency Basis** – is intended to calculate the funding required to pay for all benefits if the plan were to wind up on the valuation date. To determine solvency funding requirements, an actuary selects a rate that is an approximation of the annuity purchase rate. On a solvency basis the plan must be at least 85% funded. If the funded status falls below this level, then solvency special payments are required for the unfunded portion below 85%. The unfunded portion can be eliminated through payments made over a period of 5 years. Under current legislation, post retirement indexation can be excluded from the solvency valuation.
- (iii) **Wind-up Basis** – similar to the solvency basis, this valuation assumes that the plan would be wound up at the valuation date, but includes all benefit obligations, such as post-retirement indexing.

This valuation is the second valuation reflecting the new funding rules under Regulation 250/18 which came into effect May 1, 2018.

Key changes to the funding rules include:

Effective Date: The new funding rules apply to actuarial valuation reports dated on or after December 31, 2017.

Solvency Funding: A pension plan is required to be funded at 85% (previously 100%) on a solvency basis. If the funded level is less than 85%, then solvency special payments are required and must be amortized over a five-year period. In addition, these payments must begin one year after the date of the valuation report.

Going Concern Funding: A pension plan must still be funded at 100% on a going concern basis, however now it must include the estimated cost of indexation in the going concern liabilities. In addition, the amortization period has been reduced from 15 years to 10 years with a fresh start each valuation and any special payments required will commence one year after the date of the valuation report. Further, the going concern valuation must include a **Provision for Adverse Deviation (PfAD)**.

SUBJECT: Hamilton Wentworth Retirement Fund (HWRF) Valuation at December 31, 2021 (FCS23005) (City Wide) - Page 4 of 4

Provision for Adverse Deviation (PfAD). Under Reg. 250/18, the PfAD is a formula that is applied to the going concern liabilities. It is the sum of three percentages:

- (a) a fixed percentage depending on whether the plan is a closed plan,
- (b) a percentage depending on the asset mix of the plan, as allocated between fixed and non-fixed income in accordance with the plan's Statement of Investment Policies and Procedures (SIPP).
- (c) a percentage reflecting the excess of the pension plan's going concern discount rate over a benchmark discount rate.

Although the cost of indexation must be included in the going concern liabilities, it may be excluded when determining the value of the PfAD.

Restrictions on Benefit Improvements: Restrictions on plan amendments that would negatively impact the funding of a plan have been introduced. Immediate funding will trigger if the pension plan is not funded at 80% on both a solvency and going concern basis. The additional unfunded liability associated with the benefit improvement must be funded on a going concern basis over 8 years rather than 10 years.

Overall, the HWRF plan is in a healthy financial state and as a result the next valuation is not required until December 31, 2024.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report FCS23005 – HWRF Actuarial Valuation at December 31, 2021.

BH/dw



Actuarial Valuation as at December 31, 2021 for Hamilton-Wentworth Retirement Fund

Canada Revenue Agency Registration Number: 1073352

January 2023

Table of Contents

Executive Summary	3
Section 1: Introduction	6
Section 2: Going Concern Valuation Results	8
Section 3: Solvency Valuation Results	13
Section 4: Hypothetical Wind Up Valuation Results	16
Section 5: Contribution Requirements	18
Section 6: Actuarial Certificate	22
Appendix A: Assets	24
Appendix B: Membership Data	27
Appendix C: Going Concern Assumptions and Methods	31
Appendix D: Solvency and Hypothetical Wind Up Assumptions and Methods	40
Appendix E: Summary of Plan Provisions	46
Appendix F: Glossary of Terms	47
Appendix G: Administrator Certification	51

Executive Summary

An actuarial valuation has been prepared for the Hamilton-Wentworth Retirement Fund (the "Plan") as at December 31, 2021 for the primary purpose of establishing a funding range in accordance with legislative requirements for the Plan until the next actuarial valuation is performed. This section provides an overview of the important results and the key valuation assumptions which have had a bearing on these results. The next actuarial valuation for the purposes of developing funding requirements should be performed no later than as at December 31, 2024.

Summary of Principal Results

Financial Position

	December 31, 2021	December 31, 2019
Going Concern		
Assets	\$ 54,459,000	\$ 54,821,000
Liabilities	<u>44,217,000</u>	<u>48,526,000</u>
Financial position	\$ 10,242,000	\$ 6,295,000
Adjustments ²	<u>(3,879,000)</u>	<u>(4,304,000)</u>
Surplus/(Unfunded Liability)	\$ 6,363,000	\$ 1,991,000
Solvency		
Assets ¹	\$ 54,389,000	\$ 54,751,000
Liabilities	<u>44,957,000</u>	<u>50,907,000</u>
Financial position	\$ 9,432,000	\$ 3,844,000
Adjustments ²	<u>(369,000)</u>	<u>-</u>
Surplus/(Unfunded Liability)	\$ 9,063,000	\$ 3,844,000
Hypothetical Wind Up		
Assets ¹	\$ 54,389,000	\$ 54,751,000
Liabilities	<u>55,457,000</u>	<u>64,241,000</u>
Surplus/(Unfunded Liability)	\$ (1,068,000)	\$ (9,490,000)

¹ Net of estimated wind up expenses

² Adjustments include Provision for Adverse Deviation , prior year credit balance, and all solvency liability and solvency asset adjustments, where applicable

Legislative Ratios

	December 31, 2021	December 31, 2019
Funded ratio	1.23	1.13
Solvency ratio	1.21	1.08
Transfer ratio	0.98	0.85

Minimum Contribution Requirements

Considering the funding and solvency status of the Plan, the minimum Company contributions for the period from December 31, 2021 to December 31, 2024 in accordance with legislative requirements, are as follows:

	January 1, 2022 to December 31, 2022	January 1, 2023 to December 31, 2023	January 1, 2024 to December 31, 2024
Company normal cost	\$ -	\$ -	\$ -
Special payments toward amortizing unfunded liability	-	-	-
Adjustments	-	-	-
Minimum Required Company Contribution	\$ -	\$ -	\$ -

Required City contributions are zero for the next 3 years. There are no active, accruing members in the Plan.

Key Assumptions

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

Going Concern	December 31, 2021	December 31, 2019
Discount rate	3.70% per year	4.40% per year
Provision for adverse deviation	8.90%	9.80%
Inflation rate	2.00% per year	2.00% per year
Indexing Rate	2.00% per year	2.00% per year
Mortality table	115% of 2014 Canadian Pensioner Mortality with generational improvements using CPM Scale B	115% of 2014 Canadian Pensioner Mortality with generational improvements using CPM Scale B
Retirement rates	Not Applicable	Not Applicable
Solvency/ Hypothetical Wind Up	December 31, 2021	December 31, 2019
Discount rate	Solvency Annuity purchases: 2.46% per year Hypothetical Wind-Up Annuity purchases: -0.54% per year	Solvency Annuity purchases: 2.86% per year Hypothetical Wind-Up Annuity purchases: -0.29% per year
Inflation rate	Not Applicable	Not Applicable
Indexing rate	Not Applicable	Not Applicable
Mortality table	2014 Canadian Pensioner Mortality Table with generational improvements using CPM Scale B	2014 Canadian Pensioner Mortality Table with generational improvements using CPM Scale B
Retirement rates	Not Applicable	Not Applicable

Section 1: Introduction

Purpose and Terms of Engagement

We have been engaged by Corporation of the City of Hamilton, and hereafter referred to as the City, to conduct an actuarial valuation of the Plan, registered in Ontario, as at December 31, 2021 for the general purpose of determining the minimum and maximum funding contributions required by pension standards, based on the actuarial assumptions and methods summarized herein. Specifically, the purposes of the valuation are to:

- Determine the financial position of the Plan on a going concern basis as at December 31, 2021;
- Determine the financial position of the Plan as at December 31, 2021 on a solvency and hypothetical wind up basis;
- Determine the funding requirements of the Plan as at December 31, 2021 with consideration of the 2016 multi-jurisdictional agreement and Ontario Regulation 250/18 in effect on May 1, 2018; and
- Provide the necessary actuarial certification required under the *Pension Benefits Act (Ontario)* (the "Act") and the *Income Tax Act*.

The results of this report may not be appropriate for accounting purposes or any other purposes not listed above.

The next required valuation will be as at December 31, 2024.

Summary of Changes Since the Last Valuation

The last such actuarial valuation in respect of the Plan was performed as at December 31, 2019. Since the time of the last valuation, we note that the following events have occurred:

- There were post-retirement pension increases of 0.94% effective January 1, 2021 and 2.74% effective January 1, 2022. These increases have been reflected in the results presented in this valuation report.
- In March 2020, the World Health Organization (WHO) declared a state of global pandemic linked to the 2019 coronavirus disease (COVID-19). So far, the COVID-19 pandemic in Canada has been accompanied by 2 successive waves of disease-related deaths. The net effect on short- and long-term mortality from COVID-19 remains uncertain at this time. Faced with this uncertainty, our view of basic mortality as well as the impact on the future progression of life expectancy remains unchanged for the moment and the mortality assumption has therefore not been revised. The impact of COVID-19 for 2020 is included in the gain and loss analysis of this valuation report; the impact for future years will be recognized in the next valuations as actual deaths will be different from that expected under our assumptions.

Company Information and Inputs

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

- A copy of the previous valuation report as at December 31, 2019;
- A copy of the Statement of Investment Policies and Procedures for the Plan;
- A copy of the funding policy for the City;
- Membership data compiled as at December 31, 2021 by the City;
- Asset data taken from the Plan's audited financial statements; and
- A copy of the latest Plan text and amendments up to and including December 31, 2021.

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

Subsequent Events

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

- Actual experience deviating from expected after December 31, 2021 will result in gains or losses which will be reflected in the next actuarial valuation report.
- To the best of our knowledge, the results contained in this report are based on the regulatory and legal environment in effect at the date of this report and do not take into consideration any potential changes that may be currently under review. To the extent that actual changes in the regulatory and legal environment transpire, any financial impact on the Plan as a result of such changes will be reflected in future valuations.

Section 2: Going Concern Valuation Results

Going Concern Financial Position of the Plan

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

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

On the basis of the Plan provisions, membership data, going concern assumptions and methods, and asset information described in the Appendices, the going concern financial position of the Plan as at December 31, 2021 is shown in the following table. The results as at December 31, 2019 are also shown for comparison purposes.

Going Concern Financial Position

	December 31, 2021	December 31, 2019
Actuarial Value of Assets	\$ 54,459,000	\$ 54,821,000
Going Concern Liabilities		
Pensioners	\$ 31,822,000	\$ 36,272,000
Beneficiaries	<u>12,395,000</u>	<u>12,254,000</u>
Total Liabilities	\$ 44,217,000	\$ 48,526,000
Going Concern Position	\$ 10,242,000	\$ 6,295,000
Additional liabilities due to PfAD	<u>3,510,000</u>	<u>4,304,000</u>
Surplus/(Unfunded Liability) (before prior year credit balance)	\$ 6,732,000	\$ 1,991,000
Prior year credit balance	<u>369,000</u>	<u>-</u>
Surplus/(Unfunded Liability)	\$ 6,363,000	\$ 1,991,000
Funded Ratio	1.23	1.13

The PfAD is not required to be applied to the liabilities in respect of post retirement indexation of \$4,784,000 as at December 31, 2021 and \$4,608,000 as at December 31, 2019.

Going Concern Financial Position Breakdown

	Police	Others	Total
Actuarial Value of Assets¹	\$ 54,296,000	\$ 163,000	\$ 54,459,000
Going Concern Liabilities			
Retirees	\$ 31,776,000	\$ 46,000	\$ 31,822,000
Beneficiaries	12,370,000	25,000	12,395,000
Total Liabilities	\$ 44,146,000	\$ 71,000	\$ 44,217,000
Going Concern Position	\$ 10,150,000	\$ 92,000	\$ 10,242,000

Change in Financial Position

The major components of the change in the Surplus/(Unfunded Liability) for the period from December 31, 2019 to December 31, 2021 are summarized in the following table.

Surplus/(Unfunded Liability) as at December 31, 2019	\$ 1,991,000
Expected interest on Surplus/(Unfunded Liability)	179,000
Company special payments in inter-valuation period with interest	394,000
Surplus/(Unfunded Liability) as at December 31, 2021	\$ 2,564,000
Change in financial position due to experience gains/(losses)	
Gain/(loss) from investment earnings greater/lower than expected	\$ 5,721,000
Gain/(loss) due to mortality experience	(78,000)
Gain/(loss) on programming	(1,057,000) ²
Gain/(loss) on indexation experience	136,000
Gain/(loss) on Provision for Adverse Deviation	1,181,000
Net gain/(loss) due to other experience and miscellaneous items	127,000
Surplus/(Unfunded Liability) After Experience Gains/(Losses) as at December 31, 2021	\$ 8,594,000
Change due to discount rate change	\$ (1,862,000)
Surplus/(Unfunded Liability) as at December 31, 2021	\$ 6,732,000

¹ Split of assets provided by the City in email dated April 4, 2022

² Correction to the timing of indexation

Discussion of Changes in Assumptions

Effective December 31, 2021 the following assumptions have been changed:

- The nominal discount rate has been changed from 4.40% per year to 3.70% per year. This change increased the liabilities by \$1,862,000.
- The provision for adverse deviation has been changed from 9.80% of non-indexed liabilities to 8.90% of non-indexed liabilities. This change decreased the liabilities by \$355,000.

Plan Amendments

There were no Plan amendments during the last three years that had a bearing on the results of this valuation.

Going Concern Valuation Sensitivity Results

In accordance with the CIA Standards of Practice specific to pension plans, the table below presents the sensitivity of the going concern liabilities and the total normal cost (prior to the application of the Provision for Adverse Deviation) of using a discount rate 1% lower and 1% higher than that used for the going concern valuation.

December 31, 2021	Effect		
		\$	%
Going concern liabilities	\$ 44,217,000		
Going concern liabilities (discount rate – 1%)	\$ 47,161,000	\$ 2,944,000	6.7%
Going concern liabilities (discount rate + 1%)	\$ 41,601,000	\$ (2,616,000)	-5.9%
Normal cost	N/A		
Normal cost (discount rate – 1%)	N/A		
Normal cost (discount rate + 1%)	N/A		

There is no Normal Cost relating to benefit accruing as there are no active members.

Plausible Adverse Scenarios

In accordance with the Canadian Institute of Actuaries Standards of Practice specific to pension plans, below is summarized scenarios of adverse but plausible assumptions, relative to the best estimate assumptions otherwise selected for the valuation.

Interest Rate Sensitivity

The table below presents the sensitivity of the going concern position of using interest rates 1% higher than the current level. Equity risk premiums are assumed to remain unchanged, so the future return on all asset classes and the going concern discount rate both increase by 1%. In order to calculate the impact on the Actuarial Value of Assets, the increase in interest rates only impacts fixed income assets (assumed to be 56.3% of total assets) and a duration of 16.01 (based on relevant fixed income benchmarks) was considered.

	Base Scenario	Adverse Scenario	Impact (\$)
Actuarial value of assets	\$ 54,459,000	\$ 49,549,000	\$ (4,910,000)
Going concern liabilities	<u>44,217,000</u>	<u>41,601,000</u>	<u>(2,616,000)</u>
Going concern position	\$ 10,242,000	\$ 7,948,000	\$ (2,294,000)
Additional liabilities due to PfAD	<u>3,510,000</u>	<u>3,319,000</u>	<u>(191,000)</u>
Surplus/(Unfunded Liability)	\$ 6,732,000	\$ 4,629,000	\$ (2,103,000)
Total Normal Cost			
January 1, 2022 to December 31, 2022	N/A	N/A	N/A
January 1, 2023 to December 31, 2023	N/A	N/A	N/A
January 1, 2024 to December 31, 2024	N/A	N/A	N/A

Deterioration in Asset Value

In assessing the risk related to the deterioration in asset value we have chosen an adverse scenario equal to a 15% reduction in the non-fixed income asset values and assume no change in future return expectations.

The table below presents the sensitivity of the going concern position of using the assets with a 15% reduction in non-fixed income asset values.

	Base Scenario	Adverse Scenario	Impact (\$)
Actuarial value of assets	\$ 54,459,000	\$ 50,891,000	\$ (3,568,000)
Going concern liabilities	<u>44,217,000</u>	<u>44,217,000</u>	<u>-</u>
Going concern position	\$ 10,242,000	\$ 6,674,000	\$ (3,568,000)
Additional liabilities due to PfAD	<u>3,510,000</u>	<u>3,510,000</u>	<u>-</u>
Surplus/(Unfunded Liability)	\$ 6,732,000	\$ 3,164,000	\$ (3,568,000)
Total Normal Cost			
January 1, 2022 to December 31, 2022	N/A	N/A	N/A
January 1, 2023 to December 31, 2023	N/A	N/A	N/A
January 1, 2024 to December 31, 2024	N/A	N/A	N/A

Mortality Sensitivity

The table below presents the sensitivity of the going concern position of the Plan to using a mortality assumption with a y10% improvement to the base mortality rates. For the purposes of this analysis, we have used 105% of the rates of the base table used in the going concern valuation.

	Base Scenario	Adverse Scenario	Impact (\$)
Actuarial value of assets	\$ 54,459,000	\$ 54,459,000	\$ -
Going concern liabilities	<u>44,217,000</u>	<u>46,199,000</u>	<u>1,982,000</u>
Going concern position	\$ 10,242,000	\$ 8,260,000	\$ (1,982,000)
Additional liabilities due to PfAD	<u>3,510,000</u>	<u>3,652,000</u>	<u>142,000</u>
Surplus/(Unfunded Liability)	\$ 6,732,000	\$ 4,608,000	\$ (2,124,000)
Total Normal Cost			
January 1, 2022 to December 31, 2022	N/A	N/A	N/A
January 1, 2023 to December 31, 2023	N/A	N/A	N/A
January 1, 2024 to December 31, 2024	N/A	N/A	N/A

Section 3: Solvency Valuation Results

Solvency Financial Position of the Plan

The solvency valuation is a financial assessment of the Plan that is required by the *Act* and is performed in accordance with requirements prescribed by that legislation. It is intended to provide an assessment of the Plan's financial position at the valuation date on the premise that certain obligations as prescribed by the *Act* are settled on the valuation date for all members. The liabilities must be calculated based on a postulated scenario that maximizes liabilities on wind up of the Plan. Contingent benefits are included in the liabilities that would be payable under the postulated scenario, unless permitted to be omitted under the definition of solvency liabilities under the Regulations to the *Act*. All assumptions for the solvency valuation are listed in Appendix D.

On the basis of the Plan provisions, membership data, solvency assumptions and methods and asset information described in the Appendices, as well as the requirements of the *Act*, the solvency financial position of the Plan as at December 31, 2021 is shown in the following table. The solvency financial position of the Plan as at December 31, 2019 is shown for comparison purposes.

Solvency Financial Position

	December 31, 2021	December 31, 2019
Assets		
Solvency assets	\$ 54,459,000	\$ 54,821,000
Estimated wind up expenses	(70,000)	(70,000)
Total Assets	\$ 54,389,000	\$ 54,751,000
Solvency Liabilities¹		
Pensioners	\$ 32,101,000	\$ 37,754,000
Beneficiaries	12,856,000	13,153,000
Total Liabilities	\$ 44,957,000	\$ 50,907,000
Solvency Position	\$ 9,432,000	\$ 3,844,000
Prior year credit balance	369,000	-
Present value of special payments	-	-
Letters of credit	-	-
Solvency asset smoothing	-	-
Solvency liability adjustment	-	-
Solvency Surplus/(Deficiency)	\$ 9,063,000	\$ 3,844,000
Solvency Ratio²	1.21	1.08

¹ Excludes future post-retirement indexation of benefits

² Solvency Assets divided by Solvency Liabilities

Solvency Financial Position Breakdown

	Police	Others	Total
Solvency assets ¹	\$ 54,296,000	\$ 163,000	\$ 54,459,000
Estimated wind up expenses	<u>(70,000)</u>	<u>-</u>	<u>(70,000)</u>
Total Assets	\$ 54,226,000	\$ 163,000	\$ 54,389,000
Solvency Liabilities			
Retirees	\$ 32,054,000	\$ 47,000	\$ 32,101,000
Beneficiaries	<u>12,828,000</u>	<u>28,000</u>	<u>12,856,000</u>
Total Liabilities	\$ 44,882,000	\$ 75,000	\$ 44,957,000
Surplus/(Unfunded Liability)	\$ 9,344,000	\$ 88,000	\$ 9,432,000

Statutory Solvency Financial Position

The minimum funding requirements under the Regulation are based on the statutory solvency financial position as at the valuation date. In calculating the statutory solvency financial position, various adjustments can be made including solvency funding of a reduced solvency. The reduced solvency deficiency is based upon 0.85 of the solvency liabilities and 0.85 of the solvency liability adjustment.

	December 31, 2021	December 31, 2019
The amount by which the sum of:		
85% of solvency liabilities	\$ 38,213,000	\$ 43,271,000
85% of solvency liability adjustment	-	-
Prior year credit balance	<u>369,000</u>	<u>-</u>
	\$ 38,582,000	\$ 43,271,000
Exceeds the sum of:		
Solvency assets net of wind-up expenses	\$ 54,389,000	\$ 54,751,000
Solvency asset adjustment	<u>-</u>	<u>-</u>
	\$ 54,389,000	\$ 54,751,000
Reduced Solvency Deficiency	\$ -	\$ -

¹ Split of assets provided by the City in email dated April 4, 2022

Solvency Concerns

A report indicates solvency concerns under the *Act* if the ratio of the solvency assets to solvency liabilities is less than 0.85.

Where a report indicates solvency concerns, the effective date of the next valuation that needs to be filed under the *Act* is one year from the valuation date of the valuation that gave rise to the solvency concerns.

Since the ratio of solvency assets to solvency liabilities is equal to 1.21, this report does not indicate solvency concerns.

Solvency Valuation Sensitivity Results

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

December 31, 2021	Effect		
		\$	%
Solvency liabilities	\$ 44,957,000		
Solvency liabilities (discount rate – 1%)	\$ 48,017,000	\$ 3,060,000	6.8%
Solvency liabilities (discount rate + 1%)	\$ 42,243,000	\$ (2,714,000)	-6.0%

Incremental Cost on a Solvency Basis

The incremental cost on a solvency basis represents the present value at December 31, 2021 of the expected aggregate change in the solvency liabilities between December 31, 2021 and the next calculation date, that is December 31, 2024. Appendix D gives more details on the calculation methodology and on assumptions.

Based on this methodology and on these assumptions, the incremental cost on a solvency basis can be found in the following table.

	January 1, 2022 to December 31, 2022	January 1, 2023 to December 31, 2023	January 1, 2024 to December 31, 2024
Incremental cost on a solvency basis	\$ 656,000	\$ 587,000	\$ 521,000

Pension Benefits Guarantee Fund (“PBGF”)

A PBGF assessment is not required under Article 47(1) of Regulation 909 of the *Act*.

Section 4: Hypothetical Wind Up Valuation Results

Hypothetical Wind Up Financial Position of the Plan

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

On the basis of Plan provisions, membership data, hypothetical wind up assumptions and methods, and asset information described in the Appendices, as well as the requirements of the Act, the hypothetical wind up financial position of the Plan as at December 31, 2021 is shown in the following table. The hypothetical wind up financial position of the Plan as at December 31, 2019 is shown for comparison purposes.

Hypothetical Wind Up Financial Position

	December 31, 2021	December 31, 2019
Assets		
Hypothetical wind up assets	\$ 54,459,000	\$ 54,821,000
Estimated wind up expenses	<u>(70,000)</u>	<u>(70,000)</u>
Total Assets	\$ 54,389,000	\$ 54,751,000
Hypothetical Wind Up Liabilities¹		
Pensioners	\$ 40,080,000	\$ 48,392,000
Beneficiaries	<u>15,377,000</u>	<u>15,849,000</u>
Total Liabilities	\$ 55,457,000	\$ 64,241,000
Hypothetical Wind Up Surplus/(Deficiency)	\$ (1,068,000)	\$ (9,490,000)

¹ Includes future post-retirement indexation of benefits

Wind Up Financial Position Breakdown

	Police	Others	Total
Hypothetical wind up assets ¹	\$ 54,296,000	\$ 163,000	\$ 54,459,000
Estimated wind up expenses	<u>(70,000)</u>	<u>-</u>	<u>(70,000)</u>
Total Assets	\$ 54,226,000	\$ 163,000	\$ 54,389,000
Hypothetical Wind Up Liabilities			
Retirees	\$ 40,022,000	\$ 58,000	\$ 40,080,000
Beneficiaries	<u>15,347,000</u>	<u>30,000</u>	<u>15,377,000</u>
Total Liabilities	\$ 55,369,000	\$ 88,000	\$ 55,457,000
Surplus/(Unfunded Liability)	\$ (1,143,000)	\$ 75,000	\$ (1,068,000)

Transfer Ratio

The transfer ratio is determined as follows:

	December 31, 2021	December 31, 2019
(1) Hypothetical wind up assets	\$ 54,459,000	\$ 54,821,000
Prior year credit balance (A)	\$ 369,000	\$ -
Total company normal cost and required special payments until next mandated valuation (B)	\$ -	\$ -
(2) Asset adjustment Lesser of (A) and (B)	\$ -	\$ -
(3) Hypothetical wind up liabilities	\$ 55,457,000	\$ 64,241,000
Transfer Ratio [(1)-(2)] / (3)	0.98	0.85

¹ Split of assets provided by the City in email dated April 4, 2022

Section 5: Contribution Requirements

Contribution Requirements in Respect of the Normal Cost

There are no active members in the Plan, and as such, there are no Normal Cost contributions for the purposed of this valuation.

As there is a going concern and solvency surplus, no special payments are required as of December 31, 2021.

Prior Year Credit Balance (“PYCB”)

The table below reconciles changes in the PYCB from December 31, 2019 to December 31, 2021.

	2020	2021
Prior year credit balance, beginning of plan year	\$ -	\$ 369,000
Actual contributions during plan year	369,000	-
Minimum required company contributions during plan year ¹	-	-
Prior Year Credit Balance, End of Plan Year	\$ 369,000	\$ 369,000

Since the PYCB is greater than zero, the Company may apply the PYCB to reduce the company normal cost or special payments.

Available Actuarial Surplus

As at December 31, 2021 the Available Actuarial Surplus is calculated as follows:

Going Concern Basis

(A) Total assets	\$ 54,459,000
(B) Total liabilities	44,217,000
(C) Additional liabilities due to PfAD	3,510,000
(D) Prior year credit balance	369,000
(E) Available Surplus: Maximum (A – B – C – D); 0	\$ 6,363,000

Hypothetical Wind-Up Basis

(F) Assets in excess of a transfer ratio of 105%	\$ -
(G) Prior year credit balance	369,000
(H) Total required Company contributions until next valuation	-
(I) Available Surplus: Maximum (F – Minimum (G, H)); 0	-
(J) Available Actuarial Surplus: Minimum (E; I)	\$ -

¹ Before application of PYCB

Under Regulations 7.0.3(1), 7.0.3(3) and 7.0.3(4) of the *Pension Benefits Act (Ontario)*, a contribution holiday may be permissible if an actuarial cost certificate is filed within the first 90 days of the fiscal year and the amount of the contribution holiday is less than the amount of the Available Actuarial Surplus.

Excess Surplus

The *Income Tax Act* requires that any excess surplus first be applied to reduce or eliminate the company contribution requirements. Excess surplus is defined in Section 147.2(2)(d) of the *Income Tax Act*, as the portion of surplus (if any) that exceeds 25% of the going concern liabilities.

Since the surplus is less than 25% of the going concern liabilities plus to Provision for Adverse Deviation, there is no excess surplus and therefore it does not impact the development of the company contribution requirements.

Development of Minimum Required Company Contribution

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

	January 1, 2022 to December 31, 2022	January 1, 2023 to December 31, 2023	January 1, 2024 to December 31, 2024
Company normal cost	\$ -	\$ -	\$ -
Special payments toward amortizing unfunded liability	-	-	-
Special payments toward amortizing solvency deficiency	-	-	-
Required application of excess surplus	-	-	-
Permitted application of available actuarial surplus	-	-	-
Minimum Required Company Contribution, Prior to Application of Prior Year Credit Balance	\$ -	\$ -	\$ -
Permitted application of prior year credit balance	-	-	-
Minimum Required Company Contribution	\$ -	\$ -	\$ -

Required City contributions are zero for the next 3 years.

Development of Maximum Deductible Company Contribution

The table below presents the development of the maximum deductible company contribution for each of the plan years covered by this report.

The maximum deductible company contribution presented in the table below for a given plan year is calculated assuming that the City makes the maximum deductible company contribution in the first plan year covered by this report.

	January 1, 2022 to December 31, 2022	January 1, 2023 to December 31, 2023	January 1, 2024 to December 31, 2024
Company normal cost	\$ -	\$ -	\$ -
Greater of the Unfunded liability and the hypothetical wind up deficiency	1,068,000	-	-
Required application of excess surplus	-	-	-
Maximum Deductible Company Contribution	\$ 1,068,000	\$ -	\$ -

If the City wishes to make the maximum deductible company contribution, it is advisable to contact the Plan's actuary before making such contribution to ensure that the contribution will be permissible and deductible and that any regulatory requirements are considered.

Section 6: Actuarial Certificate

Actuarial Opinion, Advice and Certification for the Hamilton-Wentworth Retirement Fund

Canada Revenue Agency Registration Number: 1073352

Opinion

This actuarial certification forms an integral part of the actuarial valuation report for the Plan as at December 31, 2021. I confirm that I have prepared an actuarial valuation of the Plan as at December 31, 2021 for the purposes outlined in the Introduction section to this report and consequently:

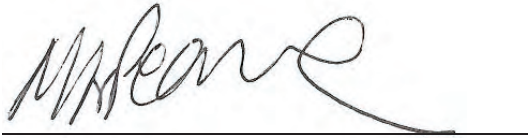
My advice on funding is the following:

- The City should contribute the amounts within the range of minimum and maximum contribution amounts as outlined in Section 5 of this report, in accordance with legislative requirements.
- The next actuarial valuation for the purpose of developing funding requirements should be performed no later than as at December 31, 2024.

I hereby certify that, in my/our opinion:

- The contribution range as outlined in this report is expected to be sufficient to satisfy the Plan's funding requirements.
- The company contribution range outlined in this report qualifies as eligible contributions under Section 147.2(2) of the *Income Tax Act*.
- The pre-1990 maximum pension restrictions in Subsection 8504(6) of the Regulations to the *Income Tax Act* do not apply to any members of the Plan.
- For the purposes of the valuation:
 - The data on which this valuation is based are sufficient and reliable;
 - The assumptions used are appropriate; and
 - The actuarial cost methods and the asset valuation methods used are appropriate.

- This report and its associated work have been prepared, and my opinion given, in accordance with accepted actuarial practice in Canada and in compliance with the requirements outlined in subparagraphs 147.2(2)(a)(iii) and (iv) of the *Income Tax Act*.
- Notwithstanding the above certifications, emerging experience differing from the assumptions will result in gains or losses that will be revealed in subsequent valuations.



Mark Pearson, FCIA, FSA
Associate Partner

Aon
20 Bay Street, Suite 2300
Toronto, ON M5J 2N9

January 2023

Appendix A: Assets

Asset Data

The Plan's assets are combined in a pooled fund under a Master Trust agreement administered by RBC Investor Services Trust and are managed by a number of different investment managers. This type of arrangement governs only the investment of the assets deposited into the trust fund in no way "guarantees" the benefits provided under the Plan or the costs of providing such benefits. The asset information presented in this report is based on the financial statements of the pension fund prepared by KPMG LLP.

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

- A reconciliation of actual cash flow with expected cash flow from the previous actuarial report; and
- A reconciliation of any anticipated benefit payments (for retirees, terminated, or deceased members) against the financial statements of the pension fund for confirmation of payments.

Market Value of Assets

The following is a summary of the composition of the Plan's assets by asset type as reported by RBC Investor Services Trust as at December 31, 2021. For comparison purposes, the composition at the previous valuation date of December 31, 2019 is also shown.

	December 31, 2021		December 31, 2019	
	\$	%	\$	%
Cash and short term	\$ 560,375	1.0%	\$ 775,012	1.4%
Canadian fixed income	30,108,802	55.3%	26,150,980	47.7%
Canadian equities	14,852,033	27.3%	17,568,336	32.1%
Foreign equities	8,937,917	16.4%	10,326,547	18.8%
Total Invested Assets	\$ 54,459,127	100.0%	\$ 54,820,875	100.0%

Target Asset Mix

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

	Target
Short term	0.0%
Fixed income (including Real Return Bonds)	61.0%
Canadian equities	20.0%
Foreign equities	<u>19.0%</u>
	100.0%

Based on the glide path, the ultimate target asset mix is as follows:

	Target
Short term	0.0%
Fixed income (including Real Return Bonds)	85.0%
Canadian equities	8.0%
Foreign equities	<u>7.0%</u>
	100.0%

Reconciliation of Changes in Adjusted Market Value of Assets

The table below reconciles changes in the market value of assets between December 31, 2019 and December 31, 2021.

	January 1, 2020 to December 31, 2020	January 1, 2021 to December 31, 2021
Adjusted Market Value of Assets, Beginning of Plan Year	\$ 54,821,000	\$ 53,690,000
Cash Flows During Plan Year		
City contributions	\$ 369,000	\$ -
Benefit disbursements	(5,615,000)	(5,302,000)
Investment fee/expenses	(83,000)	(136,000)
Non-investment fees/expenses	(116,000)	(93,000)
Total	\$ (5,445,000)	\$ (5,531,000)
Investment Income	\$ 4,314,000	\$ 6,300,000
Adjusted Market Value of Assets, End of Plan Year	\$ 53,690,000	\$ 54,459,000
Rate of Return, Net of Fees/Expenses	7.9%	11.9%

Development of Actuarial Value of Assets

The actuarial value of assets is equal to the adjusted market value of assets.

Appendix B: Membership Data

Source of Data

This valuation was based on member data provided by the Company as of December 31, 2021. Tests of the sufficiency and reliability of the member data were performed and the results were satisfactory. The tests included:

- A reconciliation of membership status against the membership status at the last valuation. This test was performed to ensure that all members were accounted for. A summary of this reconciliation follows on the next page;
- A reconciliation of birth, hire, and participation dates against the corresponding dates provided for the last valuation to ensure consistency of data;
- A reconciliation of any stated benefit payments since December 31, 2019 (for retired or deceased members) against the financial statements of the pension fund for confirmation of the payments; and
- A reconciliation of inactive member benefit amounts against the corresponding amounts provided for the last valuation to ensure consistency of data.

There was no information missing from the data, so no assumptions were required with respect to such data.

A copy of the administrator certification certifying the accuracy and completeness of the member data (and the Plan provisions summarized in this report) is included in Appendix G of this report.

Membership Summary

The table below reconciles the number of members as of December 31, 2021 with the number of members as of December 31, 2019 and the changes due to experience in the period.

	Retirees	Beneficiaries	Total
Members, December 31, 2019	75	65	140
Changes due to:			
New entrants	-	-	-
Termination			
Non-vested	-	-	-
Deferred vested	-	-	-
Lump sum	-	-	-
Death			
No further benefits	(4)	(12)	(16)
Lump sum	-	-	-
Surviving beneficiary	(7)	7	-
New beneficiary	-	-	-
Retirement	-	-	-
Disability	-	-	-
Transfer	-	-	-
Data correction	-	-	-
Net change	(11)	(5)	(16)
Members, December 31, 2021	64	60	124

Membership Summary

Below is a summary of information as at December 31, 2021. Information as at December 31, 2019 is shown for comparison purposes.

Retirees

Group	December 31, 2021**			December 31, 2019***		
	Police	Other	Total	Police	Others	Total
Number of members	63	1	64	74	1	75
Average age	84.8	95.8	85.0	83.3	93.8	83.4
Average annual pension (excluding bridge)	\$ 55,055	\$ *	\$ 54,290	\$ 51,581	\$ *	\$ 50,971
Proportion female	5%	0%	5%	4%	0%	4%

Beneficiaries

Group	December 31, 2021**			December 31, 2019***		
	Police	Other	Total	Police	Others	Total
Number of members	59	1	60	63	2	65
Average age	86.9	96.9	87.1	86.6	93.5	86.8
Average annual pension (excluding bridge)	\$ 1,652	\$ *	\$ 31,289	\$ 30,524	\$ 12,838	\$ 29,980
Proportion female	100%	100%	100%	100%	100%	100%

* Data suppressed for confidentiality reasons

** Pension includes increase of 2.74% granted January 1 of the following year

*** Pension includes increase of 1.89% granted January 1 of the following year

Retirees and Beneficiaries Distribution

The following table provides a breakdown of the information used at December 31, 2021. The table shows the number and total monthly lifetime pension of retirees and beneficiaries as at December 31, 2021, grouped by age and number of years of retirement.

Age	Years Retired				Total
	15-19.9	20-24.9	25-29.9	>=30	
65-69.9					
70-74.9		3		1	4
		\$ *		\$ *	\$ *
75-79.9	1	3	12	3	19
	\$ *	\$ 5,133	\$ 4,565	\$ *	\$ 4,203
80-84.9		1	20	10	31
		\$ *	\$ 4,035	\$ *	\$ 3,697
85-89.9			11	21	32
			\$ 4,284	\$ 3,480	\$ 3,756
90-94.9			3	27	30
			\$ 4,293	\$ 3,179	\$ 3,290
95-99.9				7	7
				\$ 2,131	\$ 2,131
>=100				1	1
				\$ *	\$ *
Count	1	7	46	70	124
Total Monthly Lifetime Pension	\$ *	\$ 4,488	\$ 4,250	\$ 3,103	\$ 3,597

Appendix C: Going Concern Assumptions and Methods

Assumptions and Methods

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

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

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

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

	December 31, 2021	December 31, 2019
Economic Assumptions		
Discount rate	3.70% per year	4.40% per year
Inflation rate	2.00% per year	Same
Indexing rate	2.00% per year	Same
Investment expenses	0.20% per year (taken into account in the discount rate assumption)	Same
Non-investment expenses	0.20% per year (taken into account in the discount rate assumption)	Same
Provision for adverse deviation	8.90% of non-indexed liabilities	9.80% of non-indexed liabilities

	December 31, 2021	December 31, 2019
Demographic Assumptions		
Mortality table	115% of the 2014 Canadian Public Pensioner Mortality Table with generational improvements using CPM Scale B ¹ (sex-distinct rates)	Same
Retirement rates	Not Applicable	Same
Termination rates	Not Applicable	Same
Disability rates	Not Applicable	Same
Proportion married		
Non-retired proportion with spouse	Not Applicable	Same
Non-retired spousal age differential	Not Applicable	Same
Retired members	Actual marital status and ages are used	Same
Methods		
Actuarial cost method	Unit credit	Same
Asset valuation method	Market value of assets adjusted to reflect contributions, benefit payments, transfers and fees/expenses in transit as of the valuation date	Same

¹ No preretirement mortality was applied

Justification of Actuarial Assumptions and Methods

Margins for Adverse Deviations

The actuary has discussed the Plan's experience with the City and compared it to the expected experience. This review indicates that the use of the PfAD achieves the Company's desire to maintain safety cushions; therefore the decision was made to not to include any additional margins for conservatism. The Provisions for PfAD that is required by Ontario Regulation is discussed later in this section.

Economic Assumptions

Discount Rate

The overall expected return was developed using best-estimate returns for each major asset class in which the pension fund is invested. A Monte Carlo simulation is performed where the portfolio returns are projected assuming annual rebalancing. Expected plan cash flows are projected for a maximum of 30 years reflecting the plan's time horizon and discounted using the simulated returns. The internal rate of return is then calculated for each scenario and the results are used to develop an overall best-estimate rate of return for the entire pension fund. Gains from rebalancing and diversification are implicit to this return

In determining the expected return, we have taken into account the current target asset mix of 39% equities / 61% fixed income (including all details of asset categories) as well as the City's policy of intending to increase the investment in bonds and decrease the investment in equities as the funded position of the plan improves. We have assumed that the plan's investment will be 45% equities / 55% fixed income by the year 2035 and have assumed a smooth transition of assets during that time.

The overall expected return has been established based on the City's investment policy and its funding policy (whether formal or informal) and objectives. There may be some barriers to achieving this return such as inflation higher than expected, asset returns lower than expected, and assets and liabilities that are mismatched.

The following table lays out the adjustments that have been made to the overall expected rate of return in order to arrive at our going concern discount rate assumption:

Development of Discount Rate

Overall expected return				3.97%
Non-investment expenses				(0.20)%
Investment expenses				
Passive	(1)	(0.07)%		
Actively managed	(2)	<u>(0.13)%</u>		
			(1)+(2)	(0.20)%
Additional returns due to active management				<u>0.13%</u>
Discount Rate				3.70%

Inflation Rate

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

Increases in the Maximum Pension Limit

Pensions are limited to the maximum limits under the *Income Tax Act*. The *Income Tax Act* specifies both a dollar limit, and in addition pensions cannot exceed 2% of indexed highest average compensation per year of credited service. The assumed increase in the dollar limit reflects the assumed rate of inflation plus the productivity increase assumption.

Expenses

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

Provision for Adverse Deviation

For the purpose of this valuation, the PfAD is established based on the target asset allocation for each category of investments set out in the Plan's Statement of Investment Policies and Procedures (SIPP) in effect at the date of this report.

Asset Mix Component	Investment Categorization under Regulation 76 (12)	Categorization under Regulation 11.2 (8) ¹	Target Asset Allocation (%)
Cash and short term	4	Fixed Income ("L")	0.0%
Fixed-income	15	Fixed Income ("L")	61.0%
Canadian equities	13	Non-Fixed Income	20.0%
Foreign equities	14	Non-Fixed Income	<u>19.0%</u>
			100.0%
Fixed income ("L")			61.0%
Alternative Investment ("M")			0.0%
(a) Percentage of fixed income for PfAD ["L" + 50% * "M"]			61.00%
(b) Percentage of non-fixed income for PfAD [100%-(a)]			39.00%
(c) Asset mix component (see table below) ²			3.90%

Percent of Non-Fixed Income Assets	PfAD for Closed Plans	PfAD for Open Plans
0%	0%	0%
20%	2%	1%
40%	4%	2%
50%	5%	3%
60%	7%	4%
70%	11%	6%
80%	15%	8%
100%	23%	12%

¹ The fixed income investments satisfy the minimum credit rating requirements prescribed by the Regulation.

² Based on linear interpolation.

Benchmark Discount Rate (BDR)

(d) V39056 rate at the valuation date	1.68%
(e) BDR [(d)+1.5%*(a)+5.0%*(b)+0.5%]	5.05%
(f) Best estimate discount rate ¹	3.97%
(g) Plan duration	6.66

PfAD is Determined as Follows:

Fixed component (open 4% or closed 5%)	5.00%
Asset mix component	3.90%
BDR component [Max [0, (g)*((f)-(e))]]	0.00%
Total	8.90%

¹ Gross of non-investment expenses and passive investment management fees.

Demographic Assumptions

Mortality

At the current valuation, we are using 115% of the 2014 Canadian Pensioner Mortality Table with mortality improvements in accordance with CPM-B.

In 2017, the CIA released a research paper introducing a new Mortality Improvement Scale (MI-2017) and subsequently published an Education Note stating that both the MI-2017 and CPM-B Scales "constitute broad and relevant mortality improvement studies for the Canadian population." The continued use of the CPM-B mortality table and CPM-B projection scale are considered reasonable.

Retirement

As all members are retired, an assumption regarding pre-retirement termination is not needed.

Termination of Employment

As all members are retired, an assumption regarding pre-retirement termination is not needed.

Other

Actuarial Cost Method

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

The accrued benefit (or unit credit) actuarial cost method has been used for this valuation. Under this method, the accrued liability at the valuation date is determined as the lump sum required to provide the accrued pension benefit earned to that date. The normal cost for the Plan is the amount required to fund the benefits expected to accrue in the year following the valuation date.

The pattern of future contributions necessary to pre-fund future benefit accruals for any one particular individual will increase steadily as the individual approaches retirement. For a stable population (i.e., one where the average demographics of the group remain relatively constant from year to year), the normal cost will increase modestly over time. The accrued benefit actuarial cost method, therefore, allocates contributions among different periods in an orderly and rational manner for a stable population group.

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

Asset Valuation Method

Market value, adjusted by in-transit cash flows was used as the actuarial value of assets for this valuation.

Appendix D: Solvency and Hypothetical Wind Up Assumptions and Methods

Valuation Assumptions

	December 31, 2021	December 31, 2019
Economic Assumptions		
Discount rate		
Transfer value basis — <i>Without indexation</i>	Not Applicable	Not Applicable
Annuity purchase basis — <i>Without indexation</i>	2.46% per year	2.86% per year
Duration used to determine annuity purchase basis	6.2	6.7
Transfer value basis — <i>With indexation</i>	Not Applicable	Not Applicable
Annuity purchase basis — <i>With indexation</i>	-0.54%	-0.29% per year
<i>Income Tax Act</i> dollar limit	\$3,420.00 per year	\$3,092.22 per year
Weighted solvency discount rate	2.46% per year	2.86% per year

	December 31, 2021	December 31, 2019
Demographic Assumptions		
Mortality table	2014 Canadian Pension Mortality Table with generational improvements using CPM Scale B ¹ (sex-distinct rates)	Same
Withdrawal rates	Not Applicable	Same
Retirement age	Not Applicable	Same
Termination of employment	Not Applicable	Same
Marital status		
Non-retired spousal proportion	Not Applicable	Same
Non-retired spousal age differential	Not Applicable	Same
Retired members	Actual marital status and ages are used	Same
Other		
Wind up expenses	\$70,000	Same
Actuarial cost method	Unit credit	Same
Asset valuation method	Market value of assets adjusted to reflect contributions, benefit payments, transfers and fees/expenses in transit as of the valuation date	Same
Incremental Cost		
The assumptions for the expected benefit payments and decrement probabilities, service accruals, and projected changes in benefits and/or pensionable earnings	Same as going concern	Same

¹ No preretirement mortality was applied

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

	Percent of Liability Assumed to be Settled By Purchase of Annuities	Percent of Liability Assumed to be Settled By Lump-Sum Transfer
Active Members		
Not retirement eligible	Not Applicable	Not Applicable
Retirement eligible	Not Applicable	Not Applicable
Deferred Vested Members		
Not retirement eligible	Not Applicable	Not Applicable
Retirement eligible	Not Applicable	Not Applicable
Retired Members and Beneficiaries	100%	0%

Postulated Scenario

The postulated scenario is the assumption of immediate termination of employment for the active group at the valuation date. Therefore, no allowance for future salary increases or demographic experience are reflected.

Benefits Valued

	Solvency Valuation	Hypothetical Wind Up Valuation
Vesting	We have treated all accrued benefits as vested on Plan wind up.	We have treated all accrued benefits as vested on Plan wind up.
Grow-In Benefits	No longer relevant	No longer relevant
Exclusions	Post-retirement indexing was excluded from the valuation	Post-retirement indexing was excluded from the valuation
Post-valuation Date Benefit Increases	None were assumed	None were assumed
Indexing	Excluded from the valuation	Included in the valuation

Justification for Valuation Assumptions

We have set the aforementioned assumptions based on guidance prepared by the CIA Committee on Pension Plan Financial Reporting ("PPFRC") in Educational Note – Assumptions for Hypothetical Wind-Up and Solvency Valuations with Effective Dates between December 31, 2021 and December 30, 2022 ("CIA Guidance") released on March 11, 2022.

For benefit entitlements that are expected to be settled by lump-sum transfer, we based the assumptions on Section 3500 (Pension Commuted Values) of the CIA Standards of Practice, using rates corresponding to a valuation date of December 31, 2021.

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

Development of Discount Rates

The development of the discount rates is shown below.

Solvency annuity purchase discount rate	= V39062 + Duration Adjustment
	= 1.66% +0.80%
	= 2.46% per year

The wind up annuity purchase discount rate of -0.54% is taken directly from the Educational Note.

Mortality Table

The derivation of the discount rate above is in conjunction with CPM2014 in accordance with the CIA Guidance.

Preretirement Mortality

We have made no allowance for preretirement mortality as all members are retired.

Assumptions Not Needed

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

- Increases in pensionable earnings;
- Termination of employment rates;
- Increases in CPP and OAS benefits;
- Increases in *Income Tax Act* maximum pension limit (we used the 2020 maximum); and
- Disability rates.

Estimated Wind Up Expenses

Plan wind up expenses would normally include such items as fees related to preparation of the actuarial wind up report, fees imposed by a pension supervisory authority, legal fees, administration, custodial and investment management expenses. We have assumed these fees would be \$70,000.

Calculation of Special Solvency Payments

To calculate the special payments necessary to liquidate the Solvency deficiency we used a weighted average of the solvency discount rates based on the relative proportions of benefit entitlements that are expected to be settled by purchase of annuities and lump-sum transfer.

Actuarial Cost Methods

Unit credit (accrued benefit) cost method as prescribed.

Asset Valuation Method Considerations

Assets for solvency purposes have been determined using market value, adjusted by in-transit cash flows.

Incremental Cost

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

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

The calculation methodology can be summarized as follows:

- The present value at time 0 of expected benefit payments between time 0 and time t, discounted to time 0,
plus
- Projected liabilities at time t, discounted to time 0, allowing for, if applicable to the pension plan being valued:
 - expected decrements and related changes in membership status between time 0 and time t,
 - accrual of service to time t,
 - expected changes in benefits to time t,
 - a projection of pensionable earnings to time t,minus
- The liabilities at time 0.

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

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

Appendix E: Summary of Plan Provisions

The following is a brief summary of the provisions of the Plan as at December 31, 2021.

Normal Retirement Age

Age 60 for Police employees, age 65 for all others.

Amounts of Annual Pension

Normal and Disability Retirement: 2% of average annual earnings in best 5 years before retirement for each year of credited service up to 35 years reduced by 0.675% of the 5-year average earnings up to the average YMPE over the last five years for each year of contributory service after January 1, 1966. Reduction suspended from date of retirement to age 65 for CPP benefit.

Death Benefits

After retirement: Based on election made within range of allowable options.

Pension Increases

The Plan was amended effective January 1, 2008 to provide indexation equal to the inflation related adjustment formula used to increase pension benefits, pensions and deferred pensions under the Ontario Municipal Employees Retirement System Act, 2006, as amended from time to time. Such inflation adjustment shall not be less than zero no more than 6%. Any inflation adjustment in excess of 6% shall be carried forward for use in a subsequent year.

Bridge Benefit

A bridge benefit is payable on early retirement in the amount of the estimated CPP benefit until age 65.

Appendix F: Glossary of Terms

- The **actuarial value of assets** is the asset value used for going concern valuation purposes. Smoothing methods are sometimes used to smooth investment gains and losses over a certain period.
- The **estimated wind up expenses** is an estimate of the administrative and other expenses expected to be charged against the pension fund if the Plan were to terminate on the valuation date.
- The **going concern excess/(unfunded liability)** is the difference between the actuarial value of assets and sum of the going concern liabilities, the amount equal to the provision for adverse deviations in respect of the going concern liabilities of the pension plan, and the prior year credit balance of the pension plan.
- The **going concern funded ratio** compares the value of the assets of the pension plan determined on the basis of a going concern valuation, including accrued and receivable income but excluding the amount of any letter of credit held in trust for the pension plan, exceeds the prior year credit balance to the total amount of the going concern liabilities of the pension plan.
- The **going concern liabilities** are the actuarial present value of benefits earned in respect of service prior to the valuation date. The going concern liabilities are calculated using the going concern assumptions and methods summarized in Appendix C of this report.
- The **going concern position** is the difference between the actuarial value of assets and the going concern liabilities.
- The **maximum deductible company contribution** refers to an eligible contribution pursuant to Section 147.2(2) of the *Income Tax Act*. Under Subsection 8502(b) of the Regulations to the *Income Tax Act*, each Company contribution made after January 1, 1991 in respect of a defined benefit provision of a registered pension plan must be such eligible contribution.

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

- The company normal cost, eligible under Section 147.2(2) subject to certification by the actuary and approval by the Canada Revenue Agency; plus
- Special payments eligible under Section 147.2(2) up to the amount of the unfunded liability, the solvency deficiency, or the hypothetical wind up deficiency, whichever is greater, subject to certification by the actuary and approval by the Canada Revenue Agency; less
- Required application of excess surplus.

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

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

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

In order to be deductible in a given fiscal year, company contributions must be made not later than 120 days after the end of the fiscal year.

- The **minimum required company contribution** for each plan year is equal to:
 - The company normal cost; plus
 - Special payments toward amortizing any unfunded liability over ten (10) years beginning one year from the date on which the unfunded liability was established; plus
 - Special payments toward amortizing any solvency deficiency over five years beginning no later than 12 months (24 months if the company elected temporary funding relief option 8) from the date on which the solvency deficiency was established (this period of years may be longer if the Company has elected temporary funding relief options 3, 5, and/or 7); less
 - Required application of excess surplus; less
 - Permitted application of surplus; less
 - Permitted application of PYCB.

In order to satisfy the requirements of the *Act* and its Regulations, contributions to the fund must be made in accordance with the following rules:

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

The Company may choose to set the PYCB between nil and the amount as calculated above, but may not recapture the amount forfeited at any time.

- **Reduced solvency deficiency** the difference between the sum of 85% of the solvency liability, 85% of solvency liability adjustment and the PYCB to the sum of the solvency asset and solvency asset adjustment.
- **Solvency/Hypothetical wind up assets** are the market value of pension fund assets adjusted to reflect contributions, benefit payments, transfers and fees/expenses in-transit at the valuation date.

- The **solvency asset adjustment** is an adjustment that may be made to the solvency assets to reflect:
 - The impact of using an averaging method that stabilizes short-term fluctuations in the market value of the Plan’s assets calculated over a period of not more than five years; plus
 - The present value of any remaining special payments required to liquidate any unfunded liability (for service not previously recognized for benefit determination purposes) established after December 31, 1987; plus
 - The present value of any remaining special payments other than those above that are scheduled for payment within six years after the valuation date. This period of years may be longer if the Company has elected temporary funding relief options 3, 5, 7, and/or 8.
- The **solvency liabilities** are the actuarial present value of benefits earned in respect of service prior to the valuation date determined as if the Plan were wound up on the valuation date and taking into account Section 74 of the *Act* (i.e., grow-in). In calculating the solvency liabilities, which includes plant closure benefits or permanent layoff benefits that would be immediately payable if the Plan sponsor’s business was discontinued on the valuation date, the *Act* and its Regulations permit the exclusion of the following benefits:
 - Any escalated adjustments;
 - “Excluded plant closure benefits” that the City elected on November 26, 1992 to exclude;
 - “Excluded permanent layoff benefits” that the City elected on November 26, 1992 to exclude;
 - Special allowances other than those where the member has met all age and service eligibility requirements;
 - Consent benefits other than those where the member has met all eligibility requirements except the consent of the employer, or in the case of a jointly sponsored pension plan, the consent of the employer or the administrator;
 - Prospective benefit increases;
 - Potential early retirement window benefit values; and
 - Pension and ancillary benefits payable under a qualifying annuity contract.

The solvency liabilities are determined using benefit entitlements on the assumption that the Plan has neither a surplus nor a deficit. The solvency liabilities are calculated using the solvency valuation assumptions summarized in Appendix D of this report.

- The **solvency liability adjustment** is an adjustment that may be made to the solvency liabilities to reflect the impact of using a solvency valuation discount rate for discounting the liability that is the average of market discount rates calculated over the same period of time as that used in the calculation of the solvency asset adjustment.
- The **solvency position** is the difference between the solvency assets (net of estimated wind up expenses) and the solvency liabilities.
- The **solvency ratio** compares the solvency assets (plus any letters of credit held in trust exceeding the prior year credit balance) to the solvency liabilities for purposes of Subsections 14(2) and (3) of the Regulations of the *Act* to determine the latest effective date of the next required valuation.
- The **solvency excess/(deficiency)** is the solvency position, increased by the solvency asset adjustment and the solvency liability adjustment, then decreased by the PYCB.

- The **special payments** are payments required to liquidate the unfunded liability and/or reduced solvency deficiency:
 - The going concern special payments are payments required to liquidate the unfunded liability, with interest at the going concern valuation discount rate, by equal monthly instalments over a period of ten (10) years beginning one year from the valuation date of the report in which the going concern unfunded liability was determined.
 - The solvency special payments are payments required to liquidate the reduced solvency deficiency, with interest at the solvency valuation discount rate, by equal monthly instalments over a period of five years beginning no later than 12 months (24 months if company elected temporary funding relief option 8) from the valuation date of the report in which the solvency deficiency was determined. This period of years may be longer if the City has elected temporary funding relief options 3, 5, and/or 7.
- The **total normal cost** is the actuarial present value of benefits expected to be earned in respect of service for each year starting on the valuation date. Required member contributions (if any) are deducted from the total normal cost to determine the company normal cost. The total normal cost is calculated using the going concern valuation assumptions and methods summarized in Appendix C of this report.
- The **transfer ratio** compares the solvency assets, minus the lesser of the PYCB and the required company contributions until the next required valuation (before application of the PYCB), to the solvency liabilities plus the liability of any excluded benefits (except for pension benefits and ancillary benefits payable under a qualifying annuity contract). If the transfer ratio is less than 1.00, lump-sum transfers from the pension fund under Section 42 of the *Act* are limited to the commuted value of the member's pension multiplied by the transfer ratio. The administrator may transfer the entire commuted value if:
 - The administrator is satisfied that an amount equal to the transfer deficiency has been remitted to the pension fund; or
 - The aggregate of transfer deficiencies for all transfers made since the last valuation date does not exceed 5% of the Plan's assets at that time.

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

Appendix G: Administrator Certification

With respect to the Hamilton-Wentworth Retirement Fund, forming part of the actuarial report as at December 31, 2021, I hereby certify that, to the best of my knowledge and belief:

- The asset data provided or made available to the actuary is complete and accurate;
- The membership data and subsequent query answers provided or made available to the actuary are complete and accurate for all persons who are entitled to benefits under the terms of the Plan in respect of service up to the date of the valuation;
- The Plan provisions provided or made available to the actuary are complete and accurate;
- The actuary has been notified of all relevant events subsequent to the valuation measurement date; and
- The terms of engagement contained in Section 1 of this report are accurate and reflect the plan administrator's direction.

Shelley Hesmer

Name (print) of Authorized Signatory

Acting Director - Financial Services, Taxation
and Corporate Controller

Title

Shelley Hesmer

Signature

September 26, 2022

Date

About Aon

Aon plc (NYSE:AON) is a leading global professional services firm providing a broad range of risk, retirement and health solutions. Our 50,000 colleagues in 120 countries empower results for clients by using proprietary data and analytics to deliver insights that reduce volatility and improve performance.

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INFORMATION REPORT

TO:	Chair and Members HMRF/HWRF Pension Administration Committee
COMMITTEE DATE:	March 30, 2023
SUBJECT/REPORT NO:	2021 Hamilton Municipal Retirement Fund Financial Statements (FCS23002) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Barb Howe (905) 546-2424 Ext. 5599
SUBMITTED BY:	Shelley Hesmer Acting Director, Financial Services and Taxation & Corporate Controller Corporate Services Department
SIGNATURE:	

INFORMATION

Appendix 'A' to Report FCS23002 "Financial Statements of the Hamilton Municipal Retirement Fund Pension Plan December 31, 2021" is attached for information purposes for Committee members.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report FCS23002 – Financial Statements of the Hamilton Municipal Retirement Fund Pension Plan December 31, 2021

Bh/dw

**Financial Statements of the Hamilton
Municipal Retirement Fund Pension Plan**
December 31, 2021

Financial Statements December 31, 2021

Contents

	<u>Page</u>
Independent Auditors' Report	1-3
Statement of Net Assets Available for Benefits	4
Statement of Changes in Net Assets Available for Benefits	5
Notes to Financial Statements	6-18
Supplemental Appendix	19



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INDEPENDENT AUDITORS' REPORT

To the Pension Committee of the Corporation of the City of Hamilton for the Hamilton Municipal Retirement Fund Pension Plan.

Opinion

We have audited the accompanying fund financial statements of the Hamilton Municipal Retirement Fund Pension Plan (the Plan), which comprise:

- the statement of net assets available for benefits as at end of December 31, 2021
- the statement of changes in net assets available for benefits for the year then ended
- and notes to the financial statements, including a summary of significant accounting policies (Hereinafter referred to as the “financial statements”).

In our opinion, the accompanying financial statements, present fairly, in all material respects, the financial position of the Plan as at end of December 31, 2021, and its results of operations and its cash flows for the year then ended in accordance with the financial reporting provisions of Section 76 of Regulation 909 of the Pension Benefits Act (Ontario).

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the “Auditors’ Responsibilities for the Audit of the Financial Statements” section of our auditors’ report.

We are independent of the Plan in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada and we have fulfilled our other responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of Matter – Financial Reporting Framework

We draw attention to Note 2 in the financial statements, which describes the applicable financial reporting framework and the purpose of the financial statements.

As a result, the financial statements may not be suitable for another purpose.

Our opinion is not modified in respect of this matter.



Page 2

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with the financial reporting provisions of Section 76 of Regulation 909 of the Pension Benefits Act (Ontario), and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Plan's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Plan or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Plan's financial reporting process.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion.

Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit.

We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.

The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.



Page 3

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Plan's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Plan to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

A handwritten signature in black ink that reads 'KPMG LLP' in a cursive, slanted font. A horizontal line is drawn underneath the signature.

Chartered Professional Accountants, Licensed Public Accountants

Hamilton, Canada

September 7, 2022

Hamilton Municipal Retirement Fund Pension Plan

Statement of Net Assets Available for Benefits

DECEMBER 31, 2021, with comparative information for 2020

	2021	2020
	\$	\$
ASSETS		
Investments		
Investment in Master Trust (note 4a)	73,602,832	70,927,158
Cash in Plan (note 4a)	110,818	67,585
Accrued investment income	79,589	68,367
	73,793,239	71,063,110
LIABILITIES		
Accrued liabilities	71,674	32,658
	73,721,565	71,030,452
NET ASSETS AVAILABLE FOR BENEFITS		

On behalf of the Pension Plan Administrator



The accompanying notes are an integral part of these financial statements.

Hamilton Municipal Retirement Fund Pension Plan

Statement of Changes in Net Assets Available for Benefits

Year Ended DECEMBER 31, 2021, with comparative information for 2020

	2021 \$	2020 \$
INCREASE IN NET ASSETS		
Investment income (note 5)	2,083,707	5,764,658
Net realized gain (loss) on investments	3,773,761	(220,844)
Change in fair value of investments	2,606,844	179,997
	8,464,312	5,723,811
DECREASE IN NET ASSETS		
Pension benefits	5,490,831	5,900,352
Administrative expenses and professional fees (note 6)	282,368	238,297
	5,773,199	6,138,649
NET INCREASE (DECREASE) FOR THE YEAR	2,691,113	(414,838)
NET ASSETS AVAILABLE FOR BENEFITS AT THE BEGINNING OF THE YEAR	71,030,452	71,445,290
NET ASSETS AVAILABLE FOR BENEFITS AT THE END OF THE YEAR	73,721,565	71,030,452

The accompanying notes are an integral part of these financial statements.

Notes to Financial Statements

DECEMBER 31, 2021

1. Description of the Plan

The Hamilton Municipal Retirement Fund ("HMRF") Pension Plan (the "Pension Plan") is a contributory defined benefit pension plan. The Pension Plan is registered under the Pension Benefits Act, 1987 (Ontario) (the "Act"), Registration Number 0275123. In accordance with a provision of the Ontario Municipal Employees Retirement System (OMERS) from July 1, 1965, all new employees of the City of Hamilton (the "City") are included under OMERS rather than the Pension Plan. As a consequence, the membership of the Pension Plan has become closed to new entrants and will decrease as existing members terminate. The Pension Plan's head office is located at 71 Main Street West, Hamilton, Ontario.

These fund financial statements have been approved and authorized for issue by the Treasurer of the City, as plan sponsor of the Hamilton Municipal Retirement Fund Pension Plan on September 7, 2022.

The majority of the net assets of the Pension Plan are combined in a pooled fund under a Master Trust agreement administered by RBC Investor Services Trust.

RBC Investor Services Trust (the "Trustee") is the custodial trustee of the Pension Plan. Investment decisions are made by independent investment managers using guidelines established by the City of Hamilton's Pension Committee while Willis Towers Watson is the Pension Plan's actuary for the defined benefit plan.

The Master Trust is divided into units of equal value, without priority or preference. The Master Trust issues units to the individual pension plans representing their proportionate ownership of the total assets in the Master Trust. Each plan is credited with units each time contributions are made while disbursements from the individual plans result in reductions of their unit holdings. Investment income in the Master Trust does not result in additional units for the individual plans but serves to increase the value of the units.

2. Basis of preparation

a) Basis of presentation

As permitted by the Financial Services Regulatory Authority of Ontario ("FSRA") these fund financial statements are prepared in accordance with Canadian accounting standards for pension plans excluding pension obligations and any resulting surplus or deficit.

In selecting accounting policies that do not relate to the Plan's investment portfolio or pension obligations and in accordance with Canadian accounting standards for pension plans, the Plan has chosen to comply on a consistent basis with International Financial Reporting Standards ("IFRS") in Part 1 of the Chartered Professional Accountants ("CPA Canada") Handbook.

These fund financial statements have been prepared to assist the Administrator of the Pension Plan to comply with the requirements of the Financial Services Regulatory Authority of Ontario ("FSRA") under Section 76 of Regulation 909 of the Pension Benefits Act (Ontario). As a result, the fund financial statements may not be suitable for another purpose.

These fund financial statements of the Pension Plan do not purport to show the adequacy of the Pension Plan's assets to meet its pension obligation. Such an assessment requires additional information, such as the Pension Plan's actuarial reports and information about the City's financial health.

Notes to Financial Statements

DECEMBER 31, 2021

2. Basis of preparation (continued)

b) Basis of measurement

The financial statements have been prepared on the historical cost basis, except for financial instruments which are measured at fair value through the statement of changes in net assets available for benefits.

c) Functional and presentation currency

These fund financial statements are presented in Canadian dollars, which is the Pension Plan's functional currency.

3. Significant accounting policies

a) Financial assets and financial liabilities

(i) Non-derivative financial assets

Financial assets are recognized initially on the trade date, which is the date that the Pension Plan becomes a party to the contractual provisions of the instrument. Transaction costs are not included in the fair value of investments either on initial recognition or on subsequent re-measurement. Transaction costs are included in the statement of changes in net assets available for benefits as part of administrative expenses and professional fees incurred for the period.

The Pension Plan measures all of its investments at fair value through the statement of changes in net assets available for benefits. All other non-derivative financial assets including accrued investment income are measured at amortized cost.

The Pension Plan derecognizes a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred or in which the Pension Plan neither transfers nor retains substantially all the risks and rewards of ownership and does not retain control of the financial asset.

On derecognition of a financial asset, the difference between the carrying amount of the asset and consideration received is recognized in the statement of changes in net assets available for benefits, as a net realized gain on investments.

Notes to Financial Statements

DECEMBER 31, 2021

3. Significant accounting policies (continued)

a) Financial assets and financial liabilities (continued)

(ii) Non-derivative financial liabilities

All financial liabilities are recognized initially on the trade date at which the Pension Plan becomes a party to the contractual provisions of the instrument. The Pension Plan derecognizes a financial liability when its contractual obligations are discharged, cancelled or expired.

Financial assets and liabilities are offset, and the net amount presented in the statement of net assets available for benefits when, and only when, the Pension Plan has a legal right to offset the amounts and it intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. The Pension Plan considers its accrued liabilities to be a non-derivative financial liability.

(iii) Derivative financial instruments

Derivative financial instruments are recognized initially at fair value and attributable transaction costs are recognized in the statement of changes in net assets available for benefits as incurred. Subsequent to initial recognition, derivatives are measured at fair value, and all changes are recognized immediately in the statement of changes in net assets available for benefits.

b) Fair value measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between knowledgeable, willing parties in an arm's length transaction at the measurement date.

As allowed under IFRS 13, in determining fair value, the Pension Plan has adopted the guidance in IFRS 13, Fair Value measurement, ("IFRS13") in Part I of the CPA Canada Handbook.

If an asset or a liability measured at fair value has a bid and an ask price, the price within the bid-ask spread that is the most representative of fair value in the circumstances shall be used to measure fair value. The Pension Plan uses closing market price as a practical expedient for fair value measurement.

When available, the Pension Plan measures the fair value of an instrument using quoted prices in an active market for that instrument. A market is regarded as active if quoted prices are readily and regularly available and represent actual and regularly occurring market transactions on an arm's length basis.

If a market for a financial instrument is not active, then the Pension Plan establishes fair value using a valuation technique. Valuation techniques include using recent arm's length transactions between knowledgeable, willing parties (if available), reference to the current fair value of other instruments that are substantially the same, discounted cash flow analyses and option pricing models.

Notes to Financial Statements

DECEMBER 31, 2021

3. Significant accounting policies (continued)

b) Fair value measurement (continued)

The best evidence of the fair value of a financial instrument at initial recognition is the transaction price, i.e. the fair value of the consideration given or received, unless the fair value of that instrument is evidenced by comparison with other observable current market transactions in the same instrument or based on a valuation technique whose variables include only data from observable markets. When transaction price provides the best evidence of fair value at initial recognition, the financial instrument is initially measured at the transaction price and any difference between this price and the value initially obtained from a valuation model is subsequently recognized in profit or loss on an appropriate basis over the life of the instrument but not later than when the valuation is supported wholly by observable market data or the transaction is closed out.

All changes in fair value, other than interest and dividend income and expense, are recognized in the statement of changes in net assets available for benefits as part of the change in value of investments.

Investments are stated at fair value. Fair value of investments including those held within the Master Trust is determined as follows:

- (i) Short-term notes, treasury bills and deposits maturing within a year are stated at cost, which together with accrued interest income approximates fair value given the short-term nature of these investments.
- (ii) Bonds and equities are valued at closing bid prices. Where quoted prices are not available, estimated fair values are calculated using comparable securities.
- (iii) Pooled funds are valued at the unit value supplied by the pooled fund administrator and which represents the Pension Plan's proportionate share of the underlying net assets at fair value determined using closing bid prices.

c) Net investment income

Income from investments is recognized on an accrual basis and includes dividend and interest income.

d) Realized and unrealized gain (loss) on investments

Realized gains or losses on sales of investments are the difference between the proceeds received and the average cost of the investments sold.

Change in fair value of investments represents the change in the difference between the fair value and cost of investments at the beginning and end of the year.

e) Income taxes

The Pension Plan is a registered pension plan, as defined by the Income Tax Act (Canada) and, accordingly, is not subject to income taxes.

Hamilton Municipal Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

3. Significant accounting policies (continued)

f) Foreign currency

Transactions in foreign currencies are translated into Canadian dollars at the exchange rate at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies at the reporting date are retranslated into Canadian dollars at the exchange rate at that date.

Foreign currency differences arising on retranslation are recognized in the statement of changes in net assets available for benefits.

g) Use of estimates and judgments

The preparation of the fund financial statements requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets liabilities at the date of the statement of net assets available for benefits and the reported amounts of changes in net assets available for benefits during the year. Actual results may differ from those estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future years affected.

4. Investments

a) Plan and Master Trust investments

The following table provides details of the underlying investments held by the Master Trust:

Master Trust	2021			2020		
	Cost \$	Market Value \$	Unrealized Gain (Loss) \$	Cost \$	Market Value \$	Unrealized Gain (Loss) \$
Cash	2,029,625	2,029,625	-	153,960	153,960	-
Short term notes and treasury bills	1,005,087	1,005,087	-	3,295,721	3,295,721	-
Canadian bonds and debentures	113,004,035	125,940,612	12,936,577	56,163,514	64,529,135	8,365,621
Canadian pooled bond fund	88,565,553	74,759,247	(13,806,306)	88,279,275	79,221,110	(9,058,165)
Canadian corporate shares	53,677,060	79,501,367	25,824,307	76,448,759	94,425,136	17,976,377
Other Equity Investments - Warrants	38,061	76,527	38,466	-	-	-
Canadian pooled equity fund	33,233,966	19,499,614	(13,734,352)	44,432,642	22,403,565	(22,029,077)
Foreign corporate shares	2,807,221	3,059,647	252,426	4,352,002	3,872,626	(479,376)
Foreign pooled equity fund	38,713,325	56,442,369	17,729,044	54,364,546	75,738,253	21,373,707
	333,073,933	362,314,095	29,240,162	327,490,419	343,639,506	16,149,087

Hamilton Municipal Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

4. Investments (continued)

a) Plan and Master Trust investments (continued)

The following table provides details of the Pension Plan's proportionate interest of 20.3% (2020 - 20.6%) of underlying investments held within the Master Trust:

Master Trust HMRF Shares	2021			2020		
	Cost \$	Market Value \$	Unrealized Gain (Loss) \$	Cost \$	Market Value \$	Unrealized Gain (Loss) \$
Cash	412,294	412,312	18	31,777	31,778	1
Short term notes and treasury bills	204,171	204,180	9	680,208	680,236	28
Canadian bonds and debentures	22,955,420	25,584,392	2,628,972	11,591,659	13,318,807	1,727,148
Canadian pooled bond fund	17,991,034	15,187,078	(2,803,956)	18,220,072	16,351,229	(1,868,843)
Canadian corporate shares	10,903,854	16,150,422	5,246,568	15,778,356	19,489,338	3,710,982
Other Equity Investments - Warrants	7,732	15,546	7,814	-	-	-
Canadian pooled equity fund	6,751,083	3,961,278	(2,789,805)	9,170,509	4,624,094	(4,546,415)
Foreign corporate shares	570,255	621,556	51,301	898,215	799,309	(98,906)
Foreign pooled equity fund	7,864,150	11,466,068	3,601,918	11,220,367	15,632,367	4,412,000
	67,659,993	73,602,832	5,942,839	67,591,163	70,927,158	3,335,995

The Pension Plan also directly holds cash of \$110,818 (2020 - \$67,585).

b) Fair value

The following table presents financial assets measured at fair value in the statement of net assets available for benefits in accordance with the fair value hierarchy. This hierarchy groups financial assets into three levels based on the significance of inputs used in measuring the fair value of the financial assets. The fair value hierarchy has the following levels:

Level 1: Unadjusted quoted prices in active markets for identical assets or liabilities;

Level 2: Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly; and

Level 3: Inputs for assets and liabilities which are not based on observable market data.

Hamilton Municipal Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

4. Investments (continued)

b) Fair value (continued)

The level within which the financial asset is classified is determined based on the lowest level of significant input to the fair value measurement. The financial assets measured at fair value in the statement of net assets available for benefits are grouped into the fair value hierarchy as follows:

The Pension Plan's investment in Master Trust is classified as Level 2. The following table presents the classification of the investments held within the Master Trust and those held directly by the Pension Plan at December 31, 2021, using the fair value hierarchy:

	2021			2021 Market Value		
	Cost \$	Market Value \$	Unrealized Gain (Loss) \$	Level 1 \$	Level 2 \$	Level 3 \$
Cash	523,112	523,130	18	523,130	-	-
Short term notes and treasury bills	204,171	204,180	9	-	204,180	-
Canadian bonds and debentures	22,955,420	25,584,392	2,628,972	-	25,584,392	-
Canadian pooled bond fund	17,991,034	15,187,078	(2,803,956)	-	15,187,078	-
Canadian corporate shares	10,903,854	16,150,422	5,246,568	16,150,422	-	-
Other Equity Investments - Warrants	7,732	15,546	7,814	15,546	-	-
Canadian pooled equity fund	6,751,083	3,961,278	(2,789,805)	-	3,961,278	-
Foreign corporate shares	570,255	621,556	51,301	621,556	-	-
Foreign pooled equity fund	7,864,150	11,466,068	3,601,918	-	11,466,068	-
	6,770,811	73,713,650	5,942,839	17,310,654	56,402,996	-

	2020			2020 Market Value		
	Cost \$	Market Value \$	Unrealized Gain (Loss) \$	Level 1 \$	Level 2 \$	Level 3 \$
Cash	99,362	99,363	1	99,363	-	-
Short term notes and treasury bills	680,208	680,236	28	-	680,236	-
Canadian bonds and debentures	11,591,659	13,318,807	1,727,148	-	13,318,807	-
Canadian pooled bond fund	18,220,072	16,351,229	(1,868,843)	-	16,351,229	-
Canadian corporate shares	15,778,356	19,489,338	3,710,982	19,489,338	-	-
Canadian pooled equity fund	9,170,509	4,624,094	(4,546,415)	-	4,624,094	-
Foreign corporate shares	898,215	799,309	(98,906)	799,309	-	-
Foreign pooled equity fund	11,220,367	15,632,367	4,412,000	-	15,632,367	-
	67,658,748	70,994,743	3,335,995	20,388,010	50,606,733	-

Hamilton Municipal Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

4. Investments (continued)

b) Fair value (continued)

The methods and valuation techniques used for the purpose of measuring fair value are unchanged compared to the previous reporting period. There were no changes in the classification of these financial instruments during the current year.

c) Investments – Financial instrument risk

The Pension Plan's investment activities expose it to a variety of financial risks including credit risk, market price risk, currency risk, interest rate risk and liquidity risk.

Credit risk

Credit risk is the risk of loss arising from the failure of a counterparty to fully honour its financial obligations with the Pension Plan, including its inability or unwillingness to pay borrowed principal, interest or rent when they come due. Credit risk can also lead to losses when issuers and debtors are downgraded by credit rating agencies, usually leading to a fall in the market value of the debtors' obligations.

Fixed income investments include cash, short-term notes and treasury bills, Canadian bonds and debentures and Canadian pooled bond funds. As at December 31, 2021, the Pension Plan's fixed income investments exposure to credit risk is as follows:

Type	Credit Rating	2021 % of Total Fund	2021 Amount \$	2020 % of Total Fund	2020 Amount \$
Corporate	AAA/AA	0.1%	45,494	0.3%	93,139
	A	6.3%	2,620,288	13.1%	4,000,055
	BBB	2.8%	1,175,187	7.2%	2,184,670
Provincial	n/a	20.7%	8,597,819	24.9%	7,582,267
Federal	n/a	67.3%	27,919,358	50.7%	15,427,892
Cash	n/a	2.8%	1,140,634	3.8%	1,161,612
		100.0%	41,498,780	100.0%	30,449,635

The fixed income investments mature as follows; \$668,569 within 1 year, \$2,039,584 within 1- 10 years and \$38,791,623 in greater than 10 years.

Market price risk

Market price risk is the risk that the fair value of a financial instrument will fluctuate as a result of changes in the market prices caused by factors specific to the individual financial instruments, its issuer, or factors affecting similar financial instruments traded in the public capital markets. As at December 31, 2021, the Pension Plan's equity exposure of \$32,214,872 (2020 - \$40,545,108) represented 43.7% (2020 - 57.1%) of the Pension Plan's investments. As at December 31, 2021, if the prices of securities had increased or decreased by ten percent, the effect on the assets, with all other variables held constant, would be \$3,221,487 (2020 - \$4,054,511).

Hamilton Municipal Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

4. Investments (continued)

c) Investments – Financial instrument risk (continued)

Currency risk

Investments denominated in currencies other than the Canadian dollar expose the Pension Plan to fluctuations in foreign exchange rates. Fluctuations in the relative value of the Canadian dollar against these foreign currencies can result in a positive or a negative effect on the fair value of the investments.

As at December 31, 2021, the Pension Plan's exposure to foreign currency, in Canadian dollars, is as follows:

Type	2021 % of Total Fund	2021 Amount \$	2020 % of Total Fund	2020 Amount \$
United States dollar	8.1%	5,936,151	10.6%	7,525,062
Euro	3.3%	2,432,321	4.0%	2,822,387
Pound sterling	1.7%	1,275,276	2.3%	1,613,526
Japanese yen	2.2%	1,620,700	2.8%	1,978,955
Swiss franc	0.8%	558,194	0.9%	672,096
South Korean Won	0.5%	401,312	0.2%	171,956
New Taiwan dollar	1.1 %	825,557	1.5%	1,031,736
Renminbi	0.8%	584,769	2.2%	1,563,237
Hong Kong dollar	0.4%	328,993	0.7%	476,420
Russian ruble	0.6%	458,643	1.0%	719,089
Thai baht	0.0%	11,466	0.0%	31,265
Swedish kronor	0.1%	104,513	0.3%	231,429
Brazilian real	0.1%	86,075	0.1%	78,162
Indian rupee	0.3%	194,923	0.3%	187,588
South African rand	0.0%	22,932	0.2%	125,059
Australian dollar	0.3%	206,161	0.6%	416,995
Other foreign currencies	1.6%	822,565	1.6%	1,197,056
	21.9%	15,870,551	29.3%	20,842,018

Hamilton Municipal Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

4. Investments (continued)

c) Investments – Financial instrument risk (continued)

Currency risk (continued)

As at December 31, 2021, if the Canadian dollar had strengthened/weakened by five percent in relation to other currencies, with all other variables held constant, the effect on the assets would be as follows:

Type	2021 Change in Currency	2021 Amount \$	2020 Change in Currency	2020 Amount \$
United States dollar	+/- 5%	296,808	+/- 5%	376,253
Euro		121,616		141,119
Pound sterling		63,764		80,676
Japanese yen		81,035		98,948
Swiss franc		27,910		33,605
South Korean Won		20,066		8,598
New Taiwan dollar		41,278		51,587
Renminbi		29,238		78,162
Hong Kong dollar		16,450		23,821
Russian ruble		22,932		35,954
Thai baht		573		1,563
Swedish kronor		5,226		11,571
Brazilian real		4,304		3,908
Indian rupee		9,746		9,379
South African rand		1,147		6,253
Australian dollar		10,308		20,850
Other foreign currencies		41,126		59,854
		793,527		1,042,101

Interest rate risk

Interest rate risk refers to the effect on the market value of the Pension Plan's assets and liabilities due to fluctuations in interest rates. As at December 31, 2021, the Pension Fund's fixed income investments with exposure to interest rate risk is \$40,358,146 (2020 - \$29,288,023). As at December 31, 2021, if the nominal interest rate had increased or decreased by one percent, the effect on the assets, with all other variables held constant, would be \$6,461,399 (2020 - \$4,662,653).

Notes to Financial Statements

DECEMBER 31, 2021

4. Investments (continued)

c) Investments – Financial instrument risk (continued)

Liquidity risk

Liquidity risk is the exposure of the Pension Plan to the risk of not being able to meet its financial obligations as they become due. The Pension Plan maintains an investment policy which contains asset mix guidelines which help ensure the Pension Plan is able to liquidate investments to meet its pension benefit or other obligations.

d) Statutory disclosure

The following information is provided in respect of individual investments, including those held within the Master Trust, with a cost or fair value in excess of 1% of the cost or fair value of the Pension Plan's investments as required to meet disclosure requirements under the Pension Benefits Act (Ontario):

	Rate or Units	Maturity	Fair Value 2021 \$
Canadian bonds and debentures			
Government of Canada Unsecured Inflation Linked	1.25%	12/1/2047	3,587,700
Canada Real Return Bond	4.00%	12/1/2031	4,784,642
Canada Real Return Bond	4.25%	12/1/2026	2,036,600
Government of Canada Real Return Bond	1.50%	12/1/2044	3,473,020
Government of Canada Series	2.00%	12/1/2041	4,453,105
Government of Canada Series	3.00%	12/1/2036	3,815,725
Government of Canada Series	0.50%	12/1/2050	3,433,600
Canadian pooled bond fund			
TD Emerald Active CDN Long Bond Pooled Fund	1,854,992		15,187,078
Canadian corporate shares			
Bank of Montreal	5,569		758,478
Royal Bank of Canada	5,920		794,855
Canadian and foreign pooled equity funds			
Aberdeen Canada Global Equity Fund	871,032		3,866,409
Global Equity Allocation Fund III	297,601		11,466,068

Hamilton Municipal Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

5. Investment income

	2021	2020
	\$	\$
Fixed income	655,189	1,161,333
Equities	1,406,289	4,524,000
Cash	22,229	79,325
	2,083,707	5,764,658

6. Administrative expenses and professional fees

	2021	2020
	\$	\$
Actuarial fees	30,642	51,209
Trustee and legal fees	12,655	10,094
Administrative expenses	68,082	68,082
Investment management fees	170,989	108,912
	282,368	238,297

Audit fees are paid by the City of Hamilton on behalf of the Pension Plan.

7. Related party transactions

During the year, the City of Hamilton charged administrative expenses to the Pension Plan in the amount of \$68,082 (2020 - \$68,082). The next actuarial valuation should be performed with an effective date not later than December 31, 2022.

8. Capital risk management

The main objective of the Pension Plan is to sustain a certain level of net assets in order to meet the pension obligations of the Hamilton Municipal Retirement Fund Pension Plan, which are not presented or discussed in these specified-purpose financial statements. The Pension Plan fulfils its primary objective by adhering to specific investment policies outlined in the Statement of Investment Policies and Procedures (the "SIP&P"), which is reviewed annually by the City. The inception date of the Master Trust and SIP&P is November 1, 1999. The SIP&P was last amended and approved on December 15, 2021. The amendment contains minor changes made to enhance clarity.

The Pension Plan manages net assets by engaging knowledgeable investment managers who are charged with the responsibility of investing existing funds and new funds (current year employer contributions) in accordance with the approved SIP&P. Increases in net assets available for benefits are direct results of investment income generated by investments held by the Plan and contributions into the Plan by eligible employees and by the City. The main use of net assets available for benefits is for the benefit payments to eligible Plan members. Although there are no regulatory requirements relating to the level of assets, the funding to be maintained by the Plan is determined through triennial actuarial valuations. There were no contributions that were past due at December 31, 2021. The Pension Plan is required to file fund financial statements with FSRA.

Notes to Financial Statements

DECEMBER 31, 2021

8. Capital risk management (continued)

In accordance with the SIP&P, the Plan’s asset allocation is dependent upon the determined funded ratio of the plan as at year-end. As at year-end, the Plan was approximately 75% funded on a wind-up basis which results in a mix of return seeking target of 54%. This results in a target asset allocation mix as follows, with an acceptable range of +/- 5% for each of the identified allocations:

Asset category	Classification based on SIP&P	SIP&P allocation target (%)	2021	2020
Canadian Equity	Return seeking	20%	23.7%	29.7%
Global Equity	Return seeking	19%	20.8%	28.4%
Long-term bonds	Liability hedging	18%	20.6%	23.1%
Real Return bonds	Liability hedging	43%	34.9%	18.8%
		100%	100%	100%

As at December 31, 2021, the Plan was not in compliance with the asset allocation identified in the SIP&P. This was remedied by management in March 2022.

Hamilton Municipal Retirement Fund Pension Plan

**Supplemental Appendix
(Unaudited)**

This supplemental disclosure is attached as an unaudited appendix to the financial statements for reporting under FSRA disclosures requirements.

The following table presents the annual rate of investment return by asset category as determined by Aon Hewitt.

Asset Categories	Benchmark	Annual rate of investment return (%)	
		As at December 31	
		2021	2020
Long-term Bonds	FTSE Canada Long-term Bond Index	-4.2%	12.3%
Real Return Bonds	FTSE Canada Real Return Bond Index	1.9%	13.2%
Canadian Equities	S&P/TSX Composite	29.3%	-0.5%
Global Equities	MSCI World Index (C\$)	15.9%	8.6%



INFORMATION REPORT

TO:	Chair and Members HMRF/HWRF Pension Administration Committee
COMMITTEE DATE:	March 30, 2023
SUBJECT/REPORT NO:	2021 Hamilton Wentworth Retirement Fund Financial Statements (FCS23004) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Barb Howe (905) 546-2424 Ext. 5599
SUBMITTED BY:	Shelley Hesmer Acting Director, Financial Services and Taxation & Corporate Controller Corporate Services Department
SIGNATURE:	

INFORMATION

Appendix 'A' to Report FCS23004 "Financial Statements of the Hamilton Wentworth Retirement Fund Pension Plan December 31, 2021" is attached for information purposes for Committee members.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report FCS23004 – Financial Statements of the Hamilton Wentworth Retirement Fund Pension Plan December 31, 2021

BH/dw

**Financial Statements of the Hamilton-
Wentworth Retirement Fund Pension Plan**
December 31, 2021

**Financial Statements
December 31, 2021**

Contents

	<u>Page</u>
Independent Auditors' Report	1-3
Statement of Net Assets Available for Benefits	4
Statement of Changes in Net Assets Available for Benefits	5
Notes to Financial Statements	6-19
Supplemental Appendix	20



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INDEPENDENT AUDITORS' REPORT

To the Pension Committee of the Corporation of the City of Hamilton for the Hamilton-Wentworth Retirement Fund Pension Plan.

Opinion

We have audited the accompanying fund financial statements of the Hamilton-Wentworth Retirement Fund Pension Plan (the Plan), which comprise:

- the statement of net assets available for benefits as at end of December 31, 2021
- the statement of changes in net assets available for benefits for the year then ended
- and notes to the financial statements, including a summary of significant accounting policies (Hereinafter referred to as the "financial statements").

In our opinion, the accompanying financial statements, present fairly, in all material respects, the financial position of the Plan as at end of December 31, 2021, and its results of operations and its cash flows for the year then ended in accordance with the financial reporting provisions of Section 76 of Regulation 909 of the Pension Benefits Act (Ontario).

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the "***Auditors' Responsibilities for the Audit of the Financial Statements***" section of our auditors' report.

We are independent of the Plan in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada and we have fulfilled our other responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of Matter – Financial Reporting Framework

We draw attention to Note 2 in the financial statements, which describes the applicable financial reporting framework and the purpose of the financial statements.

As a result, the financial statements may not be suitable for another purpose.

Our opinion is not modified in respect of this matter.



Page 2

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with the financial reporting provisions of Section 76 of Regulation 909 of the Pension Benefits Act (Ontario), and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Plan's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Plan or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Plan's financial reporting process.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion.

Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit.

We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.
- The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.



Page 3

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Plan's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Plan to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

A handwritten signature in black ink that reads 'KPMG LLP'. The signature is written in a cursive, slightly slanted style. Below the signature is a horizontal line that starts under the 'K' and ends under the 'P', with a small upward tick at the end.

Chartered Professional Accountants, Licensed Public Accountants

Hamilton, Canada
September 7, 2022

Hamilton-Wentworth Retirement Fund Pension Plan

Statement of Net Assets Available for Benefits

DECEMBER 31, 2021, with comparative information for 2020

	2021	2020
	\$	\$
ASSETS		
Investments		
Investment in Master Trust (note 4a)	54,354,016	53,567,272
Cash in Plan (note 4a)	107,742	99,526
Accrued investment income	58,776	51,634
	54,520,534	53,718,432
LIABILITIES		
Accrued liabilities	53,290	28,787
NET ASSETS AVAILABLE FOR BENEFITS	54,467,244	53,689,645

On behalf of the Pension Plan Administrator



The accompanying notes are an integral part of these financial statements.

Hamilton-Wentworth Retirement Fund Pension Plan

Statement of Changes in Net Assets Available for Benefits

Year Ended DECEMBER 31, 2021, with comparative information for 2020

	2021	2020
	\$	\$
INCREASE IN NET ASSETS		
Investment income (note 5)	1,545,307	4,359,950
Net realized gain (loss) on investments	2,886,234	(145,146)
Change in fair value of investments	1,869,291	99,534
	6,300,832	4,314,338
CONTRIBUTIONS		
Sponsor		
Special payment for unfunded liabilities (note 7)	-	368,944
DECREASE IN NET ASSETS		
Pension benefits	5,302,061	5,615,377
Administrative expenses and professional fees (note 6)	221,172	199,135
	5,523,233	5,814,512
NET INCREASE (DECREASE) FOR THE YEAR	777,599	(1,131,230)
NET ASSETS AVAILABLE FOR BENEFITS AT THE BEGINNING OF THE YEAR	53,689,645	54,820,875
NET ASSETS AVAILABLE FOR BENEFITS AT THE END OF THE YEAR	54,467,244	53,689,645

The accompanying notes are an integral part of these financial statements.

Hamilton-Wentworth Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

1. Description of the Plan

The Hamilton-Wentworth Retirement Fund ("HWRF") Pension Plan (the "Pension Plan") is a contributory defined benefit pension plan. The Pension Plan is registered under the Pension Benefits Act, 1987 (Ontario) (the "Act"), Registration Number 1073352. In accordance with a provision of the Ontario Municipal Employees Retirement System (OMERS) all new employees of the Corporation of the City of Hamilton are included under OMERS rather than the Pension Plan. As a consequence, the membership of the Pension Plan has become closed to new entrants and will decrease as existing members terminate. The Pension Plan's head office is located at 71 Main Street West, Hamilton, Ontario.

These fund financial statements have been approved and authorized for issue by the Treasurer of the City, as plan sponsor of the Hamilton-Wentworth Retirement Fund Pension Plan on September 7, 2022.

The majority of the net assets of the Pension Plan are combined in a pooled fund under a Master Trust agreement administered by RBC Investor Services Trust.

RBC Investor Services Trust (the "Trustee") is the custodial trustee of the Pension Plan. Investment decisions are made by independent investment managers using guidelines established by the City of Hamilton's Pension Committee for the Pension Plan while AON Hewitt is the Pension Plan's actuary for the defined benefit plan.

The Master Trust is divided into units of equal value, without priority or preference. The Master Trust issues units to the individual pension plans representing their proportionate ownership of the total assets in the Master Trust. Each plan is credited with units each time contributions are made while disbursements from the individual plans result in reductions of their unit holdings. Investment income in the Master Trust does not result in additional units for the individual plans but serves to increase the value of the units.

2. Basis of preparation

a) Basis of presentation

As permitted by the Financial Services Regulatory Authority of Ontario ("FSRA") these fund financial statements are prepared in accordance with Canadian accounting standards for pension plans excluding pension obligations and any resulting surplus or deficit.

In selecting accounting policies that do not relate to the Plan's investment portfolio or pension obligations and in accordance with Canadian accounting standards for pension plans, the Plan has chosen to comply on a consistent basis with International Financial Reporting Standards ("IFRS") in Part 1 of the Chartered Professional Accountants ("CPA Canada") Handbook.

These fund financial statements have been prepared to assist the Administrator of the Pension Plan to comply with the requirements of the Financial Services Regulatory Authority of Ontario ("FSRA") under section 76 of Regulation 909 of the Pension Benefits Act (Ontario). As a result, the fund financial statements may not be suitable for another purpose.

These fund financial statements of the Pension Plan do not purport to show the adequacy of the Pension Plan's assets to meet its pension obligation. Such an assessment requires additional information, such as the Pension Plan's actuarial reports and information about the City's financial health.

Hamilton-Wentworth Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

2. Basis of preparation (continued)

b) Basis of measurement

The financial statements have been prepared on the historical cost basis, except for financial instruments which are measured at fair value through the statement of changes in net assets available for benefits.

c) Functional and presentation currency

These fund financial statements are presented in Canadian dollars, which is the Pension Plan's Functional currency.

3. Significant accounting policies

a) Financial assets and financial liabilities

(i) Non-derivative financial assets

Financial assets are recognized initially on the trade date, which is the date that the Pension Plan becomes a party to the contractual provisions of the instrument. Transaction costs are not included in the fair value of investments either on initial recognition or on subsequent re-measurement. Transaction costs are included in the statement of changes in net assets available for benefits as part of administrative expenses and professional fees incurred for the period.

The Pension Plan measures all of its investments at fair value through the statement of changes in net assets available for benefits. All other non-derivative financial assets including accrued investment income, are measured at amortized cost.

The Pension Plan derecognizes a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred or in which the Pension Plan neither transfers nor retains substantially all the risks and rewards of ownership and does not retain control of the financial asset.

On derecognition of a financial asset, the difference between the carrying amount of the asset and consideration received is recognized in the statement of changes in net assets available for benefits, as a net realized gain on investments.

(ii) Non-derivative financial liabilities

All financial liabilities are recognized initially on the trade date at which the Pension Plan becomes a party to the contractual provisions of the instrument. The Pension Plan derecognizes a financial liability when its contractual obligations are discharged, cancelled or expired.

Financial assets and liabilities are offset, and the net amount presented in the statement of net assets available for benefits when, and only when, the Pension Plan has a legal right to offset the amounts and it intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. The Pension Plan considers its accrued liabilities to be a non-derivative financial liability.

Notes to Financial Statements

DECEMBER 31, 2021

3. Significant accounting policies (continued)

a) Financial assets and financial liabilities (continued)

(iii) Derivative financial instruments

Derivative financial instruments are recognized initially at fair value and attributable transaction costs are recognized in the statement of changes in net assets available for benefits as incurred. Subsequent to initial recognition, derivatives are measured at fair value, and all changes are recognized immediately in the statement of changes in net assets available for benefits.

b) Fair value measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between knowledgeable, willing parties in an arm's length transaction at the measurement date.

As allowed under IFRS 13, in determining fair value, the Pension Plan has adopted the guidance in IFRS 13, Fair Value measurement, ("IFRS 13") in Part I of the CPA Canada Handbook.

If an asset or a liability measured at fair value has a bid and an ask price, the price within the bid-ask spread that is the most representative of fair value in the circumstances shall be used to measure fair value. The Pension Plan uses closing market price as a practical expedient for fair value measurement.

When available, the Pension Plan measures the fair value of an instrument using quoted prices in an active market for that instrument. A market is regarded as active if quoted prices are readily and regularly available and represent actual and regularly occurring market transactions on an arm's length basis.

If a market for a financial instrument is not active, then the Pension Plan establishes fair value using a valuation technique. Valuation techniques include using recent arm's length transactions between knowledgeable, willing parties (if available), reference to the current fair value of other instruments that are substantially the same, discounted cash flow analyses and option pricing models.

The best evidence of the fair value of a financial instrument at initial recognition is the transaction price, i.e. the fair value of the consideration given or received, unless the fair value of that instrument is evidenced by comparison with other observable current market transactions in the same instrument or based on a valuation technique whose variables include only data from observable markets. When transaction price provides the best evidence of fair value at initial recognition, the financial instrument is initially measured at the transaction price and any difference between this price and the value initially obtained from a valuation model is subsequently recognized in profit or loss on an appropriate basis over the life of the instrument but not later than when the valuation is supported wholly by observable market data or the transaction is closed out.

Hamilton-Wentworth Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

3. Significant accounting policies (continued)

b) Fair value measurement (continued)

All changes in fair value, other than interest and dividend income and expense, are recognized in the statement of changes in net assets available for benefits as part of the change in value of investments.

Investments are stated at fair value. Fair value of investments including those held within the Master Trust is determined as follows:

- (i) Short-term notes, treasury bills and deposits maturing within a year are stated at cost, which together with accrued interest income approximates fair value given the short-term nature of these investments.
- (ii) Bonds and equities are valued at closing bid prices. Where quoted prices are not available, estimated fair values are calculated using comparable securities.
- (iii) Pooled funds are valued at the unit value supplied by the pooled fund administrator and which represents the Pension Plan's proportionate share of the underlying net assets at fair value determined using closing bid prices.

c) Net investment income

Income from investments is recognized on an accrual basis and includes dividend and interest income.

d) Realized and unrealized gain (loss) on investments

Realized gains or losses on sales of investments is the difference between the proceeds received and the average cost of the investments sold.

Change in fair value of investments represents the change in the difference between the fair value and cost of investments at the beginning and end of the year.

e) Income taxes

The Pension Plan is a registered pension plan, as defined by the Income Tax Act (Canada) and, accordingly, is not subject to income taxes.

f) Foreign currency

Transactions in foreign currencies are translated into Canadian dollars at the exchange rate at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies at the reporting date are retranslated into Canadian dollars at the exchange rate at that date.

Foreign currency differences arising on retranslation are recognized in the statement of changes in net assets available for benefits.

Hamilton-Wentworth Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

3. Significant accounting policies (continued)

g) Use of estimates and judgments

The preparation of the fund financial statements requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets and liabilities at the date of the statement of net assets available for benefits and the reported amounts of changes in net assets available for benefits during the year. Actual results may differ from those estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future years affected.

4. Investments

a) Plan and Master Trust investments

The following table provides details of the underlying investments held by the Master Trust:

Master Trust	2021			2020		
	Cost \$	Market Value \$	Unrealized Gain (Loss) \$	Cost \$	Market Value \$	Unrealized Gain (Loss) \$
Cash	2,029,625	2,029,625	-	153,960	153,960	-
Short term notes and treasury bills	1,005,087	1,005,087	-	3,295,721	3,295,721	-
Canadian bonds and debentures	113,004,035	125,940,612	12,936,577	56,163,514	64,529,135	8,365,621
Canadian pooled bond fund	88,565,553	74,759,247	(13,806,306)	88,279,275	79,221,110	(9,058,165)
Canadian corporate shares	53,677,060	79,501,367	25,824,307	76,448,759	94,425,136	17,976,377
Other Equity Investments - Warrants	38,061	76,527	38,466	-	-	-
Canadian pooled equity fund	33,233,966	19,499,614	(13,734,352)	44,432,642	22,403,565	(22,029,077)
Foreign corporate shares	2,807,221	3,059,647	252,426	4,352,002	3,872,626	(479,376)
Foreign pooled equity fund	38,713,325	56,442,369	17,729,044	54,364,546	75,738,253	21,373,707
	333,073,933	362,314,095	29,240,162	327,490,419	343,639,506	16,149,087

Hamilton-Wentworth Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

4. Investments (continued)

a) Plan and Master Trust investments (continued)

The following table provides details of the Pension Plan's proportionate interest of 15.0% (2020 - 15.6%) of underlying investments held within the Master Trust:

Master Trust HWRF Shares	2021			2020		
	Cost	Market Value	Unrealized Gain (Loss)	Cost	Market Value	Unrealized Gain (Loss)
	\$	\$	\$	\$	\$	\$
Cash	304,506	304,482	(24)	24,002	24,000	(2)
Short term notes and treasury bills	150,794	150,782	(12)	513,783	513,744	(39)
Canadian bonds and debentures	16,954,053	18,893,491	1,939,438	8,755,557	10,058,942	1,303,385
Canadian pooled bond fund	13,287,535	11,215,311	(2,072,224)	13,762,212	12,349,159	(1,413,053)
Canadian corporate shares	8,053,197	11,926,719	3,873,522	11,917,905	14,719,195	2,801,290
Other Equity Investments - Warrants	5,710	11,481	5,771	-	-	-
Canadian pooled equity fund	4,986,109	2,925,314	(2,060,795)	6,926,782	3,492,316	(3,434,466)
Foreign corporate shares	421,169	459,005	37,836	678,451	603,673	(74,778)
Foreign pooled equity fund	5,808,180	8,467,431	2,659,251	8,475,108	11,806,243	3,331,135
	49,971,253	54,354,016	4,382,763	51,053,800	53,567,272	2,513,472

The Pension Plan also directly holds cash of \$107,742 (2020 - \$99,526).

b) Fair value

The following table presents financial assets measured at fair value in the statement of net assets available for benefits in accordance with the fair value hierarchy. This hierarchy groups financial assets into three levels based on the significance of inputs used in measuring the fair value of the financial assets. The fair value hierarchy has the following levels:

Level 1: Unadjusted quoted prices in active markets for identical assets or liabilities;

Level 2: Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly; and

Level 3: Inputs for assets and liabilities which are not based on observable market data.

Hamilton-Wentworth Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

4. Investments (continued)

b) Fair value (continued)

The level within which the financial asset is classified is determined based on the lowest level of significant input to the fair value measurement. The financial assets measured at fair value in the statement of net assets available for benefits are grouped into the fair value hierarchy as follows:

The Pension Plan's investment in Master Trust is classified as Level 2. The following table presents the classification of the investments held within the Master Trust and those held directly by the Pension Plan at December 31, 2021, using the fair value hierarchy:

	2021			2021 Market Value		
	Cost	Market Value	Unrealized Gain (Loss)	Level 1	Level 2	Level 3
	\$	\$	\$	\$	\$	\$
Cash	412,247	412,224	(23)	412,224	-	-
Short term notes and treasury bills	150,794	150,782	(12)	-	150,782	-
Canadian bonds and debentures	16,954,053	18,893,491	1,939,438	-	18,893,491	-
Canadian pooled bond fund	13,287,535	11,215,311	(2,072,224)	-	11,215,311	-
Canadian corporate shares	8,053,197	11,926,719	3,873,522	11,926,719	-	-
Other Equity Investments - Warrants	5,710	11,481	5,771	11,481	-	-
Canadian pooled equity fund	4,986,109	2,925,314	(2,060,795)	-	2,925,314	-
Foreign corporate shares	421,169	459,005	37,836	459,005	-	-
Foreign pooled equity fund	5,808,180	8,467,431	2,659,251	-	8,467,431	-
	50,078,994	54,461,758	4,382,764	12,809,429	41,652,329	-

	2020			2020 Market Value		
	Cost	Market Value	Unrealized Gain (Loss)	Level 1	Level 2	Level 3
	\$	\$	\$	\$	\$	\$
Cash	123,528	123,526	(2)	123,526	-	-
Short term notes and treasury bills	513,783	513,744	(39)	-	513,744	-
Canadian bonds and debentures	8,755,557	10,058,942	1,303,385	-	10,058,942	-
Canadian pooled bond fund	13,762,212	12,349,159	(1,413,053)	-	12,349,159	-
Canadian corporate shares	11,917,905	14,719,195	2,801,290	14,719,195	-	-
Canadian pooled equity fund	6,926,782	3,492,316	(3,434,466)	-	3,492,316	-
Foreign corporate shares	678,451	603,673	(74,778)	603,673	-	-
Foreign pooled equity fund	8,475,108	11,806,243	3,331,135	-	11,806,243	-
	51,153,326	53,666,798	2,513,472	15,446,394	38,220,404	-

Hamilton-Wentworth Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

4. Investments (continued)

b) Fair value (continued)

The methods and valuation techniques used for the purpose of measuring fair value are unchanged compared to the prior year reporting period. There were no changes in the classification of these financial instruments during the current year.

c) Investments – Financial instrument risk

The Pension Plan's investment activities expose it to a variety of financial risks including credit risk, market price risk, currency risk, interest rate risk and liquidity risk.

Credit risk

Credit risk is the risk of loss arising from the failure of a counterparty to fully honour its financial obligations with the Pension Plan, including its inability or unwillingness to pay borrowed principal, interest or rent when they come due. Credit risk can also lead to losses when issuers and debtors are downgraded by credit rating agencies, usually leading to a fall in the market value of the debtors' obligations.

Fixed income investments include cash, short-term notes and treasury bills, Canadian bonds and debentures and Canadian pooled bond funds. As at December 31, 2021, the Pension Plan's fixed income investments exposure to credit risk is as follows:

Type	Credit Rating	2021 % of Total Fund	2021 Amount \$	2020 % of Total Fund	2020 Amount \$
Corporate	AAA/AA	0.1%	33,594	0.3%	70,342
	A	6.3%	1,935,023	13.1%	3,021,015
	BBB	2.8%	867,849	7.2%	1,649,958
Provincial	n/a	20.7%	6,349,293	24.8%	5,726,457
Federal	n/a	67.3%	20,617,811	50.6%	11,651,815
Cash	n/a	2.8%	868,238	4.0%	925,783
		100.0%	30,671,808	100.0%	23,045,370

The fixed income investments mature as follows: \$493,001 within 1 year, \$1,503,983 within 1-10 years and \$28,604,819 in greater than 10 years.

Market price risk

Market price risk is the risk that the fair value of a financial instrument will fluctuate as a result of changes in the market prices caused by factors specific to the individual financial instruments, its issuer, or factors affecting similar financial instruments traded in the public capital markets. As at December 31, 2021, the Pension Plan's equity exposure of \$23,789,950 (2020 - \$30,621,428) represented 43.7% (2020 - 57.1%) of the Pension Plan's investments. As at December 31, 2021, if the prices of securities had increased or decreased by ten percent, the effect on the assets, with all other variables held constant, would be \$2,378,995 (2020 - \$3,062,143).

Hamilton-Wentworth Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

4. Investments (continued)

c) Investments – financial instrument risk (continued)

Currency risk

Investments denominated in currencies other than the Canadian dollar expose the Pension Plan to fluctuations in foreign exchange rates. Fluctuations in the relative value of the Canadian dollar against these foreign currencies can result in a positive or a negative effect on the fair value of the investments.

As at December 31, 2021, the Pension Plan's exposure to foreign currency, in Canadian dollars, is as follows:

Type	2021 % of Total Fund	2021 Amount \$	2020 % of Total Fund	2020 Amount \$
United States dollar	8.0%	4,384,018	10.6%	5,683,254
Euro	3.3%	1,796,214	4.0%	2,131,590
Pound sterling	1.7%	941,762	2.3%	1,218,605
Japanese yen	2.2%	1,196,850	2.8%	1,494,593
Swiss franc	0.8%	412,214	0.9%	507,596
South Korean Won	0.5%	296,360	0.2%	129,869
New Taiwan dollar	1.1%	609,655	1.5%	779,212
Renminbi	0.8%	431,839	2.2%	1,180,624
Hong Kong dollar	0.4%	242,954	0.7%	359,813
Russian ruble	0.6%	338,697	1.0%	543,087
Thai baht	0.0%	8,467	0.0%	23,613
Swedish kronor	0.1%	77,181	0.3%	174,785
Brazilian real	0.1%	63,564	0.1%	59,031
Indian rupee	0.3%	143,946	0.3%	141,675
South African rand	0.0%	16,935	0.2%	94,450
Australian dollar	0.3%	152,246	0.6%	314,933
Other foreign currencies	1.3%	607,430	1.6%	904,066
	21.5%	11,720,332	29.3%	15,740,796

Hamilton-Wentworth Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

4. Investments (continued)

d) Investments – financial instrument risk (continued)

Currency risk (continued)

As at December 31, 2021, if the Canadian dollar had strengthened/weakened by five percent in relation to other currencies, with all other variables held constant, the effect on the assets would be as follows:

Type	2021 Change in Currency	2021 Amount \$	2020 Change in Currency	2020 Amount \$
United States dollar	+/- 5%	219,201	+/- 5%	284,163
Euro		89,811		106,579
Pound sterling		47,088		60,930
Japanese yen		59,843		74,730
Swiss franc		20,611		25,380
South Korean Won		14,818		6,493
New Taiwan dollar		30,483		38,961
Renminbi		21,592		59,031
Hong Kong dollar		12,148		17,991
Russian ruble		16,935		27,154
Thai baht		423		1,181
Swedish kronor		3,859		8,739
Brazilian real		3,178		2,952
Indian rupee		7,197		7,084
South African rand		847		4,722
Australian dollar		7,612		15,747
Other foreign currencies		30,371		45,203
		586,017		787,040

Interest rate risk

Interest rate risk refers to the effect on the market value of the Pension Plan's assets and liabilities due to fluctuations in interest rates. As at December 31, 2021, the Pension Plan's fixed income investments with exposure to interest rate risk is \$29,803,570 (2020 - \$22,119,587). As at December 31, 2021, if the nominal interest rate had increased or decreased by one percent, the effect on the assets, with all other variables held constant, would be \$4,771,552 (2020 - \$3,521,438).

Liquidity risk

Liquidity risk is the exposure of the Pension Plan to the risk of not being able to meet its financial obligations as they become due. The Pension Plan maintains an investment policy which contains asset mix guidelines which help ensure the Pension Plan is able to liquidate investments to meet its pension benefit or other obligations.

Hamilton-Wentworth Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

4. Investments (continued)

d) Statutory disclosure

The following information is provided in respect of individual investments, including those held within the Master Trust, with a cost or fair value in excess of 1% of the cost or fair value of the Pension Plan's investments as required to meet disclosure requirements under the Pension Benefits Act (Ontario):

	Rate or Units	Maturity	Fair Value 2021 \$
Canadian bonds and debentures			
Government of Canada Unsecured Inflation Linked	1.25%	12/1/2047	2,649,434
Canada Real Return Bond	4.00%	12/1/2031	3,533,349
Canada Real Return Bond	4.25%	12/1/2026	1,503,983
Government of Canada Real Return Bond	1.50%	12/1/2044	2,564,746
Government of Canada Series	2.00%	12/1/2041	3,288,516
Government of Canada Series	3.00%	12/1/2036	2,817,826
Government of Canada Series	0.50%	12/1/2050	2,535,635
Canadian pooled bond fund			
TD Emerald Active CDN Long Bond Pooled Fund	1,370,031		11,215,311
Canadian corporate shares			
Bank of Montreal	4,113		560,118
Royal Bank of Canada	4,373		586,982
Canadian and foreign pooled equity funds			
Aberdeen Canada Global Equity Fund	643,313		2,855,255
Global Equity Allocation Fund III	219,798		8,467,431

Hamilton-Wentworth Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

5. Investment income

	2021	2020
	\$	\$
Fixed income	485,980	878,786
Equities	1,042,731	3,420,381
Cash	16,596	60,783
	1,545,307	4,359,950

6. Administrative expenses and professional fees

	2021	2020
	\$	\$
Actuarial fees	24,418	47,531
Trustee and legal fees	7,864	7,689
Administrative expenses	60,976	60,976
Investment management fees	127,914	82,939
	221,172	199,135

Audit fees are paid by the City of Hamilton on behalf of the Pension Plan.

7. Related party transactions

During the year, the City of Hamilton charged administrative expenses to the Pension Plan in the amount of \$60,976 (2020 - \$60,976).

The City of Hamilton also made actuarial deficiency payments in the amount of \$nil (2020 - \$368,944) in connection with the Pension Plan's unfunded liability as at the last actuarial valuation date of December 31, 2019 based on membership data as at December 31, 2019.

The next actuarial valuation date is to occur no later than December 31, 2022.

Hamilton-Wentworth Retirement Fund Pension Plan

Notes to Financial Statements

DECEMBER 31, 2021

8. Capital risk management

The main objective of the Pension Plan is to sustain a certain level of net assets in order to meet the pension obligations of the Hamilton-Wentworth Retirement Fund Pension Plan, which are not presented or discussed in these specified-purpose financial statements. The Pension Plan fulfils its primary objective by adhering to specific investment policies outlined in the Statement of Investment Policies and Procedures (the "SIP&P"), which is reviewed annually by the City. The inception date of the Master Trust and SIP&P is November 1, 1999. The SIP&P was last amended and approved on December 15, 2021. The amendment contains an update on information on liabilities and members of the Pension Plan, as well as minor changes made to enhance clarity.

The Pension Plan manages net assets by engaging knowledgeable investment managers who are charged with the responsibility of investing existing funds and new funds (current year employer contributions) in accordance with the approved SIP&P. Increases in net assets available for benefits are direct results of investment income generated by investments held by the Plan and contributions into the Plan by eligible employees and by the City. The main use of net assets available for benefits is for the benefit payments to eligible Plan members. Although there are no regulatory requirements relating to the level of assets, the funding to be maintained by the Plan is determined through triennial actuarial valuations. There were no contributions that were past due at December 31, 2021. The Pension Plan is required to file fund financial statements with FSRA.

In accordance with the SIP&P, the Plan's asset allocation is dependent upon the determined funded ratio of the plan as at year-end. As at year-end, the Plan was approximately 75% funded on a wind-up basis which results in a mix of return seeking target of 54%. This results in a target asset allocation mix as follows, with an acceptable range of +/- 5% for each of the identified allocations:

Asset category	Classification based on SIP&P	SIP&P allocation target (%)	2021	2020
Canadian Equity	Return seeking	20%	23.7%	29.7%
Global Equity	Return seeking	19%	20.8%	28.4%
Long-term bonds	Liability hedging	18%	20.6%	23.1%
Real Return bonds	Liability hedging	43%	34.9%	18.8%
		100%	100%	100%

As at December 31, 2021, the Plan was not in compliance with the asset allocation identified in the SIP&P. This was remedied by management in March 2022.

Hamilton-Wentworth Retirement Fund Pension Plan

**Supplemental Appendix
(Unaudited)**

This supplemental disclosure is attached as an unaudited appendix to the financial statements for reporting under FSRA disclosures requirements.

The following table presents the annual rate of investment return by asset category as determined by Aon Hewitt.

Asset Categories	Benchmark	Annual rate of investment return (%)	
		As at December 31	
		2021	2020
Long-term Bonds	FTSE Canada Long-term Bond Index	-4.2%	12.3%
Real Return Bonds	FTSE Canada Real Return Bond Index	1.9%	13.2%
Canadian Equities	S&P/TSX Composite	29.3%	-0.5%
Global Equities	MSCI World Index (C\$)	15.9%	8.6%



INFORMATION REPORT

TO:	Chair and Members HMRF / HWRF Pension Administration Sub-Committee
COMMITTEE DATE:	March 30, 2023
SUBJECT/REPORT NO:	Master Trust Pension Investment Performance Report as at December 31, 2021 (FCS21091(a)) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Gerald T. Boychuk (905) 546-2424 Ext. 4321
SUBMITTED BY:	Brian McMullen Director, Financial Planning, Administration and Policy Corporate Services Department
SIGNATURE:	

COUNCIL DIRECTION

Not applicable.

INFORMATION

Attached as Appendix "A" to Report FCS21091(a) is Aon Hewitt's investment performance report for the Hamilton Municipal Retirement Fund (HMRF), the Hamilton-Wentworth Retirement Fund (HWRF) and the Hamilton Street Railway (HSR) as of December 31, 2021. Together the three pension funds make up the Master Trust, which is referred to as the "Plan" throughout Report FCS21091(a).

As of December 31, 2021, the market value of the assets of the Plan was \$362.7 M, an increase of \$18.7 M compared with \$344.0 M as of December 31, 2020. The funded ratio increased from 74.9% to 84.8% at year-end due to very low interest rates, increased resource prices and economic outlook.

For the one-year period ending December 31, 2021, the Plan's return was 12.6%, outperforming its benchmark return of 10.9% by 1.7%. The benchmark return is based on the benchmark asset mix for the Plan. The Plan's return of 12.6% underperformed the OMERS (Gross) plan return of 15.7% by 3.1%.

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

**SUBJECT: Master Trust Pension Investment Performance Report as at
December 31, 2021 (FCS21091(a) (City Wide) – Page 2 of 6**

Table 1 shows the Plan's one-year return for the last five years (ending December 31 in each year).

**Table 1
Plan's 1-Year (ended Dec. 31) Returns**

	12 Months Ended Dec. 31/21	12 Months Ended Dec. 31/20	12 Months Ended Dec. 31/19	12 Months Ended Dec. 31/18	12 Months Ended Dec. 31/17
Plan Return	12.6%	8.7%	13.8%	-4.2%	9.5%
Benchmark	10.9%	13.5%	16.4%	-2.6%	8.3%
Value Added	1.7%	-4.8%	-2.6%	-1.6%	1.2%
Market Value	\$362.7 M	\$344.0 M	\$337.5 M	\$311.5 M	\$341.9 M
Funded Ratio	84.8%	74.9%	78.6%	75.4%	75.2%

The Plan's performance may be compared to the return earned in the broader pension market in Canada. Attached as Appendix "B" to Report FCS21091(a), RBC Investor & Treasury Service (RBCITS) reports its universe of pension funds, which totals C\$4.6 B and had an average annual return of 8.9% in the year ended December 31, 2021. The Plan's return of 12.6% outperformed the RBCITS average annual return of 8.9% by 3.7%. Canadian and Global equity returns were major contributors to the Plan's overall return. The significant drop in interest rates in early 2020 followed by full off setting rate increases late in 2021, led to negative returns of -0.42% in longer term bonds and a minor positive return in Real Return bonds of +1.9% held within the portfolio.

Table 2 compares the Plan's returns to OMERS fund's gross returns over one, five and ten-year periods, all ending December 31, 2021. The Plan's gross returns are greater than OMERS gross returns for two periods. This is unexpected due to OMERS strategy of emphasizing alternative investments, public equity and fixed income securities, which remained stable but generated very good returns in 2021. OMERS (Gross) return of 15.7% is accounting for 45% of their outperformance at a return of 20.7%, as well as, private equity and real estate accounting for 45% with returns of 25.8% and 15.9%, respectively. The returns on infrastructure and short-term credit accounted for the last 10% contribution at a return of 10.7% and 5.8% (short-term).

**SUBJECT: Master Trust Pension Investment Performance Report as at
December 31, 2021 (FCS21091(a) (City Wide) – Page 3 of 6**

**Table 2
Annualized Returns**

	Dec. 31/21 One-Year Annualized Return	5-Year Annualized Return	10-Year Annualized Return
Plan (HSR, HMRF, HWRF)	12.6%	7.9%	8.6%
Plan Benchmark	10.9%	9.2%	9.0%
OMERS (Gross)	15.7%	7.5%	8.0%
OMERS Benchmark (Gross)	6.6%	7.1%	7.4%

The Plan's ten-year gross annualized return for the period ending December 31, 2021 is 8.6% underperforming the benchmark return of 9.0% by 0.4% and outperforming OMERS return of 8.0% by 0.6%.

The Plan's five-year gross annualized return for the period ending December 31, 2021 is 7.9% underperforming the benchmark return of 9.2% by 1.3% and outperforming OMERS return of 7.5% by 0.4%.

The Plan's gross return for the period ending December 31, 2021 is 12.6% outperforming the benchmark of 10.9% by 1.7% and under-performed OMERS 15.7% by 3.1%. OMERS results are reported in OMERS 2021 financial reports available online.

OMERS invests in public market securities (such as public equities and bonds) and in private market investments (such as private equity, real estate, infrastructure and strategic investments). The Plan invests only in public market securities. Private market investments require expertise developed over many years, have limited liquidity, require significant administrative costs and current valuations may or may not be realized.

Asset Mix

Table 3 shows the percentage of Plan assets in each asset class as of December 31, 2021 compared to December 31, 2020.

**SUBJECT: Master Trust Pension Investment Performance Report as at
December 31, 2021 (FCS21091(a) (City Wide) – Page 4 of 6**

**Table 3
Percentage of Plan Assets in Each Asset Class**

Asset Class	Dec. 31, 2021	Dec. 31, 2020	Change
Canadian Equity	23.7%	29.7%	-6.0%
Global Equity	<u>20.8%</u>	<u>28.4%</u>	<u>-7.6%</u>
Total Equity	44.5%	58.1%	-13.6%
Canadian Fixed Income	55.4%	41.8%	13.6%
Cash	0.0%	0.1%	-0.1%

Note: Anomalies due to rounding.

Total equity decreased by 13.6% to 44.5% and total fixed income, including cash, increased by a corresponding 13.6% to 55.5%. Global equity decreased by 7.6% to 20.8%. Canadian equity holdings decreased by 6% to 23.7%. Canadian fixed income increased by 13.5% to 55.4% including cash. The year saw equity returns domestically and internationally in the portfolio ranging from 14.4% to 35.8%. The fixed income portfolios incurred mediocre returns for the year ranging from -4.2% (Long Bonds) to 1.9% (Real Return Bonds), a -0.9% overall fixed income return on holdings of 20.6% Long Bonds and 34.8% Real Return Bonds and cash for disbursement.

The Master Trust at year-end was within its prescribed boundaries set by the Plan's investment policy given the funded ratio at 84.8% (44.5% equity and 55.4% fixed income).

Managers' Performance

Managers' investment performance relative to their benchmark and peer group is summarized in Table 4. One-year rates of return, percentages of plan assets and rankings in terms of quartile performance are as of December 31, 2021.

**SUBJECT: Master Trust Pension Investment Performance Report as at
December 31, 2021 (FCS21091(a) (City Wide) – Page 5 of 6**

**Table 4
Managers' Performance**

	Manager Return	Benchmark Return	Value Added (Manager Return less Benchmark Return)	Percentage Total Assets
Period Ending Dec.31/21				
Canadian Equity:				
Guardian	23.8%	25.1%	-1.3%	12.3%
Letko	35.8%	25.1%	10.7%	11.5%
Global Equity				
Aberdeen ⁽¹⁾	21.1%	21.0%	0.1%	5.2%
GMO ⁽²⁾	14.4%	21.0%	-6.6%	15.6%
Fixed Income:				
TDAM Long Bonds ⁽³⁾	-4.2%	-4.5%	0.3%	20.6%
TDAM Real Return Bonds	1.9%	1.8%	0.1%	34.8%

Notes: ⁽¹⁾ Engaged in April 2010

⁽²⁾ Engaged in July 2010

⁽³⁾ Toronto Dominion Asset Management (TDAM) engaged in March 2012

Guardian, one of the two Canadian active equity managers, had a return of 23.8% and underperformed its benchmark return of 25.1% by -1.3%. Its performance is fourth quartile (90%) over the one-year and third quartile (61%) over the four-year period, with a benchmark return of 10.3% and an actual return of 9.5%. Guardian manages 12.3% of Plan assets with an added value of -0.8% over four years.

Letko, the second Canadian active equity manager, had a return of 35.8% and outperformed its benchmark return of 25.1% by 10.7% with an added value of 10.7%. Its performance is first quartile (7%) over the one-year period and fourth quartile over the four-year period (86%) with an actual return of 7.3% with a benchmark return of 10.3%, with an added value of -3.0% over four years. Letko manages 11.5% of the Plan assets.

Aberdeen is a global equity manager. Its return was 21.1% exceeding the benchmark return of 21.0% by 0.1%. Aberdeen's performance is second quartile (31%) over the one-year period and added value of 0.1%. Aberdeen manages 5.2% of the Plan assets. The firm's performance is second quartile (45%) over four years, underperforming the benchmark of 13.5% by -0.9% with a return of 12.6%.

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

**SUBJECT: Master Trust Pension Investment Performance Report as at
December 31, 2021 (FCS21091(a) (City Wide) – Page 6 of 6**

GMO is the second active global equity manager. GMO's return was 14.4%, underperforming the benchmark return of 21.0 by 6.6%. GMO's performance is fourth quartile (77%) over the one-year period and added value of -6.6%. GMO manages 15.6% of Plan assets and is fourth quartile (76%) over four years returning 8.6% compared to the 13.5% benchmark a value added of -4.9%.

TDAM Long Bonds – The active long bond fund manager has 20.6% of the portfolio holdings under management. Performance over one year is a return of -4.2% compared to the benchmark return of -4.5% which is a value added of 0.3%. The four-year return was 5.0% compared to the benchmark of 4.8% with an added value of 0.2%.

TDAM Real Return Bonds – The passively managed fund has 34.8% of the portfolio under management and returned 1.9% over the one-year period compared to the benchmark return of 1.8%. Value added was 0.1%. The four-year return was 5.7% compared to the benchmark of 5.6% with an added value of 0.1%.

In summary, the Plan's gross return of 12.6% underperformed OMERS' gross return 15.7% by 3.1% and its funding ratio increased to 84.8% from last year's 74.9%.

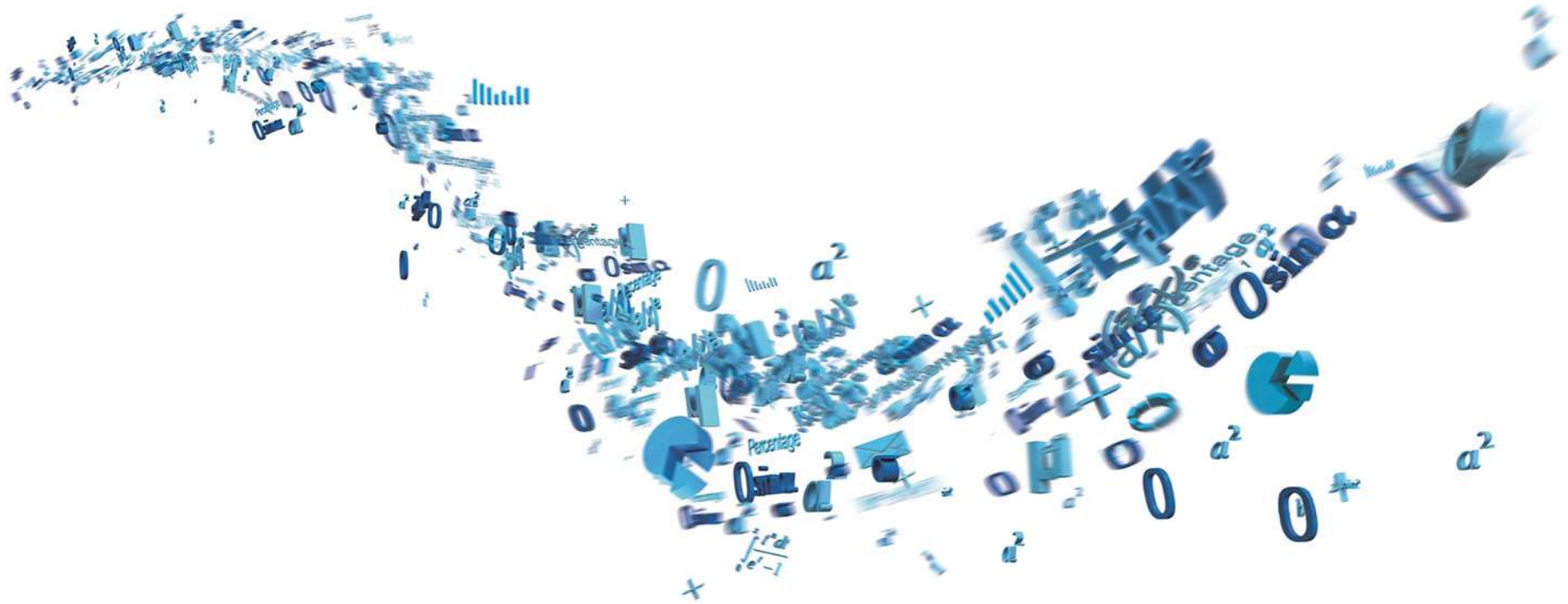
Interest Rates have risen very quickly and substantially in all terms in 2022 and are expected to continue at the time of writing. The fund's balance was changed and escalated the holdings of the Real Return Bonds specifically and reduced equity holdings as funding for the overall Master Trust improved to a trigger point emphasizing Bonds. This allowed the fund to capture equity returns and prepare for the inevitable increases in inflation and interest rates while reducing equity holdings. All returns were positive and close to their benchmarks with a value added range of -6.6% to 10.7% contributing to overall positive returns. The highest return was 35.8% (Letko) and the lowest was -4.2% (TDAM Long Bonds) at year end. The Plan had a return of 12.6% bettering its benchmark of 10.9% and added value of 2.6% and exceeded the RBCITS average of 8.9% by 3.7%.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report FCS21091(a) – The City of Hamilton Master Trust Period Ending December 31, 2021– AON Performance Review and Investment Manager Evaluation

Appendix "B" to Report FCS21091(a) – Canadian DB pensions posted healthy returns in 2021: RBC Investor & Treasury Services January 31, 2022

GB/dt



The City of Hamilton Master Trust Period Ending 31 December 2021

Performance Review and Investment Manager Evaluation

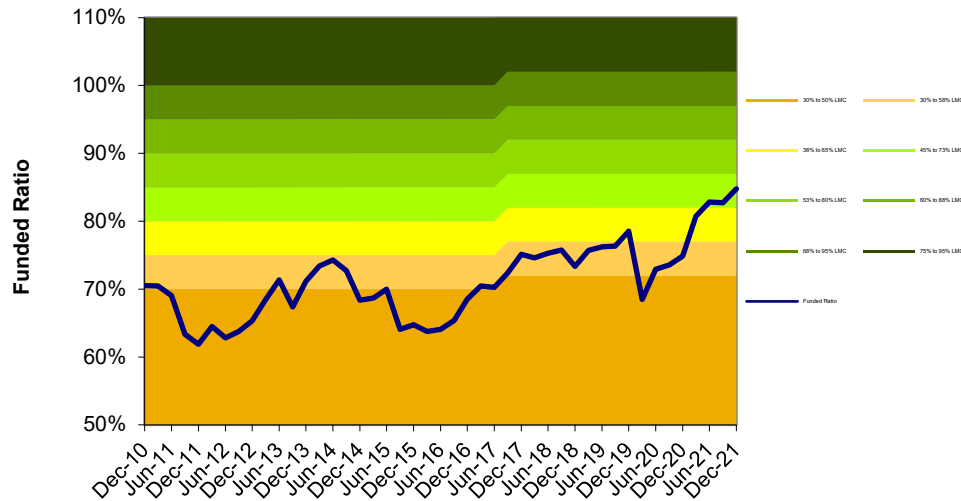
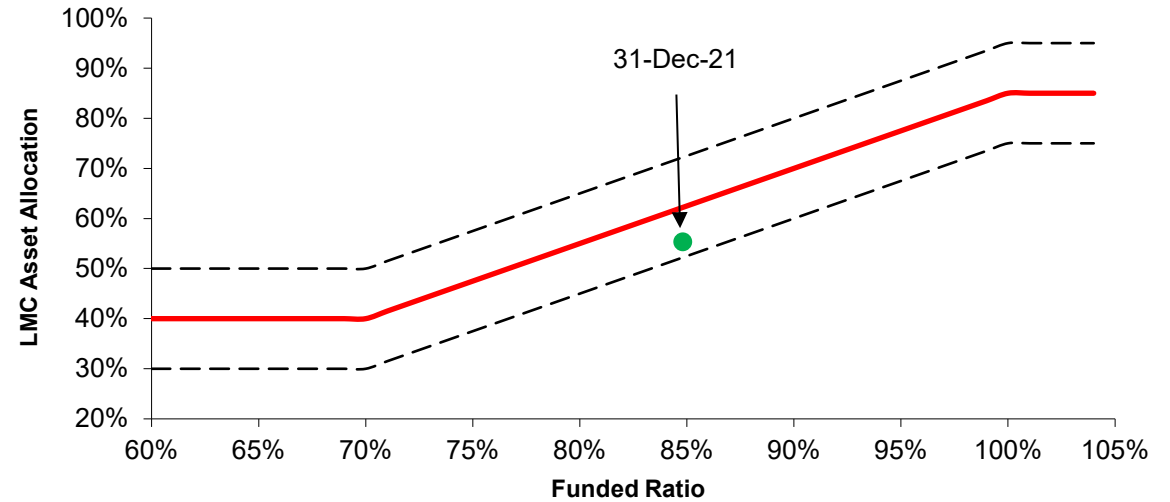
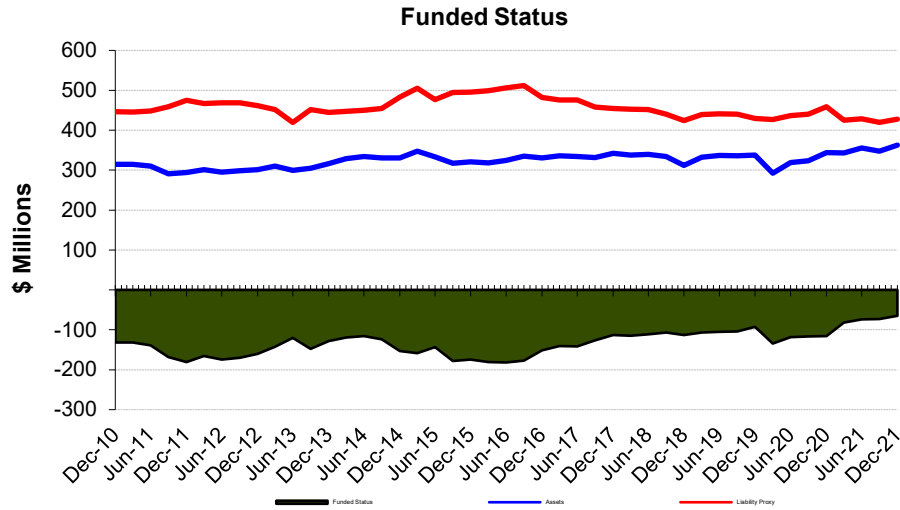
Visit the **Aon Retirement and Investment Website** (<https://retirement-investment-insights.aon.com/canada>); sharing our best thinking.

Table Of Contents

1	Executive Summary	Page 1
2	Capital Markets Performance	Page 6
3	Total Fund Analysis	Page 9
4	Appendix A - Plan Information	Page 14
5	Appendix B - Manager Updates	Page 16
6	Appendix C - Disclosure	Page 19

Executive Summary

Quarterly Performance Report for the City of Hamilton Funded Status and Glide Path Information for December 31, 2021



Snapshot (Wind-Up)

	31-Mar-21	30-Jun-21	30-Sep-21	31-Dec-21
Market value of assets (\$ Millions)	\$343.2	\$355.4	\$347.3	\$362.7
Liability proxy (\$ Millions)	\$424.8	\$428.9	\$419.7	\$427.7
Funded status (\$ Millions)	(\$81.6)	(\$73.5)	(\$72.4)	(\$65.0)
Funded ratio	80.8%	82.9%	82.7%	84.8%
Current LMC Asset Allocation	38.2%	50.8%	51.5%	55.4%

Rebalancing

- The rebalancing strategy for this plan requires that assets be rebalanced to the target allocation (indicated by the red line) whenever the LMC Asset Allocation falls outside of the range deemed acceptable for a given funded ratio (indicated by the dashed lines).
- Because the LMC Asset Allocation as of December 31, 2021 is within the range determined acceptable for the current funded ratio (84.8%), the asset mix does not require rebalancing.

Executive Summary

Trailing Period Performance

As of 31 December 2021

	Allocation		Performance (%)						
	Market Value (\$000)	%	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
Total Fund	362,686	100.0	6.0 (14)	12.6 (56)	10.6 (65)	11.7 (71)	7.5 (91)	7.9 (74)	8.6 (86)
Benchmark			6.5 (9)	10.9 (82)	12.2 (28)	13.6 (27)	9.3 (28)	9.2 (36)	9.0 (75)
Value Added			-0.5	1.7	-1.6	-1.9	-1.8	-1.3	-0.4
Canadian Equity	86,056	23.7	7.1 (44)	29.3 (29)	13.4 (80)	14.5 (85)	7.8 (82)	8.7 (78)	11.4 (19)
Guardian (including cash)	44,476	12.3	7.3 (36)	23.8 (90)	13.8 (77)	15.3 (76)	9.5 (61)	9.6 (57)	10.1 (59)
S&P/TSX Composite			6.5 (64)	25.1 (75)	14.9 (49)	17.5 (42)	10.3 (41)	10.0 (38)	9.1 (85)
Value Added			0.8	-1.3	-1.1	-2.2	-0.8	-0.4	1.0
Letko (including cash)	41,580	11.5	7.1 (40)	35.8 (7)	14.7 (56)	15.0 (82)	7.3 (86)	8.6 (81)	12.2 (7)
S&P/TSX Composite			6.5 (64)	25.1 (75)	14.9 (49)	17.5 (42)	10.3 (41)	10.0 (38)	9.1 (85)
Value Added			0.6	10.7	-0.2	-2.5	-3.0	-1.4	3.1
Global Equities	75,475	20.8	5.0 (62)	15.9 (68)	12.2 (69)	14.2 (69)	9.4 (70)	10.6 (69)	11.6 (94)
Aberdeen	19,033	5.2	8.8 (10)	21.1 (31)	18.0 (35)	18.2 (44)	12.6 (45)	13.5 (48)	12.3 (87)
MSCI World (Net)			7.9 (20)	21.0 (31)	17.4 (40)	18.7 (40)	13.5 (39)	13.7 (45)	15.2 (51)
Value Added			0.9	0.1	0.6	-0.5	-0.9	-0.2	-2.9
GMO	56,442	15.6	3.7 (75)	14.4 (77)	11.0 (74)	13.7 (71)	8.6 (76)	10.5 (70)	11.8 (93)
MSCI World (Net)			7.9 (20)	21.0 (31)	17.4 (40)	18.7 (40)	13.5 (39)	13.7 (45)	15.2 (51)
Value Added			-4.2	-6.6	-6.4	-5.0	-4.9	-3.2	-3.4

*GMO returns are reported net-of-fees.

Executive Summary

Trailing Period Performance

As of 31 December 2021

	Allocation		Performance (%)						
	Market Value (\$'000)	%	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
Canadian Fixed Income	201,009	55.4	5.9	-0.9	5.6	7.3	5.3	5.0	4.3
TDAM Long Bonds	74,759	20.6	4.7	-4.2	3.7	6.7	5.0	5.4	-
FTSE Canada Long Term Overall Bond			4.8	-4.5	3.4	6.4	4.8	5.3	4.8
Value Added			-0.1	0.3	0.3	0.3	0.2	0.1	-
TDAM Real Return Bonds	126,101	34.8	6.6	1.9	7.4	7.7	5.7	4.6	-
FTSE Canada Real Return Bond			6.4	1.8	7.3	7.5	5.6	4.6	3.0
Value Added			0.2	0.1	0.1	0.2	0.1	0.0	-
TDAM Cash	201,009	55.4							
Operating Account	145	0.0							

*GMO returns are reported net-of-fees.

Executive Summary

Trailing Period Performance

As of 31 December 2021

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total Fund	12.6 (56)	8.7 (61)	13.8 (76)	-4.2 (85)	9.5 (35)	9.3 (22)	2.6 (93)	12.0 (28)	13.0 (91)	10.5 (24)	0.5 (39)
Benchmark	10.9 (82)	13.5 (6)	16.4 (34)	-2.6 (56)	8.6 (59)	8.4 (33)	4.3 (82)	13.9 (1)	9.7 (97)	8.4 (71)	0.4 (40)
Value Added	1.7	-4.8	-2.6	-1.6	0.9	0.9	-1.7	-1.9	3.3	2.1	0.1
Canadian Equities	29.3 (29)	-0.5 (78)	16.7 (90)	-10.0 (71)	12.3 (8)	24.1 (18)	-5.3 (49)	11.9 (41)	25.3 (16)	17.1 (2)	-9.1 (51)
Guardian (including cash)	23.8 (90)	4.5 (45)	18.5 (83)	-6.3 (13)	9.9 (31)	18.3 (59)	-4.0 (42)	13.0 (23)	13.8 (92)	13.7 (14)	-8.3 (46)
S&P/TSX Composite	25.1 (75)	5.6 (37)	22.9 (30)	-8.9 (52)	9.1 (52)	21.1 (35)	-8.3 (82)	10.6 (57)	13.0 (95)	7.2 (81)	-8.7 (49)
Value Added	-1.3	-1.1	-4.4	2.6	0.8	-2.8	4.3	2.4	0.8	6.5	0.4
Letko (including cash)	35.8 (7)	-3.2 (95)	15.6 (91)	-12.7 (92)	13.8 (2)	28.1 (6)	-5.9 (56)	11.5 (45)	31.5 (3)	18.4 (1)	-9.1 (51)
S&P/TSX Composite	25.1 (75)	5.6 (37)	22.9 (30)	-8.9 (52)	9.1 (52)	21.1 (35)	-8.3 (82)	10.6 (57)	13.0 (95)	7.2 (81)	-8.7 (49)
Value Added	10.7	-8.8	-7.3	-3.8	4.7	7.0	2.4	0.9	18.5	11.2	-0.4
Global Equities	15.9 (68)	8.6 (58)	18.3 (63)	-3.9 (71)	15.8 (52)	4.7 (35)	10.4 (92)	10.2 (82)	26.3 (92)	12.8 (69)	-0.1 (31)
Aberdeen	21.1 (31)	14.9 (41)	18.7 (61)	-2.8 (62)	17.1 (43)	5.4 (31)	5.3 (97)	10.5 (81)	21.3 (98)	14.0 (58)	2.0 (19)
MSCI World (Net)	21.0 (31)	13.9 (45)	21.4 (40)	-0.6 (41)	14.4 (65)	3.8 (44)	18.9 (54)	14.4 (46)	35.1 (55)	13.3 (64)	-3.2 (51)
Value Added	0.1	1.0	-2.7	-2.2	2.7	1.6	-13.6	-3.9	-13.8	0.7	5.2
GMO	14.4 (77)	7.7 (62)	19.5 (57)	-5.3 (80)	18.1 (37)	4.2 (40)	12.9 (88)	8.1 (91)	29.1 (84)	12.5 (71)	0.9 (25)
MSCI World (Net)	21.0 (31)	13.9 (45)	21.4 (40)	-0.6 (41)	14.4 (65)	3.8 (44)	18.9 (54)	14.4 (46)	35.1 (55)	13.3 (64)	-3.2 (51)
Value Added	-6.6	-6.2	-1.9	-4.7	3.7	0.4	-6.0	-6.3	-6.0	-0.8	4.1
Canadian Fixed Income	-0.9	12.5	10.8	-0.3	3.8	3.0	3.1	14.8	-7.4	5.5	9.5
TDAM Long Bonds	-4.2 (75)	12.3 (54)	13.0 (45)	-0.2 (88)	7.0 (62)	2.8 (45)	3.4 (80)	16.8 (71)	-5.7 (53)	-	-
FTSE Canada Long Term Overall Bond	-4.5 (89)	11.9 (72)	12.7 (65)	0.3 (49)	7.0 (61)	2.5 (80)	3.8 (50)	17.5 (31)	-6.2 (86)	5.2 (78)	18.1 (26)
Value Added	0.3	0.4	0.3	-0.5	0.0	0.3	-0.4	-0.7	0.5	-	-
TDAM Real Return Bonds	1.9	13.2	8.4	-0.3	0.6	3.1	2.6	13.0	-11.5	-	-
FTSE Canada Real Return Bond	1.8	13.0	8.0	0.0	0.7	2.9	2.8	13.2	-13.1	2.9	18.3
Value Added	0.1	0.2	0.4	-0.3	-0.1	0.2	-0.2	-0.2	1.6	-	-

Parentheses contain percentile rankings.

Capital Markets Performance

Capital Market Performance

Major Capital Markets' Returns

As of 31 December 2021

	1 Quarter	YTD	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
Equity								
S&P/TSX Composite	6.5	25.1	25.1	14.9	17.5	10.3	10.0	9.1
S&P 500	10.7	27.6	27.6	21.8	22.8	17.9	17.1	19.1
S&P 500 (USD)	11.0	28.7	28.7	23.4	26.1	17.6	18.5	16.6
MSCI EAFE (Net)	2.4	10.3	10.3	8.1	10.6	6.2	8.2	10.4
MSCI World (Net)	7.9	21.0	21.0	17.4	18.7	13.5	13.7	15.2
MSCI ACWI (Net)	6.4	17.5	17.5	15.9	17.3	12.3	13.0	14.3
MSCI Emerging Markets (Net)	-1.6	-3.4	-3.4	6.0	8.1	4.1	8.6	7.8
Real Estate								
MSCI/REALPAC Canada Annual Property	3.0	7.9	7.9	1.9	3.5	4.5	5.0	7.0
MSCI/REALPAC Canada Quarterly Property Fund	5.0	15.4	15.4	7.7	8.1	8.2	8.1	8.4
Fixed Income								
FTSE Canada Universe Bond	1.5	-2.5	-2.5	2.9	4.2	3.5	3.3	3.3
FTSE Canada Long Term Overall Bond	4.8	-4.5	-4.5	3.4	6.4	4.8	5.3	4.8
FTSE Canada 91 Day TBill	0.0	0.2	0.2	0.5	0.9	1.0	0.9	0.9
Consumer Price Index								
Canadian CPI, unadjusted	0.8	4.8	4.8	2.7	2.6	2.4	2.3	1.8

Canadian Equities

The S&P/TSX Composite Index returned +6.5% in the fourth quarter of 2021. Sector performance was generally positive with nine of the eleven sectors producing positive returns. The best performing sectors were Materials (+10.7%) and Financials (+9.4%), while the worst performing sectors were Health Care (-18.3%) and Information Technology (-1.4%). Value stocks outperformed growth stocks during the quarter (+8.4% vs +5.7% respectively) and significantly outperformed in the past year (+36.5% vs. +14.3% respectively). The S&P/TSX Composite Index returned +25.1% over the last 12 months. Health Care (-19.6%) was the worst performer followed by Materials (+4.0%) and Utilities (+11.6%). Energy (+48.9%), Real Estate (+37.4%), and Financials (+36.5%) were the best performing sectors.

U.S. Equities

The S&P 500 Index produced a quarterly return of +10.7% in Canadian dollar terms. All sectors had positive returns apart from Communication Services (-0.3%). The best performing sectors were Real Estate (+17.2%), Information Technology (+16.3%) and Materials (+14.9%). During the past 12 months, the S&P 500 Index returned +27.6% in Canadian dollar terms. The best performing sectors were Energy (+53.3%) and Real Estate (+44.9%), while Utilities (+16.7%) and Consumer Staples (+17.6%) were the worst performers.

Non-North American Equities

The MSCI EAFE Index returned +2.4% in Canadian dollar terms for the fourth quarter. Returns were positive across most sectors, with eight of the eleven GICS sectors producing positive results. The best performing sectors were Utilities (+8.5%) and Materials (+5.6%) while Communication Services (-5.8%), Energy (-0.8%) and Real Estate (-0.8%) were the worst performers. During the past 12 months, the Index returned +10.3% in Canadian dollar terms. The worst performing sectors were Communication Services (-6.5%) and Utilities (-0.9%) while the best performers were Energy (+21.8%) and Information Technology (+19.9%).

Fixed Income

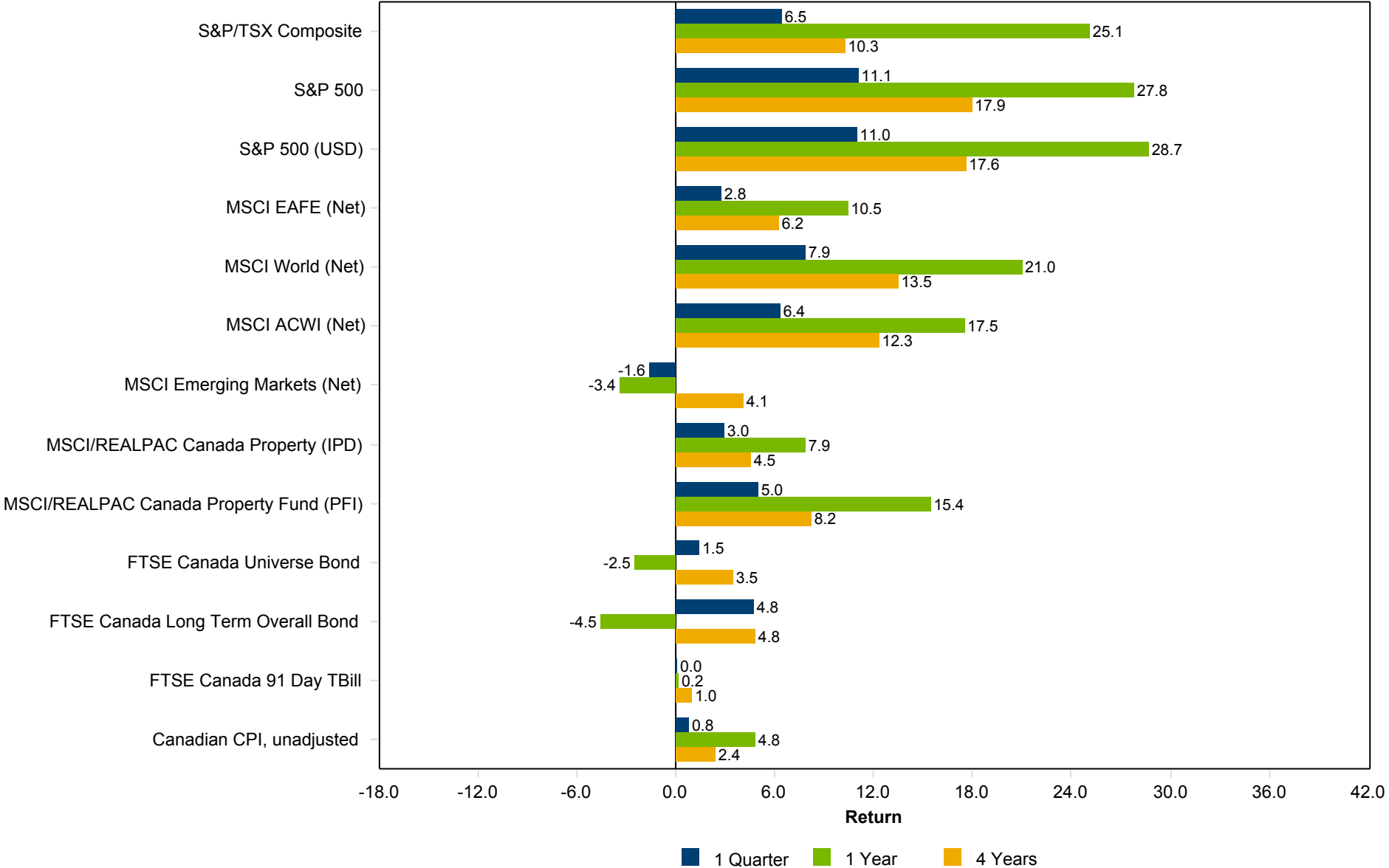
The Canadian bond market, as measured by the FTSE Canada Universe Bond Index, returned +1.5% over the quarter. Provincial bonds (+2.4%) outperformed Corporate bonds (+1.1%) and Federal bonds (+0.8%). From a term perspective, long duration bonds (+4.8%) outperformed medium duration bonds (+0.3%) and short duration bonds (-0.5%). During the past 12 months, the Index returned -2.5%. Bond market performance over the year was led by Corporate bonds (-1.3%) which outperformed Federal bonds (-2.6%) and Provincial bonds (-3.3%). Short duration bonds (-0.9%) outperformed medium duration bonds (-2.7%) and long duration bonds (-4.5%) for the 12-month period.

Returns for periods greater than one year are annualized. Sector returns are sourced from MSCI.

Capital Market Performance

Comparative Performance

As of 31 December 2021



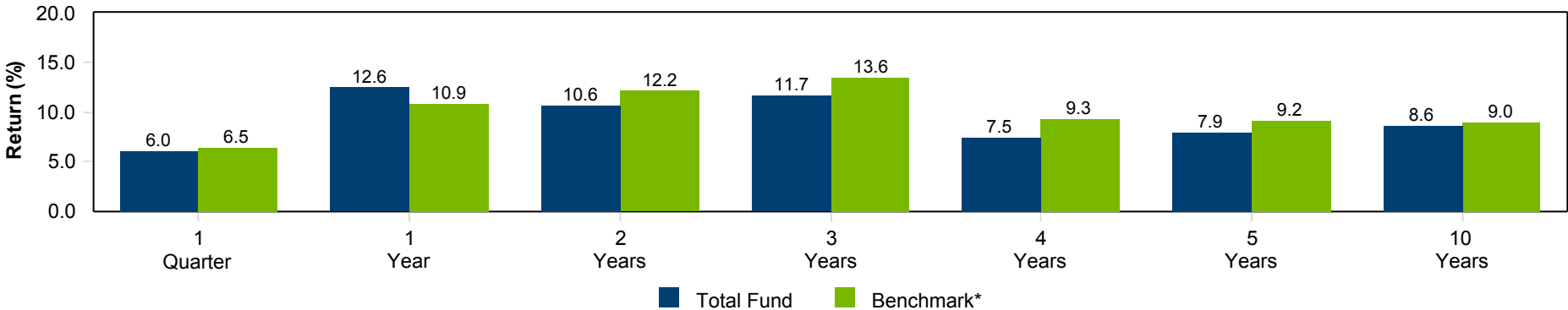
Total Fund Analysis

Total Fund

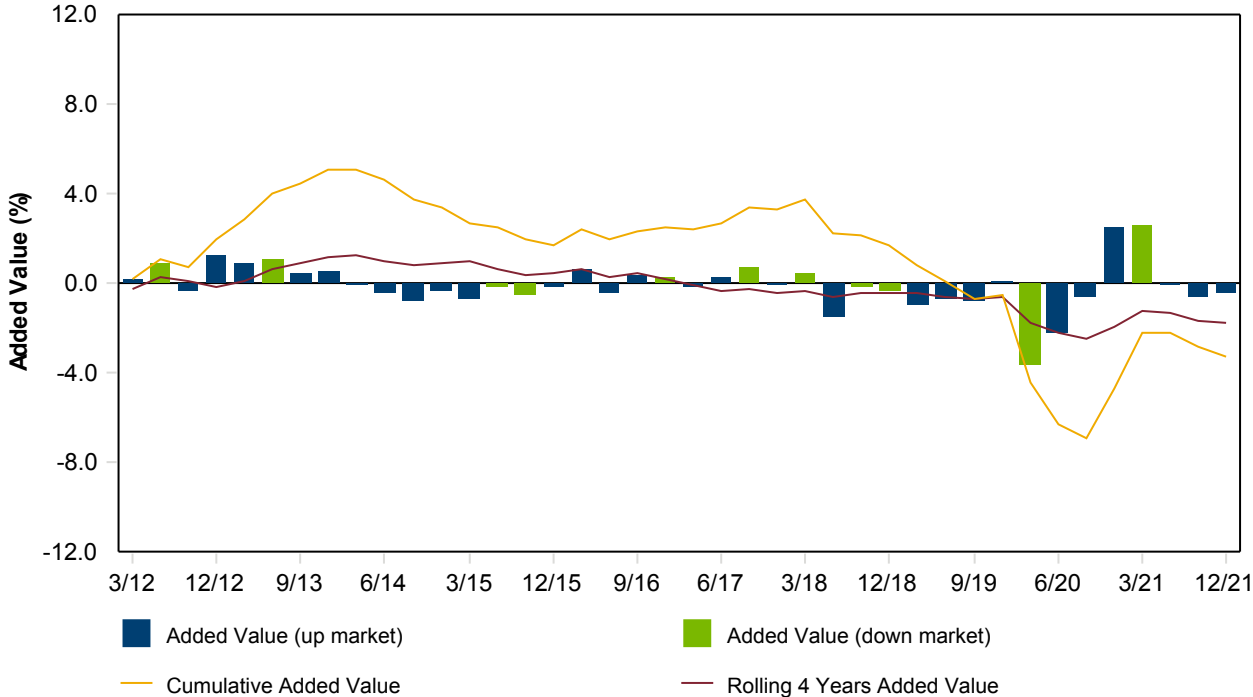
Total Fund Performance Summary

As of 31 December 2021

Return Summary



Added Value History (%)



Performance Statistics

	Quarters	%
Market Capture		
Up Markets	29	96.2
Down Markets	11	95.4
Batting Average		
Up Markets	29	34.5
Down Markets	11	54.5
Overall	40	40.0

* See Appendix A for benchmark components.

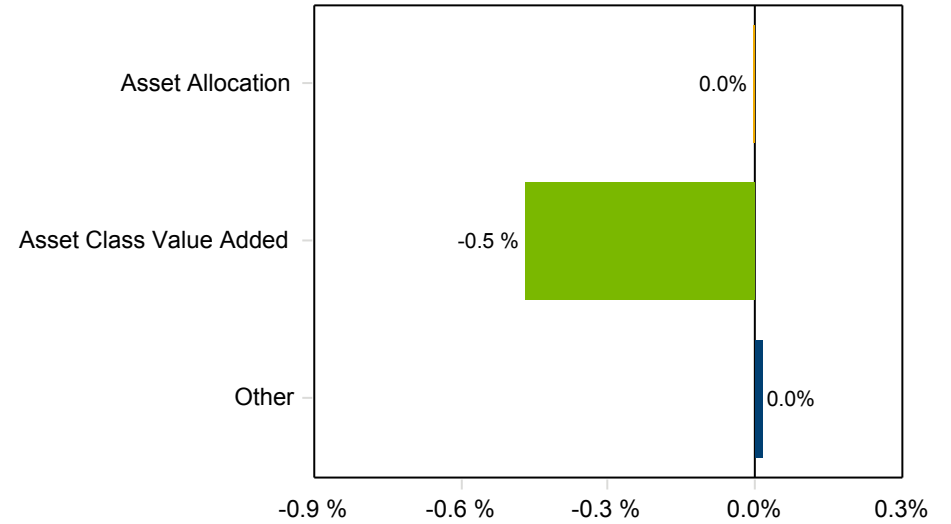
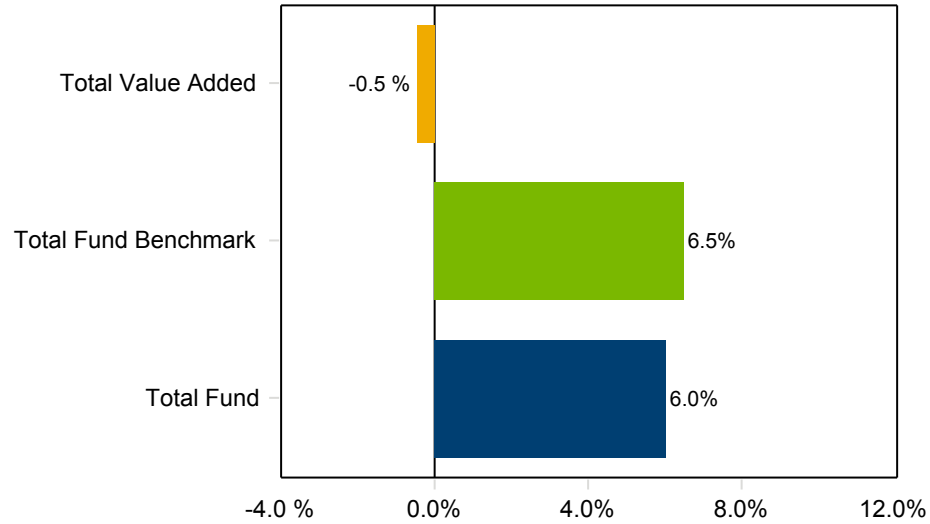


Total Fund

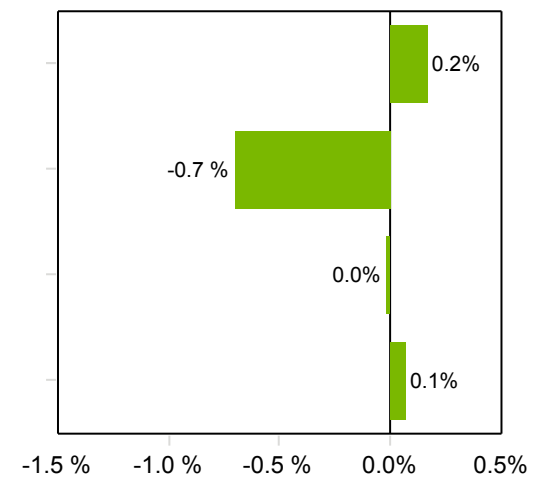
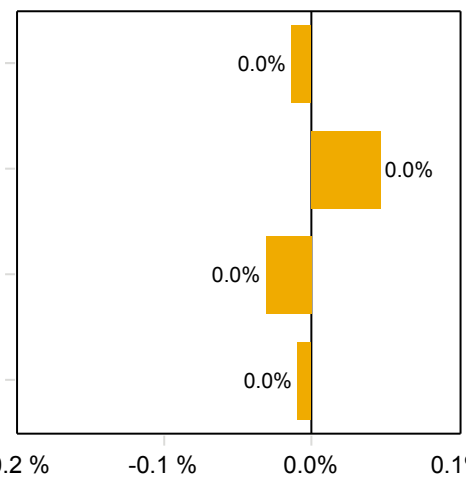
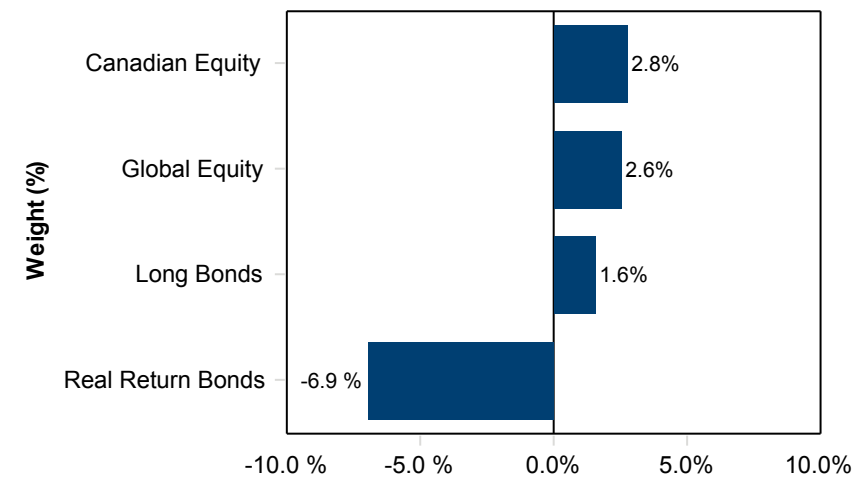
Total Fund Performance Attribution

1 Quarter Ending 31 December 2021
 Total Fund vs. Benchmark

Total Fund Performance **Total Value Added: -0.5 %**



1 Quarter **Total Asset Allocation: 0.0 %** **Total Asset Class Value Added: -0.5 %**



■ Active Weight ■ Asset Allocation Value Added ■ Asset Class Value Added

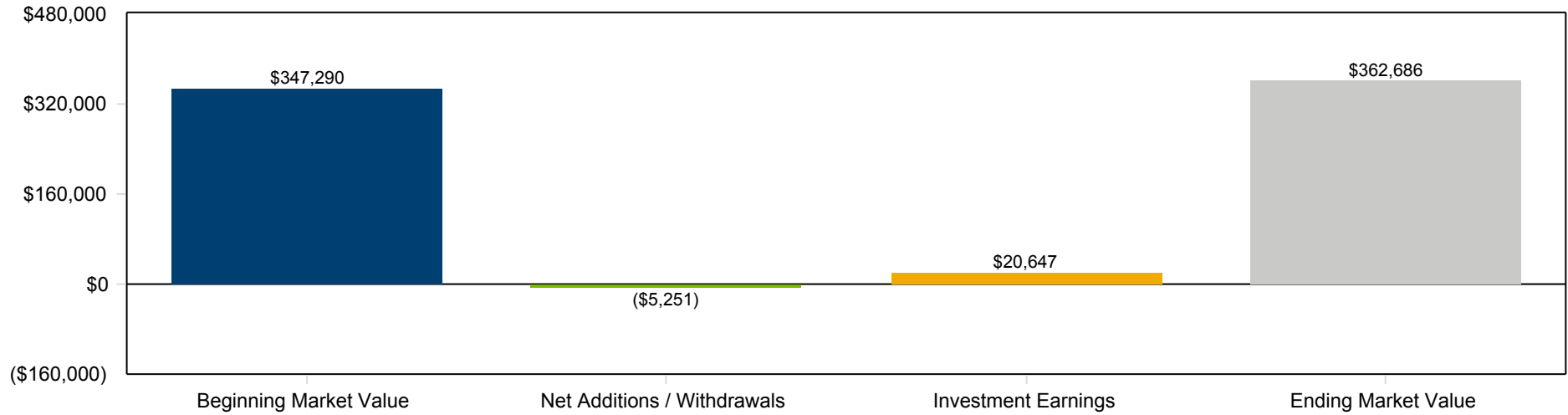


Total Fund

Total Fund Asset Summary

As of 31 December 2021

Change in Market Value (\$000)
 From 1 October 2021 to 31 December 2021



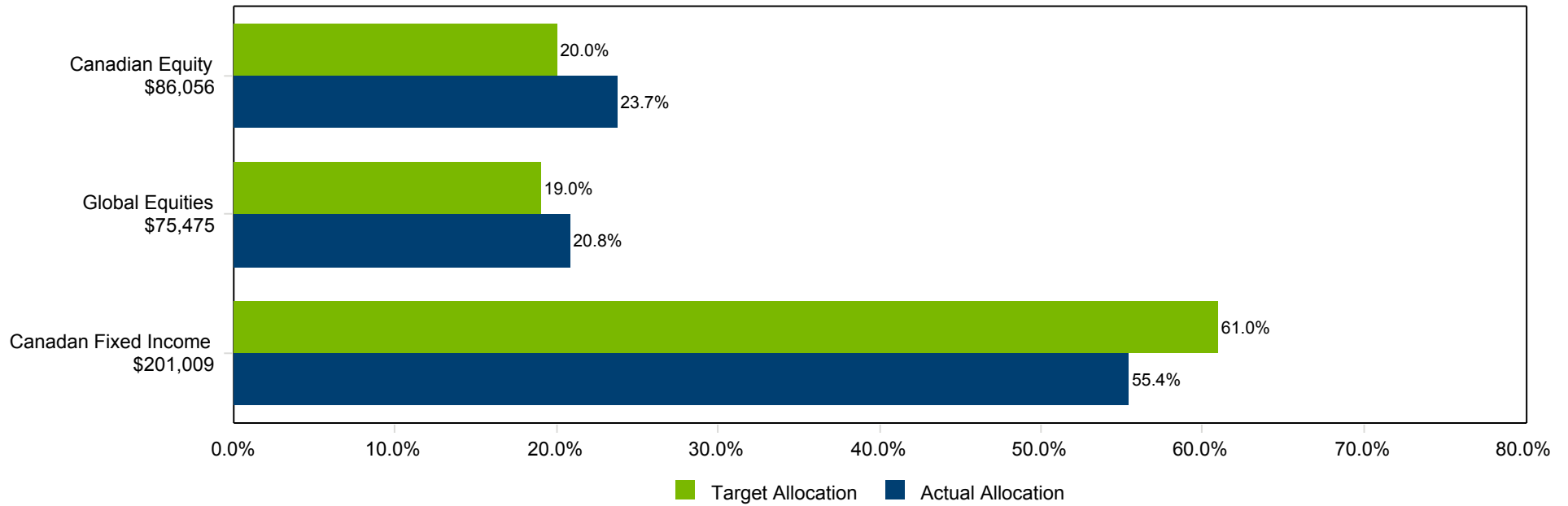
Summary of Cash Flows (\$000)

	1 Quarter	Year To Date	1 Year	4 Years
Total Fund				
Beginning Market Value	347,290	343,971	343,971	341,919
+/- Net Cash Flows	-5,251	-22,606	-22,606	-64,535
+/- Income	11,153	13,774	13,774	87,036
+/- Capital Gains / Losses	9,494	27,547	27,547	-1,734
= Ending Market Value	362,686	362,686	362,686	362,686

Total Fund

Asset Allocation Compliance

As of 31 December 2021 (\$000)



	Market Value (\$000)	Market Value (%)	Target Allocation (%)	Differences (%)	Minimum Allocation (%)	Maximum Allocation (%)	Within Range
Total Fund	362,686	100.0	100.0	0.0			
Canadian Equity	86,056	23.7	20.0	3.7	15.0	25.0	Yes
Global Equities	75,475	20.8	19.0	1.8	14.0	24.0	Yes
Canadian Fixed Income	201,009	55.4	61.0	-5.6	51.0	71.0	Yes

Appendix A - Plan Information

Plan Information

Summary of Investment Objective

The investment policy contains specific performance objectives for the fund and the investment managers.

All investment rates of return are measured over moving four-year periods. Return objectives are net of fees and include realized and unrealized capital gains or losses plus income from all sources.

Returns will be calculated on a time-weighted basis and compared to the objectives described below.

The objective of the total fund is to outperform a benchmark portfolio that is comprised of the following weightings:

	1 October 2021 to 31 December 2021	1 July 2021 to 30 September 2021	1 April 2021 to 30 June 2021	1 January 2021 to 30 March 2021	1 July 2020 to 31 December 2020	1 April 2020 to 30 June 2020	1 January 2020 to 31 March 2020	1 April 2019 to 31 December 2019	1 January 2019 to 31 March 2019	1 October 2018 to 31 December 2018
S&P/TSX Composite	20%	21%	23%	27%	28%	30%	24%	26%	27%	28%
MSCI World (C\$)	19%	21%	22%	27%	28%	30%	25%	25%	26%	28%
FTSE Canada Long Bond	18%	19%	20%	23%	23%	25%	21%	21%	22%	23%
FTSE Canada Real Return Bond	43%	39%	35%	23%	21%	15%	31%	28%	25%	21%
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

	1 April 2018 to 30 September 2018	1 January 2018 to 31 March 2018	1 October 2017 to 31 December 2017	1 July 2014 to 30 September 2017	1 April 2012 to 30 June 2014	1 July 2011 to 31 March 2012	1 January 2008 to 30 June 2011	1 July 2006 to 31 December 2007	Up to 30 June 2006
S&P/TSX Composite	27%	27%	27%	28%	30%	30%	30%	30%	25%
MSCI World (C\$)	26%	27%	26%	28%	30%	30%	0%	0%	0%
MSCI World ex. Cda (C\$)	22%	23%	0%	0%	0%	0%	15%	15%	18%
S&P 500 - hedged to C\$	25%	23%	0%	0%	0%	0%	5%	8%	9%
MSCI EAFE - hedged to C\$	100%	100%	0%	0%	0%	0%	5%	8%	9%
FTSE Canada Universe Bond			0%	0%	0%	40%	45%	40%	40%
FTSE Canada Long Bond			22%	22%	25%	0%	0%	0%	0%
FTSE Canada Real Return Bond			25%	22%	15%	0%	0%	0%	0%
			100%	100%	100%	100%	100%	100%	100%

Appendix B - Manager Updates

Manager Updates

Manager Updates

As of 31 December 2021

Aberdeen Standard Investments

Q4 2021

Business

There were no significant events during the quarter.

Staff

The following staff changes occurred on the Executive Leadership Team over Q4 2021:

James Aird, Global Head of Strategic Partnerships, retired Dec 2021. David Mouille has been appointed James' successor.

Robert McKillop, Global Head of Product and Solutions, left the firm in October.

Caroline Connellan, CEO of Personal Wealth Business, joined in October.

GMO

Q4 2021

Business

GMO signed the Net Zero Asset Managers Initiative. The initiative was launched in December 2020 and is designed to enable asset managers to play a part in helping to deliver the goals of the Paris Agreement.

Staff

Over the quarter, Chris Heelan joined as Quantitative Research Analyst on the ESG Research Platform/Investment Oversight team.

In October 2021, Ed Thwaites, Trader, and Josh White, Portfolio Manager/Research Analyst, Global Equity team, left to pursue a new opportunity.

Manager Updates

Manager Updates

As of 31 December 2021

Guardian Capital

Q4 2021

Business

There was no significant events.

Staff

There was no significant events.

Letko, Brosseau & Associates Inc. ("Letko, Brosseau")

Q4 2021

Business

There were no significant events.

Staff

There were no significant events.

TD Asset Management ("TDAM")

Q4 2021

Business

TD *Emerald* Low Carbon/Low Volatility Global Equity Pooled Fund Trust was launched on October 29, 2021. TD *Emerald* Low Volatility Plus All World Equity Pooled Fund Trust was closed on December 2, 2021.

Staff

This quarter, Wilcox Chan, CFA, FRM, CAIA, Vice President & Director announced his retirement in October 2021 but effective in January 2022.

Kevin Holmes, Vice President became Vice President and Portfolio Manager, Quantitative Equity. Maria Bogusz, CFA, Associate transferred from TD Wealth's Portfolio Advice and Investment Research Team to Multi-Asset Portfolio Management Team.

Appendix C - Disclosure

Disclosure

Statement of Disclosure

As of 31 December 2021

Aon Hewitt Inc. reconciles the rates of return with each investment manager quarterly. Aon Hewitt Inc. calculates returns from the custodian/trustee statements while the managers use different data sources. Occasionally discrepancies occur because of differences in computational procedures, security prices, "trade date" versus "settlement date" accounting, etc. We monitor these discrepancies closely and find that they generally do not tend to persist over time. However, if a material discrepancy arises or persists, we will bring the matter to your attention after discussion with your money manager.

This report may contain slight discrepancies due to rounding in some of the calculations. All data presented is in Canadian dollars unless otherwise stated.

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This report does not constitute accounting, legal or tax advice and should not be relied upon for any such business decisions. This report contains information that is proprietary to Aon and may not be distributed, reproduced, copied, or amended without Aon's prior written consent.

Canadian DB pensions posted healthy returns in 2021: RBC Investor & Treasury Services



NEWS PROVIDED BY

RBC Investor & Treasury Services →

Jan 31, 2022, 09:01 ET

TORONTO, Jan. 31, 2022 /CNW/ - As global equity markets continued to hit new highs, defined benefit pension plans posted a Q4 median return of 4.5% and closed out 2021 with an 8.9% annual return – as compared to 2020's 9.2% return – according to the RBC Investor & Treasury Services All Plan Universe, one of the industry's largest and most comprehensive universes of Canadian pension plans.

"Despite increased volatility over concerns about the Omicron variant and mounting inflationary pressures, Canadian pension plan returns were significantly boosted by their exposure to equities," said Niki Zaphiratos, Managing Director, Asset Owners, Client Coverage, Canada, RBC Investor & Treasury Services. "New Covid-19 variants, the Russia-Ukraine crisis and imminent interest rate hikes – stemming from global shortages of workers and resulting inflationary pressures – introduce the potential for further volatility. Plan sponsors will have considerable risk factors to navigate in 2022."

Canadian equities outshone their global counterparts, returning 6.5% in Q4 2021, and ended the year with a 27.0% annual return. The TSX Composite Index generated a matching Q4 2021 return of 6.5%, and a 25.1% annual return. While all economic sectors in the benchmark, with the exception of health care, exhibited positive results, the heavy weight energy (+48.9%) and financials (+36.5%) sectors were the annual leaders.

Foreign equities returned 5.3% in Q4 2021, with a 17.1% annual return. Local currency returns for unhedged pension plans were trimmed due to the strength of the Canadian dollar. The MSCI World Index posted a 7.5% return in Q4 2021 and a 20.8% annual return, led by the financials and information technology sectors. Within this asset class, US equities handily outperformed their non-US counterparts. Over the year, emerging markets stocks (MSCI Emerging Markets -3.37%) were in the red primarily due to steep losses in the Chinese markets (MSCI China -22.4%).

Canadian fixed income assets posted a 2.7% gain in Q4 2021, but were down -1.9% for the year. In comparison, the FTSE Canada Universe Bond index returned 1.5% for the quarter and -2.5% for the year. During the quarter, longer-dated bonds benefitted from a flattening of the yield curve and outperformed their shorter-dated counterparts. Over the year, longer-dated bonds (FTSE Canada Long Term Index -4.5%) underperformed shorter-dated bonds (FTSE Canada Short Term Index -0.9%).

Historic performance

Period	Median return (%)	Period	Median return (%)
Q4 2021	4.5	Q3 2019	1.7
Q3 2021	0.6	Q2 2019	2.7
Q2 2021	4.4	Q1 2019	7.2
Q1 2021	-0.2	Q4 2018	-3.5
Q4 2020	5.4	Q3 2018	0.1
Q3 2020	3.0	Q2 2018	2.2
Q2 2020	9.6	Q1 2018	0.2
Q1 2020	-7.1	Q4 2017	4.4
Q4 2019	2.0	Q3 2017	0.4

About the RBC Investor & Treasury Services All Plan Universe

RBC Investor & Treasury Services has managed one of the industry's largest and most comprehensive universes of Canadian pension plans for more than 30 years. The All Plan Universe, a widely recognized performance benchmark indicator, tracks the performance and asset allocation of a cross-section of assets across Canadian defined benefit pension plans. The All Plan Universe is produced by RBC Investor & Treasury Services' Risk & Investment Analytics service, which delivers independent and cost effective solutions that help institutional investors monitor investment decisions, optimize performance, reduce costs, mitigate risk and enhance governance.

About RBC

Royal Bank of Canada is a global financial institution with a purpose-driven, principles-led approach to delivering leading performance. Our success comes from the 87,000+ employees who leverage their imaginations and insights to bring our vision, values and strategy to life so we can help our clients thrive and communities prosper. As Canada's biggest bank, and one of the largest in the world based on market capitalization, we have a diversified business model with a focus on innovation and providing exceptional experiences to our 17 million clients in Canada, the U.S. and 27 other countries. Learn more at [rbc.com](https://www.rbc.com).

We are proud to support a broad range of community initiatives through donations, community investments and employee volunteer activities. See how at [rbc.com/community-social-impact](https://www.rbc.com/community-social-impact).

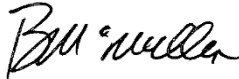
About RBC Investor & Treasury Services

RBC Investor & Treasury Services (RBC I&TS) is a financially strong partner that provides asset and payment services to corporate investors and financial institutions globally. Trusted with CAD 4.6 trillion in assets under administration, clients are at the heart of our service offering. With offices in 14 countries, our focus is on safeguarding client assets as we leverage data and technology solutions to deliver meaningful insights, simplify our clients' operations and support their growth.

SOURCE RBC Investor & Treasury Services



INFORMATION REPORT

TO:	Chair and Members HMRF / HWRF Pension Administration Sub-Committee
COMMITTEE DATE:	March 30, 2023
SUBJECT/REPORT NO:	Master Trust Pension Investment Performance Report as at June 30, 2022 (FCS23044) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Gerald T. Boychuk (905) 546-2424 Ext. 4321
SUBMITTED BY:	Brian McMullen Director, Financial Planning, Administration and Policy Corporate Services Department
SIGNATURE:	

Council Direction

Not Applicable.

Information

Attached, as Appendix "A" to Report FCS23044, is Aon Hewitt's investment performance report for the Hamilton Municipal Retirement Fund (HMRF), the Hamilton-Wentworth Retirement Fund (HWRF) and the Hamilton Street Railway (HSR), as of June 30, 2022. Together, the three pension funds make up the Master Trust, which is referred to as the "Plan" in Report FCS23044.

The Plan's return for the one-year period ended June 30, 2022 of -12.1% underperformed its benchmark of -11.8 by 0.3%. The market value of the assets of the Plan totalled \$292 M compared to \$355.4 M as of June 30, 2021, a decrease of \$63.4 M.

The funded ratio of assets to liabilities decreased to 80.3% (\$292 M to \$363.5 M) from 82.9% at June 30, 2021. Currently, a funding ratio of 80.3% enables a range of 48% to 68% for the Liability Matching Component (LMC) and the fund is at 55.4% (Fixed Income). The plans funded status estimated at -\$71.5 M improved from an estimated -\$73.5 M at June 30, 2021. The ultimate target contemplates 80% fixed income as interest rates rise and value of assets increases relative to liability present values.

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

**SUBJECT: Master Trust Pension Investment Performance Report as at
June 30, 2022 (FCS23044) (City Wide) – Page 2 of 4**

Table 1 shows the Plan's one-year (ended June 30) returns, value added, market value and funded status for the last five years.

Table 1
Plan's One-Year ended June 30 Returns

	12 Months Ended Jun.30/22	12 Months Ended Jun.30/21	12 Months Ended Jun.30/20	12 Months Ended Jun.30/19	12 Months Ended Jun.30/18
Plan Return	-12.1%	19.1%	1.3%	4.1%	7.3%
Benchmark	-11.8%	14.1%	7.1%	6.4%	7.7%
Value Added	-0.3%	5.0%	-5.8%	-2.3%	-0.4%
Market Value (\$ Millions)	\$292.0	\$355.4	\$318.8	\$336.4	\$339.9
Funded Ratio	80.3%	82.9%	73.0%	76.2%	75.3%

The Plan's performance may be compared to the return earned in the broader pension market in Canada. Attached as Appendix "B" to Report FCS23044, RBC Investor & Treasury Service reports its universe of pension funds, totalling C\$4.40 Trillion with a median return of -8.6% in the quarter ended June 30, 2022. The Plan's quarterly return of -10.4% underperformed the universe's median quarterly return of -8.6% by -1.8%.

Asset Mix

Table 2 shows the percentage of Plan assets in each asset class as of June 30, 2022 compared to June 30, 2021.

Table 2
Percentage of Plan Assets in Each Asset Class

Asset Class	Jun.30/22	Jun.30/21	Change	Benchmark
Canadian Equity	25.2%	25.2%	0.0%	23.0%
Global Equity	<u>19.3%</u>	<u>23.9%</u>	<u>-4.6%</u>	22.0%
Total Equity	44.5%	49.1%	-4.6%	
Canadian Fixed Income	55.4%	50.8%	+4.6%	55.0%
Cash	0.1%	0.1%	0.0%	

Note: Anomalies due to rounding

**SUBJECT: Master Trust Pension Investment Performance Report as at
June 30, 2022 (FCS23044) (City Wide) – Page 3 of 4**

Managers' Performance

Managers' investment performance relative to their benchmark is summarized in Table 3. One-year rates of return are as of June 30, 2022.

Table 3
Managers' Performance
One-Year Period Ended Jun. 30/22

	Manager Return	Benchmark Return	Value Added (Manager Return less Benchmark Return)	Percentage Total Assets
Canadian Equity:				
Guardian	-5.6%	-3.9%	-1.7%	13.0%
Letko	1.4%	-3.9%	+5.3%	12.2%
Global Equity				
Aberdeen ⁽¹⁾	-10.7%	-10.8%	+0.1%	4.6%
GMO ⁽²⁾	-15.7%	-10.8%	-4.9%	14.6%
Fixed Income:				
TDAM Long Bonds ⁽³⁾	-19.5%	-19.7%	+0.2%	19.4%
TDAM Real Return Bonds ⁽³⁾	-13.1%	-12.3%	-0.8%	35.4%

Notes: ⁽¹⁾ Engaged in April 2010

⁽²⁾ Engaged in July 2010

⁽³⁾ Toronto Dominion Asset Management (TDAM) engaged in March 2012

Pension Investment Transfer - Update

Previous discussions with OMERS have not presented a solution as costs for OMERS assumption of the Plans were very high. Current options include private sector management, including an Outside Chief Investments Officer (OCIO) or an insurance company, or a not-for-profit public corporation, such as Investment Management Corporation Ontario (IMCO). Eckler, a firm specializing in hiring OCIO, has been engaged to develop an RFP, advise, qualify, review, rank proposals submitted.

Toronto was able to transfer most of their plans to OMERS, while Ottawa was left in the same situation as Hamilton. Ottawa has used Eckler to hire an OCIO to take over their two legacy plans, one Provincially regulated, the other Federally. Eckler is now helping them hire one to put their General funds into a Prudent Investor structure.

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OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

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**SUBJECT: Master Trust Pension Investment Performance Report as at
June 30, 2022 (FCS23044) (City Wide) – Page 4 of 4**

The Plan's Future

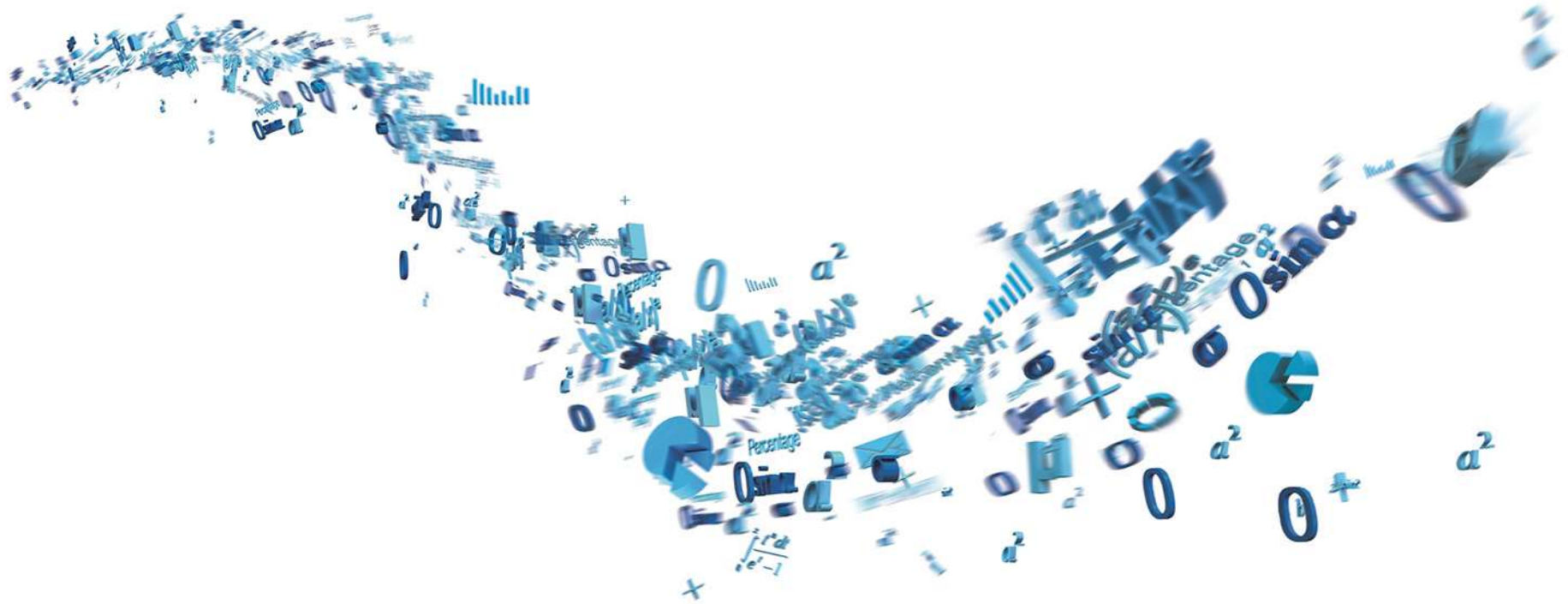
Given the recent economic problems with COVID-19, tariffs and supply lines, global markets have been restricted due to the uncertainty as to what the future brings. This confusion has been exacerbated by the Russia-Ukraine war and rapidly increasing Central bank interest rates designed to alter inflation expectations. Staff proposes to hire an OCIO who will assist in obtaining new management processes, to accomplish the appropriate asset mix given economic conditions worldwide and the appropriate asset mix to match the current liabilities in the plan. Also, staff would be updating the need to track exposure ranges to meet the goal of an expected wind-up at a reasonable cost based on more recent liabilities and expected returns, as well as, investment strategy.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report FCS23044 – City of Hamilton Master Trust Defined Benefit Plan Second Quarter 2022 – AON Quarterly Investment Review

Appendix "B" to Report FCS23044 – Canadian Defined Benefit Pension Plans Quarterly returns tied for lowest in three decades – July 29, 2022.

GB/dt



The City of Hamilton Master Trust Defined Benefit Plan | Second Quarter 2022

Quarterly Investment Review

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

Table Of Contents

1	Executive Summary	Page 1
2	Capital Markets Performance	Page 7
3	Total Fund Analysis	Page 10
4	Asset Class Analysis	Page 19
5	Appendix A - Plan Information	Page 38
6	Appendix B - Manager Updates	Page 40
7	Appendix C - Capital Market Environment	Page 44
8	Appendix D - Description of Market Indices and Statistics	Page 54
9	Appendix E - Fee Analysis	Page 59
10	Appendix F - Disclosure	Page 60

Executive Summary

During the last quarter, we produced papers on the following topics. Although these topics may not be directly applicable to your fund, they may be of general interest and provide some insight into Aon's global research. For more details, please contact your Aon Investment Consultant.

Topic	Summary
<p>Canadian Commercial Mortgages</p>	<p>Commercial Mortgages have increased in popularity as investors are seeking ways to generate higher yields and diversify away from the traditional Canadian bond market.</p> <p>This paper, written by Aon's Fixed Income Manager Research team, provides an overview of Canadian Commercial Mortgages and answers the following questions: What are commercial mortgages? What are the risks? What are the benefits? How can we access the asset class?</p> <p>https://insights-north-america.aon.com/ca-en/investment/aon-canadian-commercial-mortgages-overview-whitepaper</p>
<p>Private Credit Today – A Diverse Opportunity Set in a Growing Market</p>	<p>The private credit market continues to grow and offer a range of opportunities to investors. After averaging 13.5% annually over the past decade, assets in private credit were \$1.1 trillion.</p> <p>In this paper Aon's Global Asset Allocation Team provides detail about investment types, primary benefits and risks associated with each, and key criteria Aon applies when evaluating and selecting managers.</p> <p>https://insights-north-america.aon.com/ca-en/investment/aon-private-credit-today-a-diverse-opportunity-set-in-a-growing-market-whitepaper</p>
<p>AA View – Will Commodities Continue to Burn Bright?</p>	<p>Commodities have experienced a surge in price as global inflation has reached multi-decade highs and raw material prices have been pushed up by the ongoing conflict in Ukraine.</p> <p>In this paper Aon's Global Asset Allocation Team provides their thoughts on the outlook for commodities and the investment case for commodities today.</p> <p>https://insights-north-america.aon.com/ca-en/investment/aon-will-commodities-continue-to-burn-bright-article</p>
<p>AA View – A Global Recession is Now Much More Likely</p>	<p>The sudden stepping up of US monetary tightening, signaled by the latest rise of 0.75% in US policy interest rates, alters the macroeconomic and market landscape. Until as recently as a week ago, such large interest rate moves were deemed highly unlikely.</p> <p>In this paper Aon's Global Asset Allocation Team provides their thoughts on the likelihood of a recession occurring and the potential market impact.</p> <p>https://insights-north-america.aon.com/ca-en/investment/aon-a-global-recession-is-now-much-more-likely-article</p>

For more timely access to our latest thinking, please visit and subscribe to the Aon Retirement & Investment Solutions website:
<https://insights-north-america.aon.ca/investment>

Executive Summary

Trailing Period Performance

As of 30 June 2022

	Allocation		Performance (%)							
	Market Value (\$000)	%	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	
Total Fund	292,005	100.0	-10.4 (97)	-12.1 (99)	2.3 (78)	1.6 (98)	2.2 (100)	3.2 (95)	6.3 (93)	
Benchmark			-11.4 (99)	-11.8 (96)	0.3 (99)	2.5 (82)	3.5 (78)	4.3 (72)	6.7 (89)	
Value Added			1.0	-0.3	2.0	-0.9	-1.3	-1.1	-0.4	
Canadian Equity	73,604	25.2	-11.6 (62)	-2.5 (72)	20.0 (26)	6.9 (94)	4.8 (93)	6.3 (88)	9.8 (40)	
Guardian (including cash)	38,102	13.0	-11.4 (58)	-5.6 (93)	13.4 (84)	6.3 (95)	6.0 (80)	6.9 (77)	8.4 (83)	
S&P/TSX Composite			-13.2 (94)	-3.9 (85)	13.4 (84)	8.0 (74)	6.9 (64)	7.6 (55)	8.2 (87)	
Value Added			1.8	-1.7	0.0	-1.7	-0.9	-0.7	0.2	
Letko (including cash)	35,502	12.2	-11.9 (66)	1.4 (40)	27.8 (5)	8.6 (58)	5.0 (93)	6.6 (82)	10.9 (6)	
S&P/TSX Composite			-13.2 (94)	-3.9 (85)	13.4 (84)	8.0 (74)	6.9 (64)	7.6 (55)	8.2 (87)	
Value Added			1.3	5.3	14.4	0.6	-1.9	-1.0	2.7	
Global Equities	56,215	19.3	-7.6 (19)	-11.9 (60)	5.9 (58)	4.7 (71)	4.2 (69)	5.0 (79)	9.1 (96)	
Aberdeen	13,524	4.6	-12.1 (58)	-10.7 (51)	6.5 (53)	6.3 (41)	6.1 (43)	6.5 (57)	9.3 (95)	
MSCI World (Net)			-13.4 (74)	-10.8 (52)	6.3 (55)	6.5 (39)	6.3 (39)	7.5 (39)	12.1 (53)	
Value Added			1.3	0.1	0.2	-0.2	-0.2	-1.0	-2.8	
GMO	42,691	14.6	-9.5 (30)	-15.7 (79)	4.0 (75)	3.3 (86)	3.2 (85)	4.1 (90)	8.9 (96)	
MSCI World (Net)			-13.4 (74)	-10.8 (52)	6.3 (55)	6.5 (39)	6.3 (39)	7.5 (39)	12.1 (53)	
Value Added			3.9	-4.9	-2.3	-3.2	-3.1	-3.4	-3.2	

*GMO returns are reported net-of-fees.

Executive Summary

Trailing Period Performance

As of 30 June 2022

	Allocation		Performance (%)						
	Market Value (\$000)	%	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
Canadian Fixed Income	161,807	55.4	-10.1	-15.5	-9.3	-3.6	-0.7	0.0	1.7
TDAM Long Bonds	56,598	19.4	-11.6	-19.5	-13.2	-5.4	-1.5	-0.9	2.0
FTSE Canada Long Term Overall Bond			-11.8	-19.7	-13.6	-5.8	-1.7	-1.0	1.9
Value Added			0.2	0.2	0.4	0.4	0.2	0.1	0.1
TDAM Real Return Bonds	103,306	35.4	-9.3	-13.1	-6.0	-2.1	-0.4	0.5	1.0
FTSE Canada Real Return Bond			-8.9	-12.3	-5.4	-1.9	-0.2	0.7	0.9
Value Added			-0.4	-0.8	-0.6	-0.2	-0.2	-0.2	0.1
TDAM Cash	161,807	55.4							
Operating Account	380	0.1							

*GMO returns are reported net-of-fees.

Executive Summary

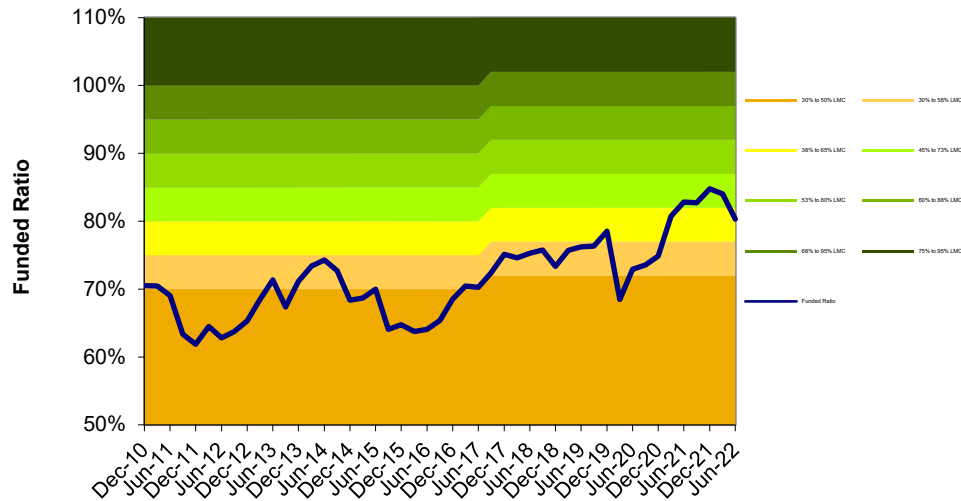
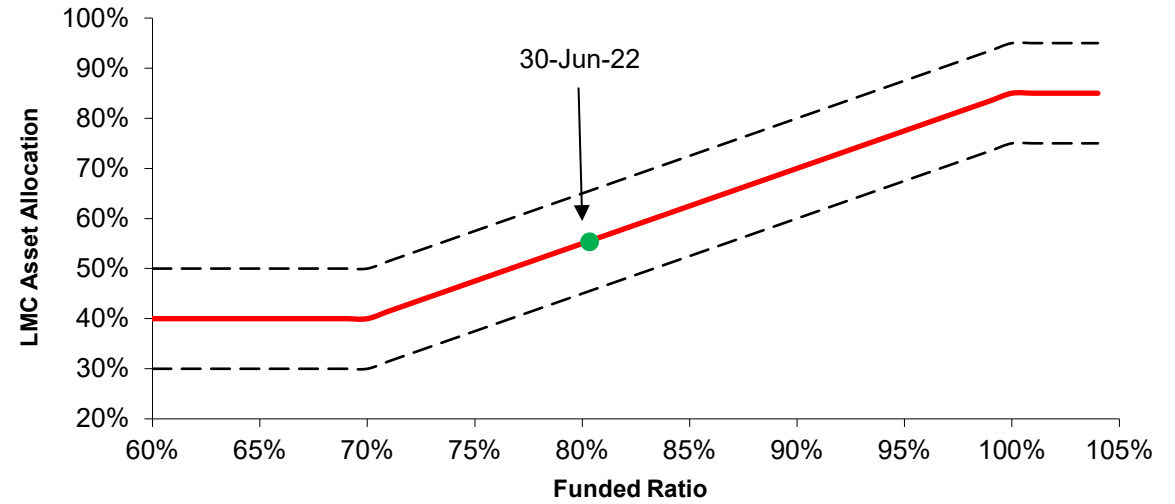
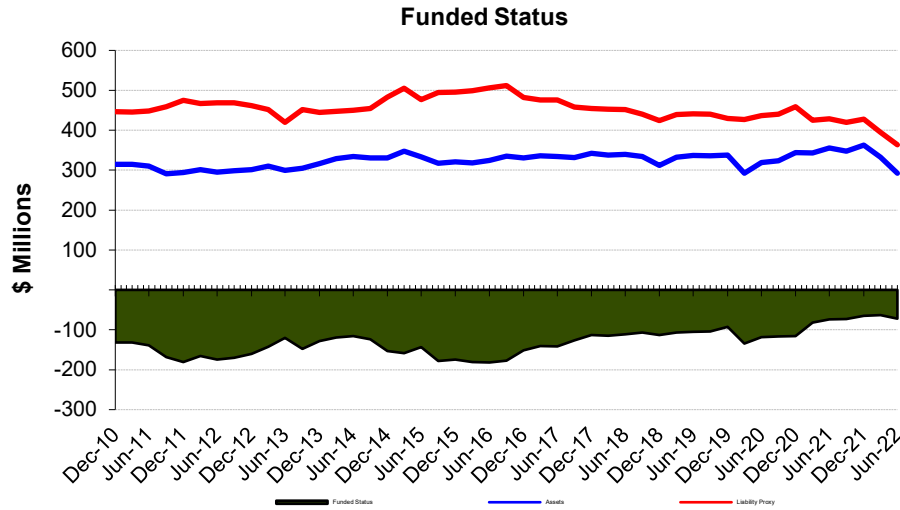
Trailing Period Performance

As of 30 June 2022

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total Fund	-12.1 (99)	19.1 (39)	0.2 (83)	4.1 (74)	7.3 (52)	9.0 (68)	3.2 (40)	6.3 (86)	19.8 (31)	9.6 (72)	2.3 (22)
Benchmark	-11.8 (96)	14.1 (92)	7.1 (8)	6.4 (28)	7.7 (36)	8.2 (79)	3.8 (30)	8.5 (59)	19.1 (42)	6.5 (96)	1.4 (36)
Value Added	-0.3	5.0	-6.9	-2.3	-0.4	0.8	-0.6	-2.2	0.7	3.1	0.9
Canadian Equities	-2.5 (72)	47.6 (17)	-15.1 (92)	-1.1 (80)	12.6 (17)	17.7 (3)	2.1 (50)	1.1 (45)	29.7 (52)	19.0 (14)	-5.9 (31)
Guardian (including cash)	-5.6 (93)	36.2 (51)	-6.5 (55)	4.8 (29)	10.8 (40)	11.7 (54)	3.3 (31)	0.7 (49)	26.7 (78)	9.3 (82)	-3.1 (17)
S&P/TSX Composite	-3.9 (85)	33.9 (63)	-2.2 (30)	3.9 (40)	10.4 (46)	11.0 (65)	-0.2 (64)	-1.2 (64)	28.7 (65)	7.9 (93)	-10.3 (64)
Value Added	-1.7	2.3	-4.3	0.9	0.4	0.7	3.5	1.9	-2.0	1.4	7.2
Letko (including cash)	1.4 (40)	61.0 (5)	-21.5 (99)	-5.2 (90)	13.4 (12)	21.5 (1)	1.5 (55)	1.4 (42)	31.1 (34)	24.2 (2)	-6.9 (34)
S&P/TSX Composite	-3.9 (85)	33.9 (63)	-2.2 (30)	3.9 (40)	10.4 (46)	11.0 (65)	-0.2 (64)	-1.2 (64)	28.7 (65)	7.9 (93)	-10.3 (64)
Value Added	5.3	27.1	-19.3	-9.1	3.0	10.5	1.7	2.6	2.4	16.3	3.4
Global Equities	-11.9 (60)	27.3 (56)	2.3 (62)	2.8 (66)	8.3 (80)	19.4 (52)	-3.4 (77)	10.5 (91)	23.9 (65)	18.7 (85)	2.0 (40)
Aberdeen	-10.7 (51)	27.0 (59)	6.0 (45)	5.4 (43)	7.9 (82)	16.4 (72)	-1.0 (60)	7.6 (96)	22.0 (79)	17.2 (91)	4.3 (26)
MSCI World (Net)	-10.8 (52)	26.6 (60)	6.9 (40)	5.7 (41)	12.5 (47)	17.8 (63)	1.4 (40)	18.9 (59)	25.2 (54)	22.7 (58)	0.4 (52)
Value Added	0.1	0.4	-0.9	-0.3	-4.6	-1.4	-2.4	-11.3	-3.2	-5.5	3.9
GMO	-15.7 (79)	28.3 (49)	1.9 (64)	2.8 (67)	8.1 (81)	20.0 (47)	-2.8 (72)	11.9 (90)	23.8 (66)	19.0 (84)	2.9 (33)
MSCI World (Net)	-10.8 (52)	26.6 (60)	6.9 (40)	5.7 (41)	12.5 (47)	17.8 (63)	1.4 (40)	18.9 (59)	25.2 (54)	22.7 (58)	0.4 (52)
Value Added	-4.9	1.7	-5.0	-2.9	-4.4	2.2	-4.2	-7.0	-1.4	-3.7	2.5
Canadian Fixed Income	-15.5	-2.8	9.2	8.3	2.8	-1.2	7.8	7.5	8.1	-3.9	10.4
TDAM Long Bonds	-19.5 (33)	-6.4 (72)	12.1 (47)	11.4 (60)	1.8 (79)	0.3 (85)	10.2 (29)	9.0 (90)	8.0 (38)	-2.0 (27)	-
FTSE Canada Long Term Overall Bond	-19.7 (80)	-6.9 (91)	12.0 (60)	11.4 (38)	1.8 (72)	0.4 (75)	9.9 (51)	10.1 (37)	7.6 (72)	-2.9 (84)	18.8 (23)
Value Added	0.2	0.5	0.1	0.0	0.0	-0.1	0.3	-1.1	0.4	0.9	-
TDAM Real Return Bonds	-13.1	1.7	6.1	5.1	4.2	-2.9	5.4	5.8	8.2	-8.5	-
FTSE Canada Real Return Bond	-12.3	2.1	5.5	5.2	4.0	-2.7	5.3	5.6	8.1	-9.9	14.9
Value Added	-0.8	-0.4	0.6	-0.1	0.2	-0.2	0.1	0.2	0.1	1.4	-

Parentheses contain percentile rankings.

Quarterly Performance Report for the City of Hamilton Funded Status and Glide Path Information for June 30, 2022



Snapshot (Wind-Up)

	30-Sep-21	31-Dec-21	31-Mar-22	30-Jun-22
Market value of assets (\$ Millions)	\$347.3	\$362.7	\$332.0	\$292.0
Liability proxy (\$ Millions)	\$419.7	\$427.7	\$394.8	\$363.5
Funded status (\$ Millions)	(\$72.4)	(\$65.0)	(\$62.8)	(\$71.5)
Funded ratio	82.7%	84.8%	84.1%	80.3%
Current LMC Asset Allocation	51.5%	55.4%	55.2%	55.4%

Rebalancing

- The rebalancing strategy for this plan requires that assets be rebalanced to the target allocation (indicated by the red line) whenever the LMC Asset Allocation falls outside of the range deemed acceptable for a given funded ratio (indicated by the dashed lines).
- Because the LMC Asset Allocation as of June 30, 2022 is within the range determined acceptable for the current funded ratio (80.3%), the asset mix does not require rebalancing.

Capital Markets Performance

Capital Market Performance

Major Capital Markets' Returns

As of 30 June 2022

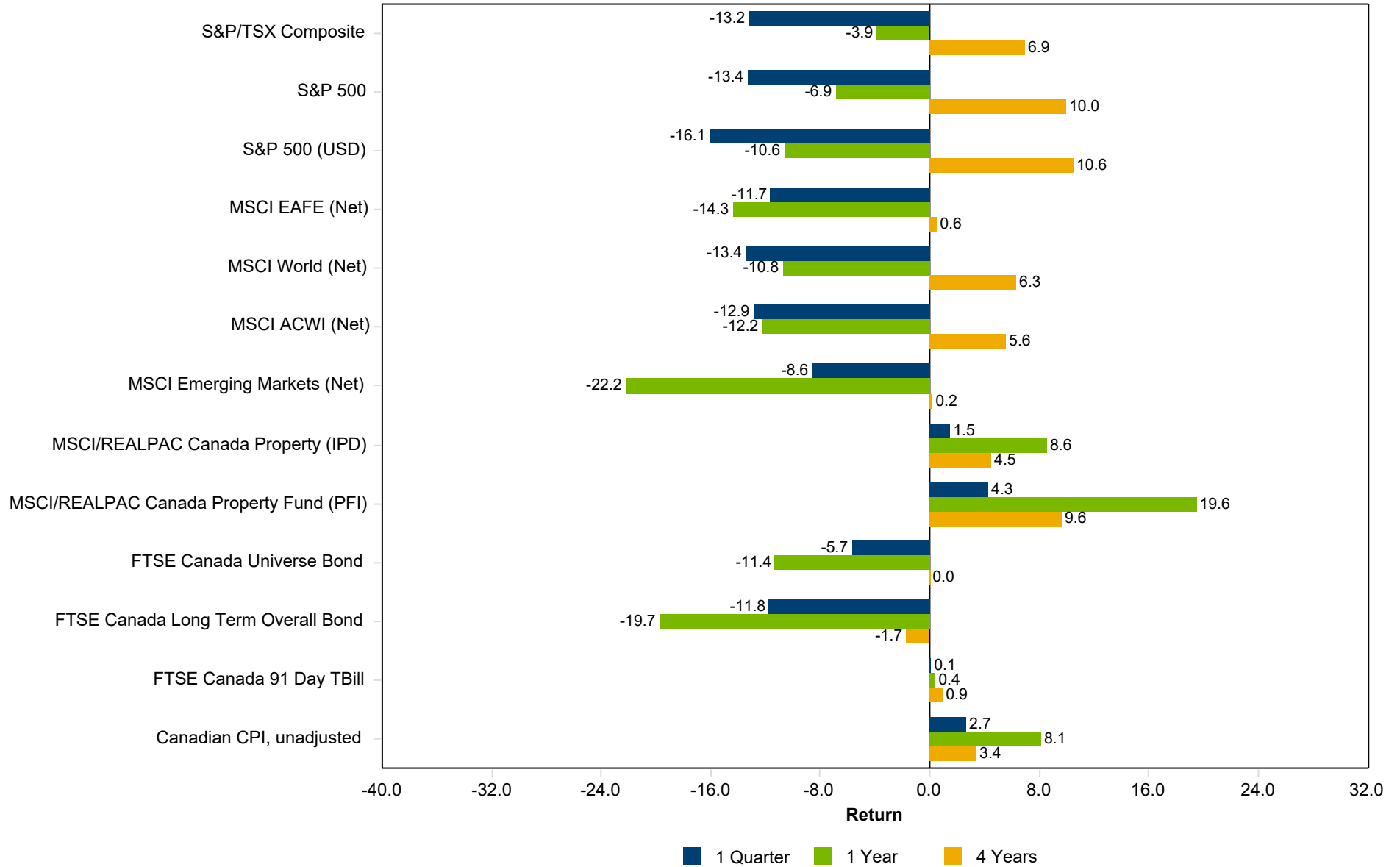
	1 Quarter	YTD	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
Equity								
S&P/TSX Composite	-13.2	-9.9	-3.9	13.4	8.0	6.9	7.6	8.2
S&P 500	-13.4	-18.3	-6.9	9.2	10.1	10.0	11.2	15.6
S&P 500 (USD)	-16.1	-20.0	-10.6	12.2	10.6	10.6	11.3	13.0
MSCI EAFE (Net)	-11.7	-17.9	-14.3	1.5	0.6	0.6	2.1	7.9
MSCI World (Net)	-13.4	-18.8	-10.8	6.2	6.5	6.3	7.5	12.1
MSCI ACWI (Net)	-12.9	-18.5	-12.2	5.4	5.8	5.6	6.9	11.3
MSCI Emerging Markets (Net)	-8.6	-15.9	-22.2	-0.1	0.1	0.2	2.0	5.5
Real Estate								
MSCI/REALPAC Canada Annual Property	1.5	3.4	8.6	4.8	3.6	4.5	5.1	6.8
MSCI/REALPAC Canada Quarterly Property Fund	4.3	9.9	19.6	13.7	10.3	9.6	9.5	8.6
Fixed Income								
FTSE Canada Universe Bond	-5.7	-12.2	-11.4	-7.0	-2.3	0.0	0.2	1.7
FTSE Canada Long Term Overall Bond	-11.8	-22.1	-19.7	-13.6	-5.8	-1.7	-1.0	1.9
FTSE Canada 91 Day TBill	0.1	0.3	0.4	0.3	0.7	0.9	0.9	0.8
Consumer Price Index								
Canadian CPI, unadjusted	2.7	6.2	8.1	5.6	3.9	3.4	3.2	2.3

Returns for periods greater than one year are annualized. Sector returns are based on the holdings loaded into our performance reporting software and may differ from MSCI sector returns. Note: MSCI recently announced a reorganization of the Global Industry Classification Sectors or GICS sectors. The Telecommunications sector was renamed "Communication Services". Going forward the Communication Services sector will include companies currently in the Information Technology sector that focus on facilitating communications, such as Alphabet (Google) and Facebook. Companies that provide media content, such as Disney and Comcast, will be moved from the Consumer Discretionary sector to the Communication Services sector. In addition, online retailers, such as Alibaba and eBay, will be moved from the Information Technology sector to the Consumer Discretionary sector.

Capital Market Performance

Comparative Performance

As of 30 June 2022



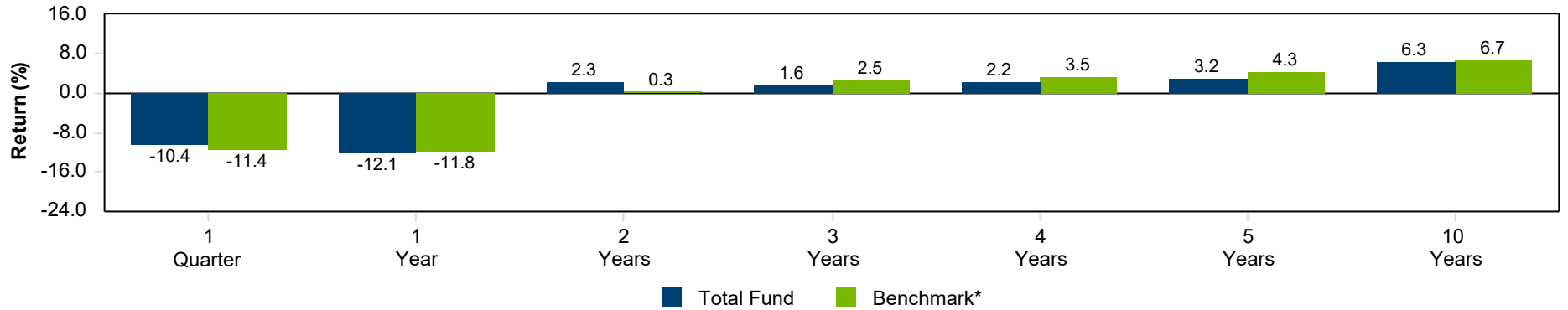
Total Fund Analysis

Total Fund

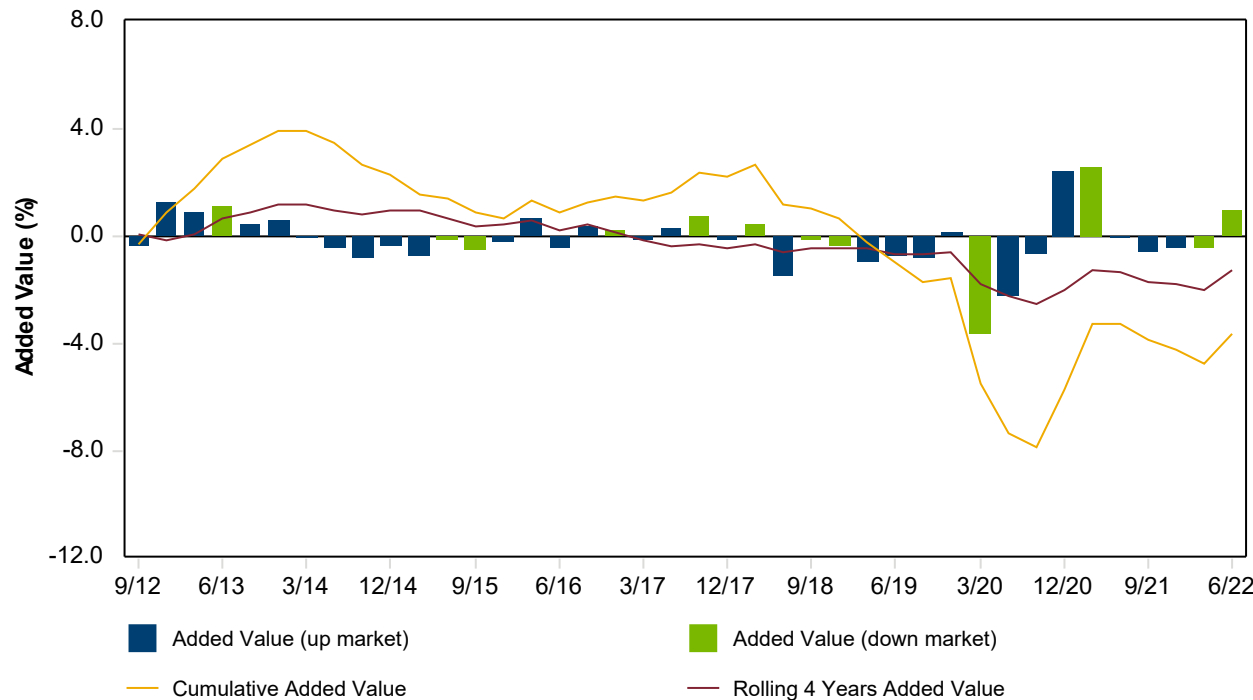
Total Fund Performance Summary

As of 30 June 2022

Return Summary



Added Value History (%)



Performance Statistics

	Quarters	%
Market Capture		
Up Markets	28	96.0
Down Markets	12	98.1
Batting Average		
Up Markets	28	32.1
Down Markets	12	50.0
Overall	40	37.5

* See Appendix A for benchmark components.

Total Fund

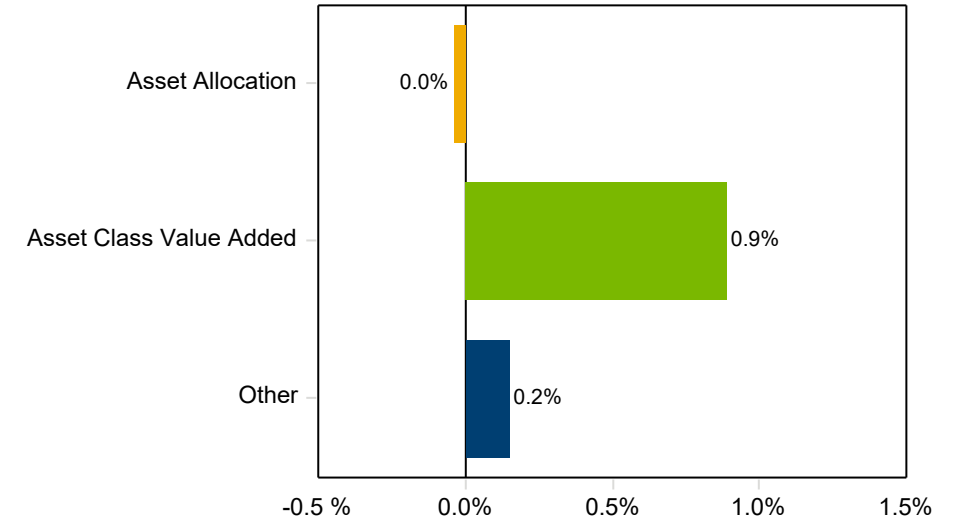
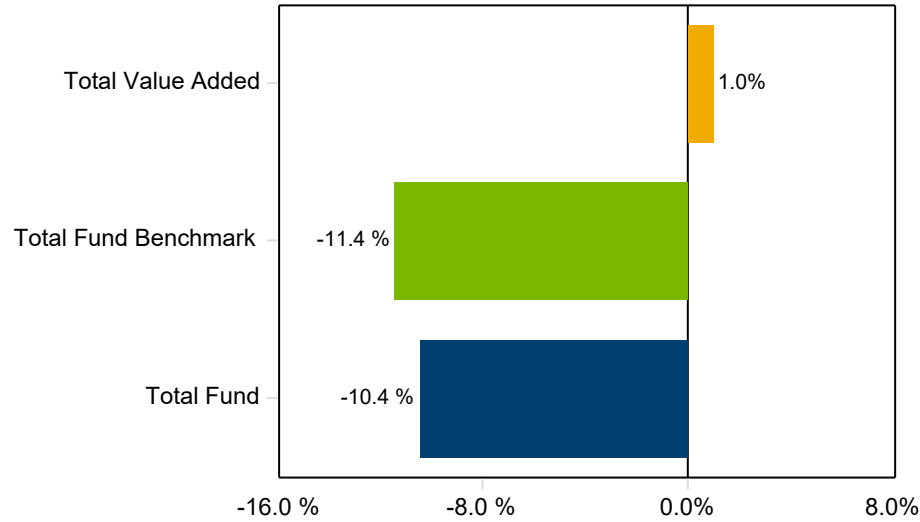
Total Fund Performance Attribution

1 Quarter Ending 30 June 2022

Total Fund vs. Benchmark

Total Fund Performance

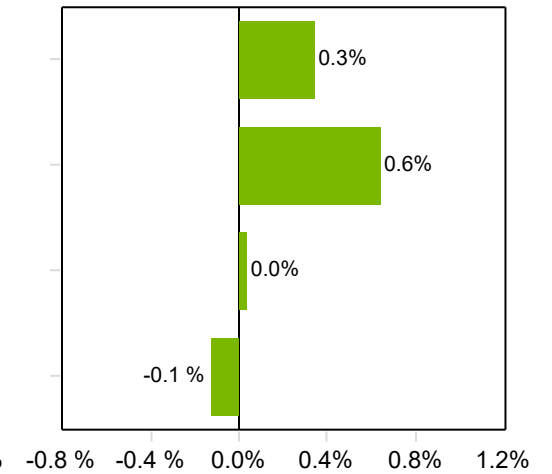
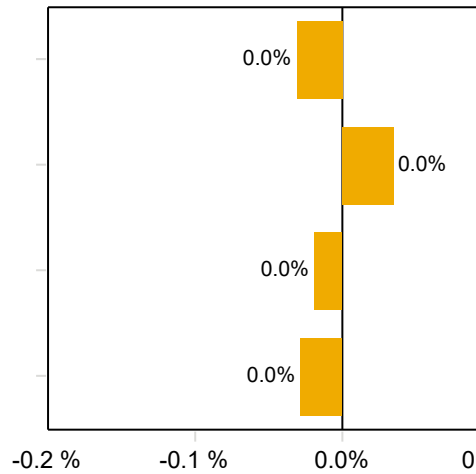
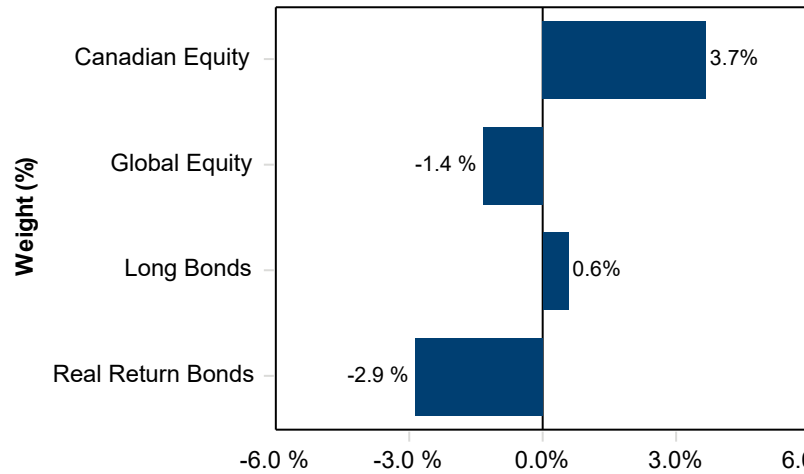
Total Value Added: 1.0%



1 Quarter

Total Asset Allocation: 0.0%

Total Asset Class Value Added: 0.9%



Active Weight

Asset Allocation Value Added

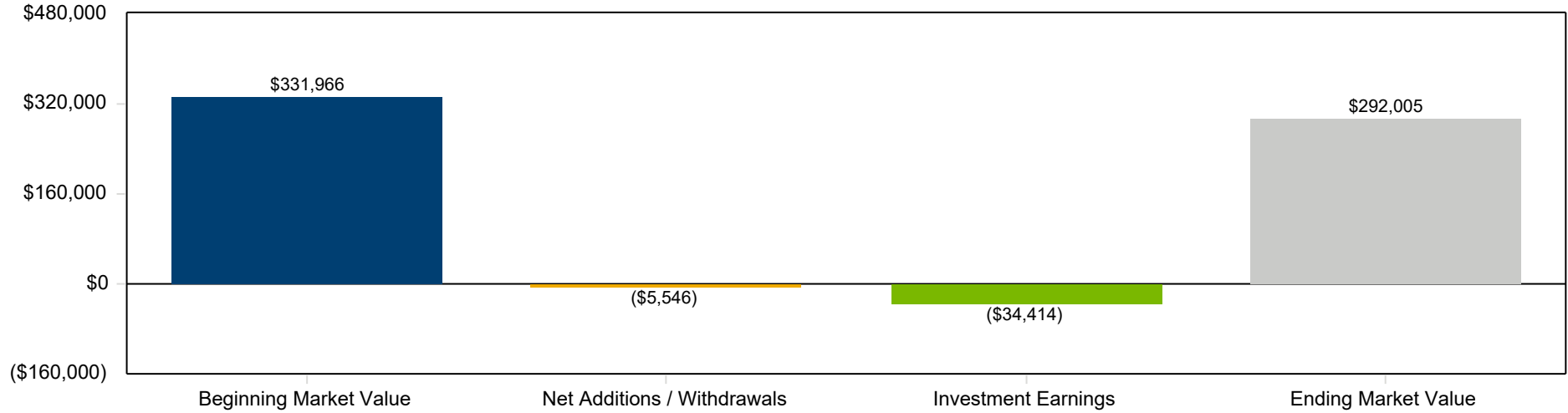
Asset Class Value Added

Total Fund

Total Fund Asset Summary

As of 30 June 2022

Change in Market Value (\$000)
 From 1 April 2022 to 30 June 2022



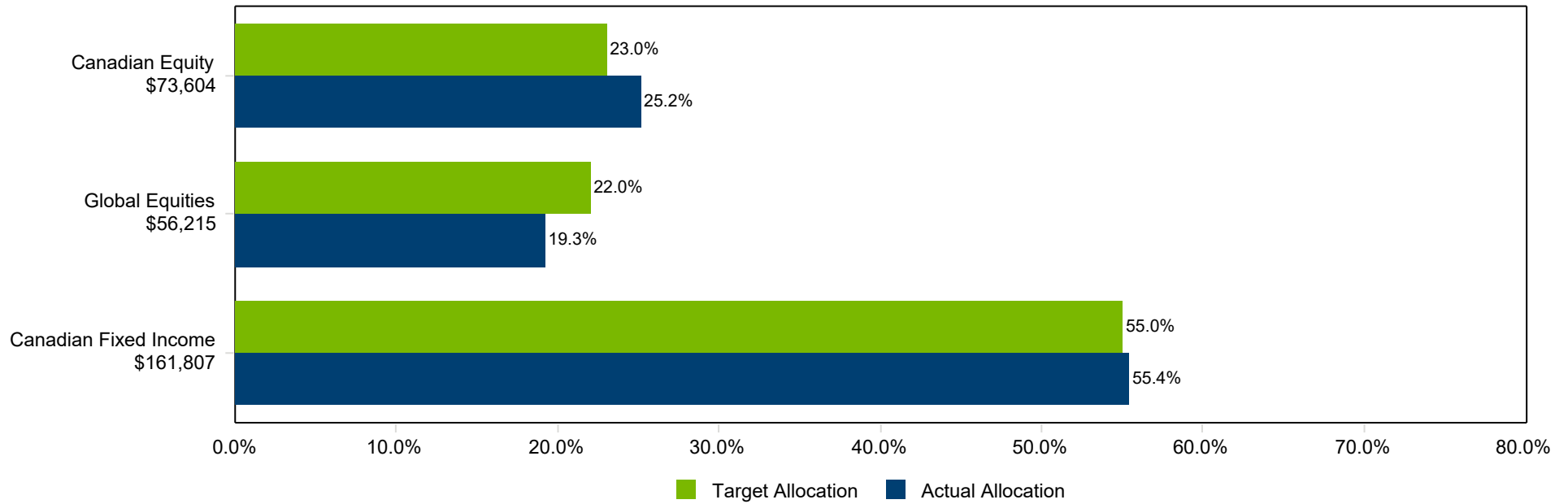
Summary of Cash Flows (\$000)

	1 Quarter	Year To Date	1 Year	4 Years
Total Fund				
Beginning Market Value	331,966	362,701	355,368	339,904
+/- Net Cash Flows	-5,546	-11,191	-22,631	-67,243
+/- Income	1,813	2,704	14,490	87,673
+/- Capital Gains / Losses	-36,227	-62,209	-55,222	-68,329
= Ending Market Value	292,005	292,005	292,005	292,005

Total Fund

Asset Allocation Compliance

As of 30 June 2022 (\$000)

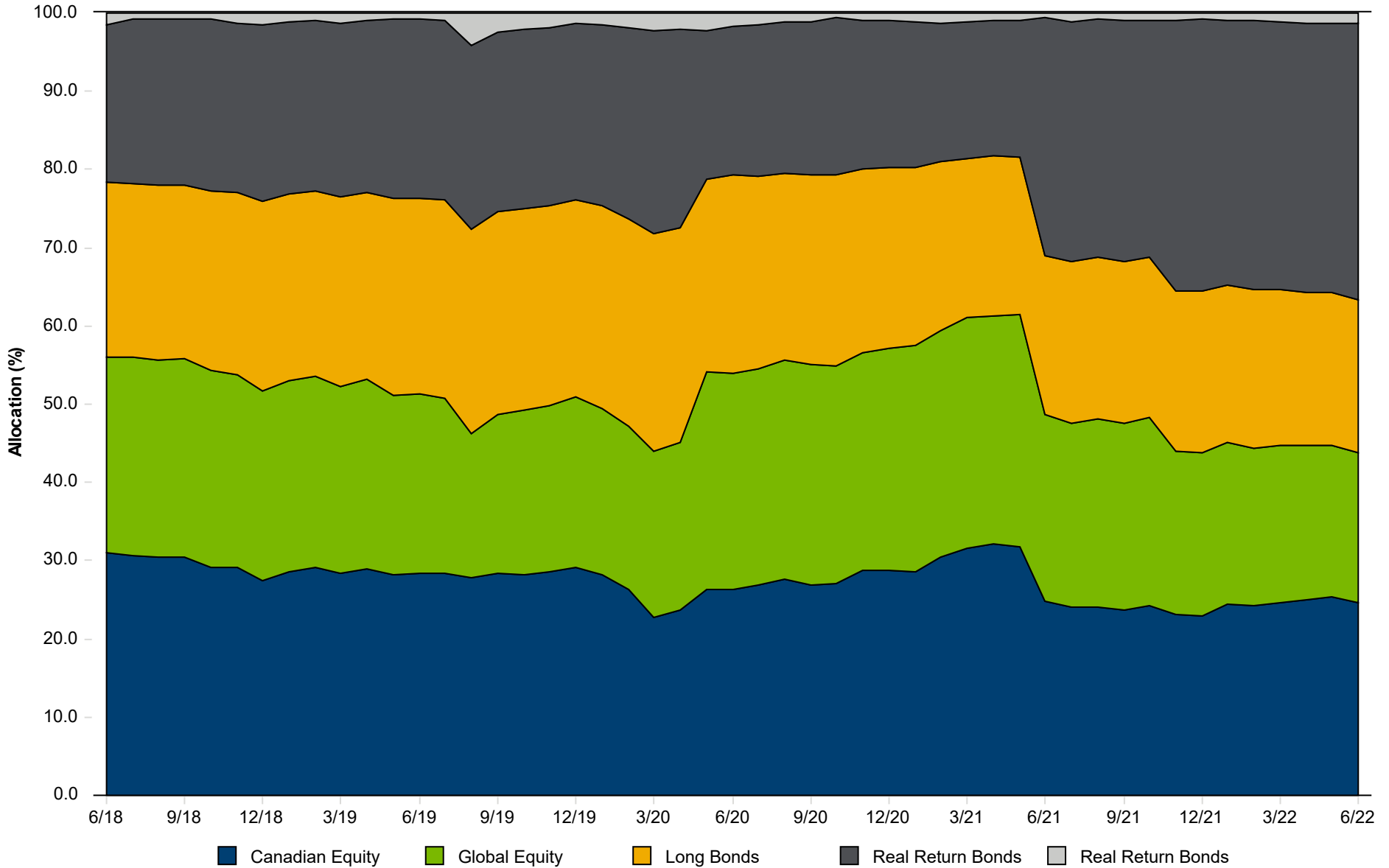


	Market Value (\$000)	Market Value (%)	Target Allocation (%)	Differences (%)	Minimum Allocation (%)	Maximum Allocation (%)	Within Range
Total Fund	292,005	100.0	100.0	0.0			
Canadian Equity	73,604	25.2	23.0	2.2	18.0	28.0	Yes
Global Equities	56,215	19.3	22.0	-2.7	17.0	27.0	Yes
Canadian Fixed Income	161,807	55.4	55.0	0.4	45.0	65.0	Yes

Total Fund

Historical Asset Allocation by Segment

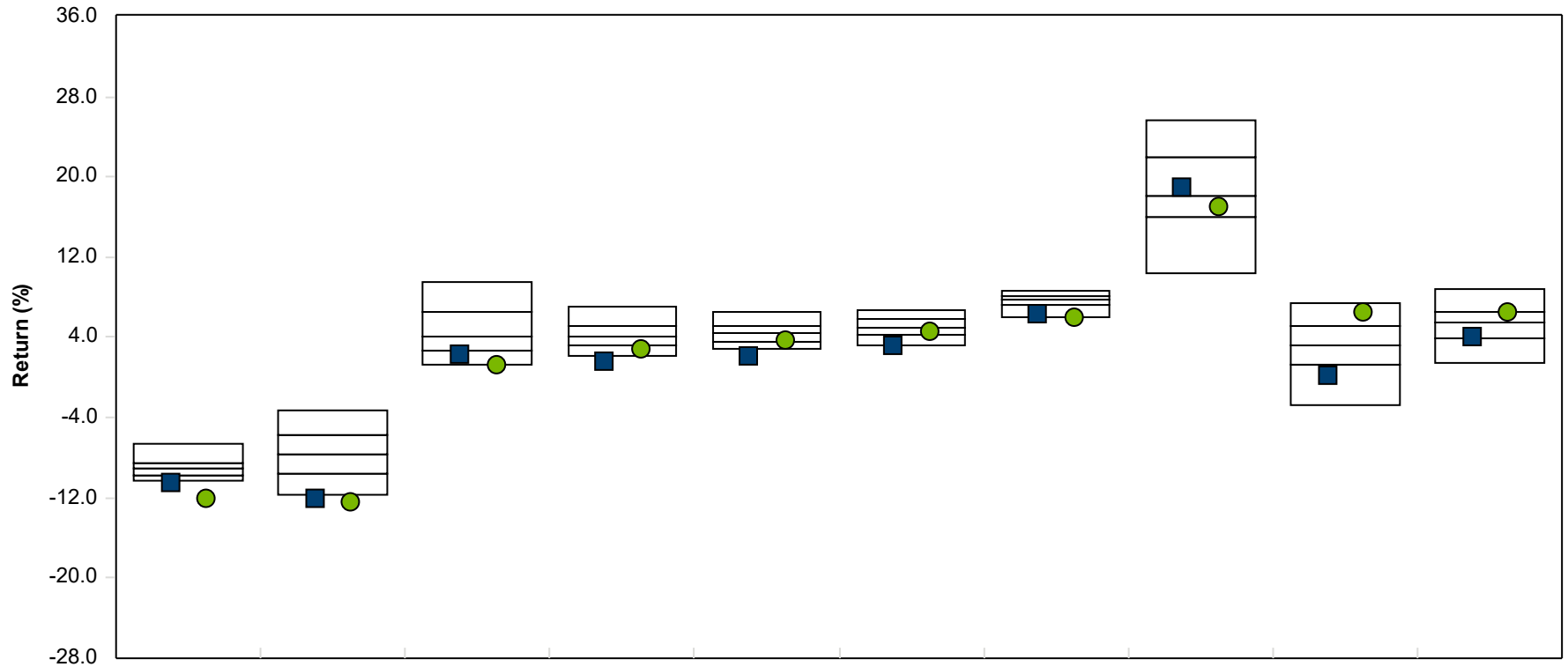
4 Years Ending 30 June 2022
 Total Fund



Total Fund

Peer Group Analysis

As of 30 June 2022
 Balanced Funds



	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	1 Year Ending Jun-2021	1 Year Ending Jun-2020	1 Year Ending Jun-2019
■ Total Fund	-10.4 (97)	-12.1 (99)	2.3 (78)	1.6 (98)	2.2 (100)	3.2 (95)	6.3 (93)	19.1 (39)	0.2 (83)	4.1 (74)
● Benchmark	-12.0 (100)	-12.5 (100)	1.2 (96)	2.9 (80)	3.8 (72)	4.5 (65)	6.0 (95)	17.1 (59)	6.5 (15)	6.5 (26)
5th Percentile	-6.7	-3.3	9.5	7.1	6.5	6.8	8.7	25.6	7.5	8.8
1st Quartile	-8.5	-5.8	6.5	5.1	5.2	5.9	8.0	22.0	5.1	6.5
Median	-9.1	-7.6	4.1	4.0	4.5	5.0	7.7	18.2	3.3	5.5
3rd Quartile	-9.7	-9.5	2.7	3.2	3.6	4.3	7.3	15.9	1.3	3.9
95th Percentile	-10.3	-11.6	1.3	2.1	2.8	3.2	6.0	10.4	-2.7	1.5
Population	49	49	49	49	49	49	49	50	52	52

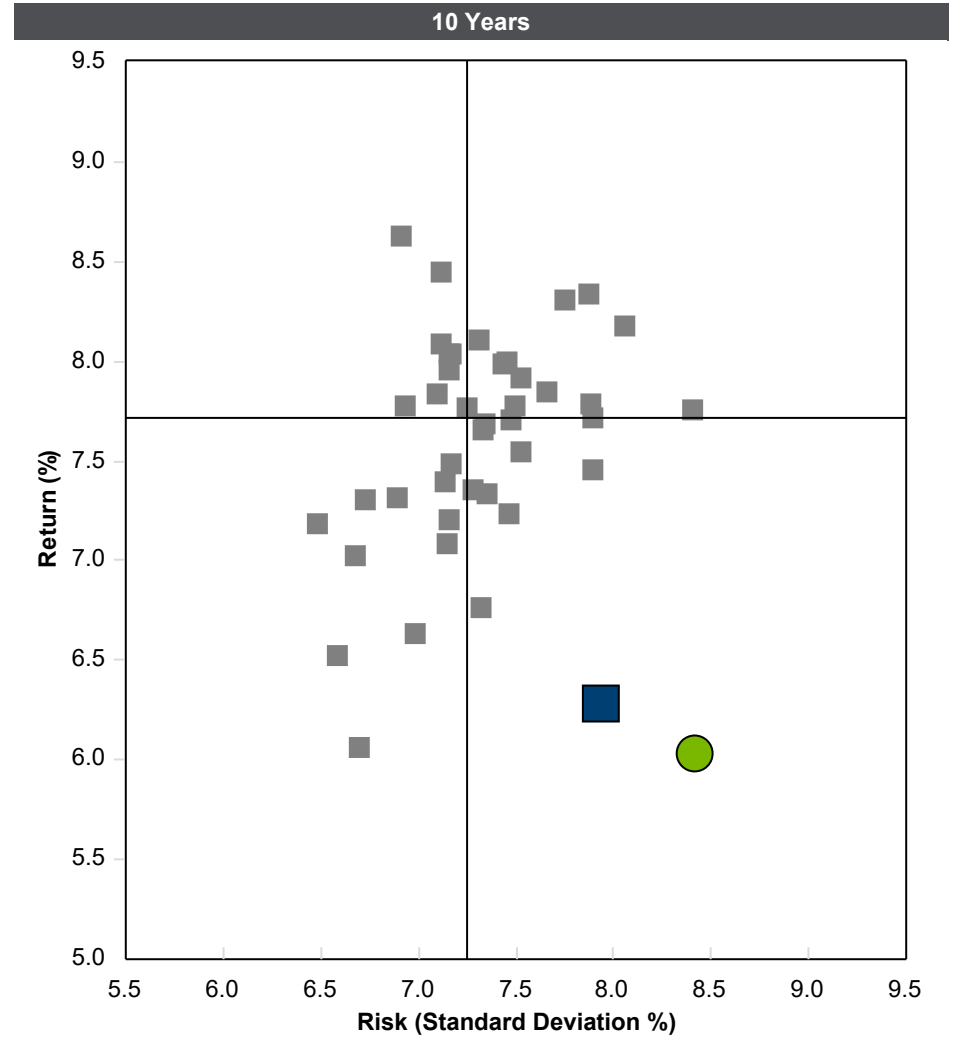
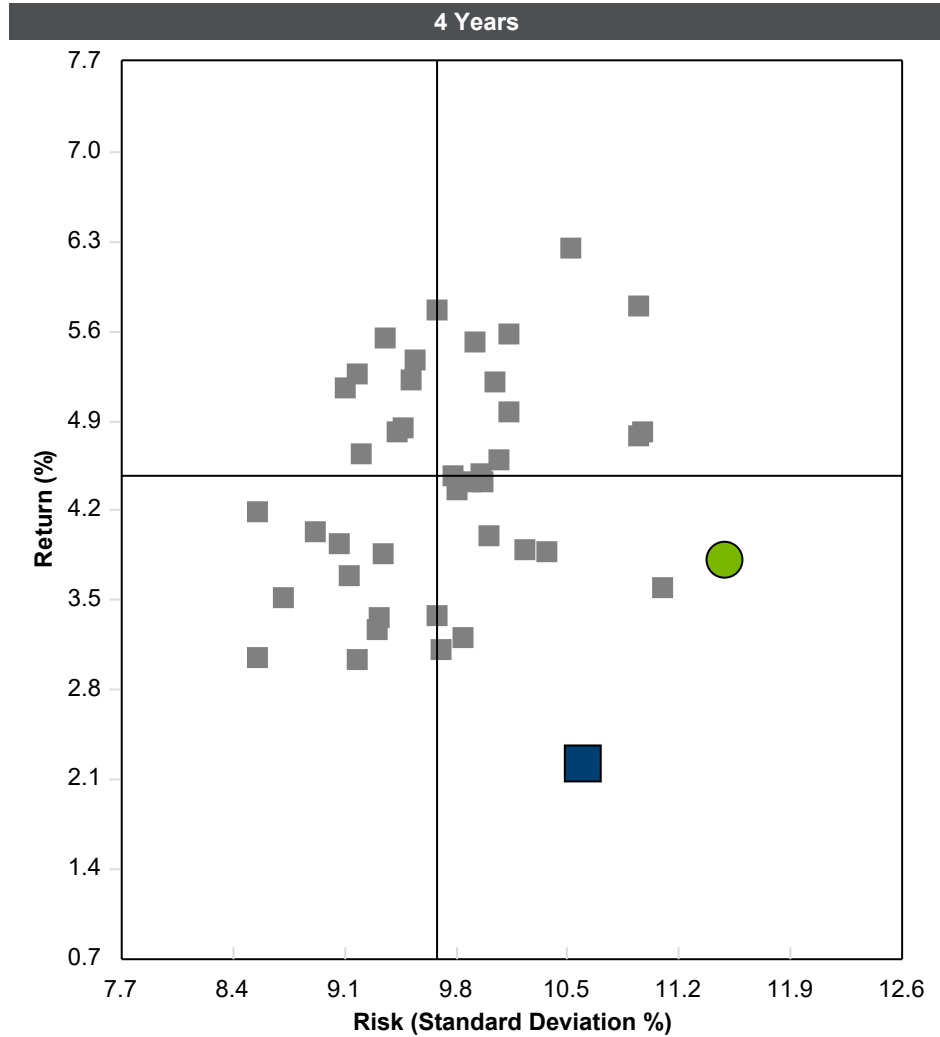
Parentheses contain percentile rankings.
 Source: Aon Manager Universe

Total Fund

Peer Group Scattergram

Periods Ending 30 June 2022

Balanced Funds



	Return	Standard Deviation
■ Total Fund	2.2	10.6
● Benchmark	3.8	11.5
— Median	4.5	9.7

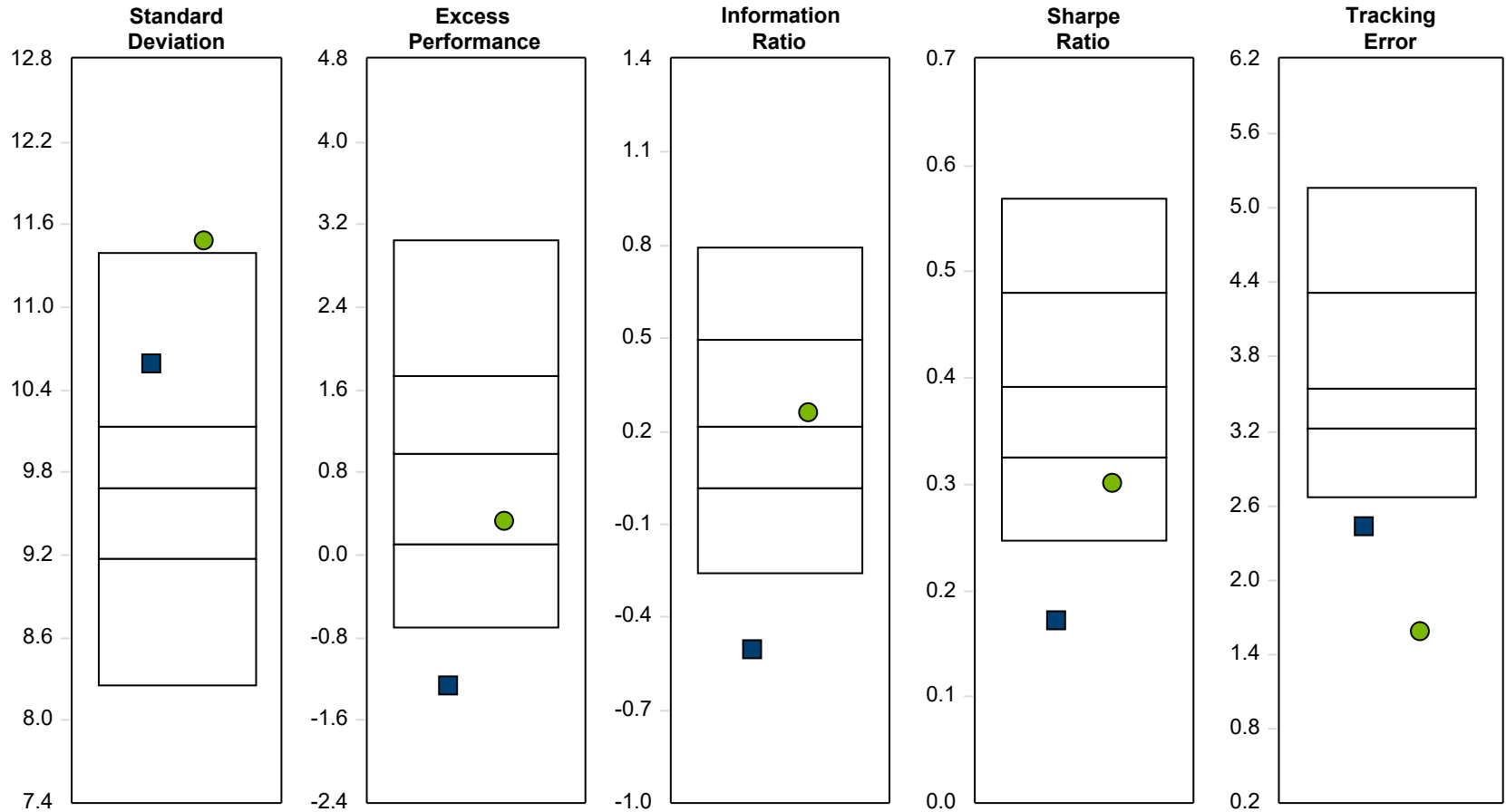
	Return	Standard Deviation
■ Total Fund	6.3	7.9
● Benchmark	6.0	8.4
— Median	7.7	7.3

Source: Aon Manager Universe

Total Fund

Peer Group Analysis - Performance Statistics

As of 30 June 2022



	4 Years		4 Years		4 Years		4 Years		4 Years	
	Total Fund	Benchmark	Total Fund	Benchmark	Total Fund	Benchmark	Total Fund	Benchmark	Total Fund	Benchmark
5th Percentile		11.4		3.1		0.8		0.6		5.2
1st Quartile		10.1		1.7		0.5		0.5		4.3
Median		9.7		1.0		0.2		0.4		3.5
3rd Quartile		9.2		0.1		0.0		0.3		3.2
95th Percentile		8.3		-0.7		-0.3		0.2		2.7
	10.6 (15)	11.5 (5)	-1.3 (100)	0.3 (72)	-0.5 (100)	0.3 (44)	0.2 (100)	0.3 (78)	2.4 (99)	1.6 (100)

Parentheses contain percentile rankings.
 Source: Aon Manager Universe

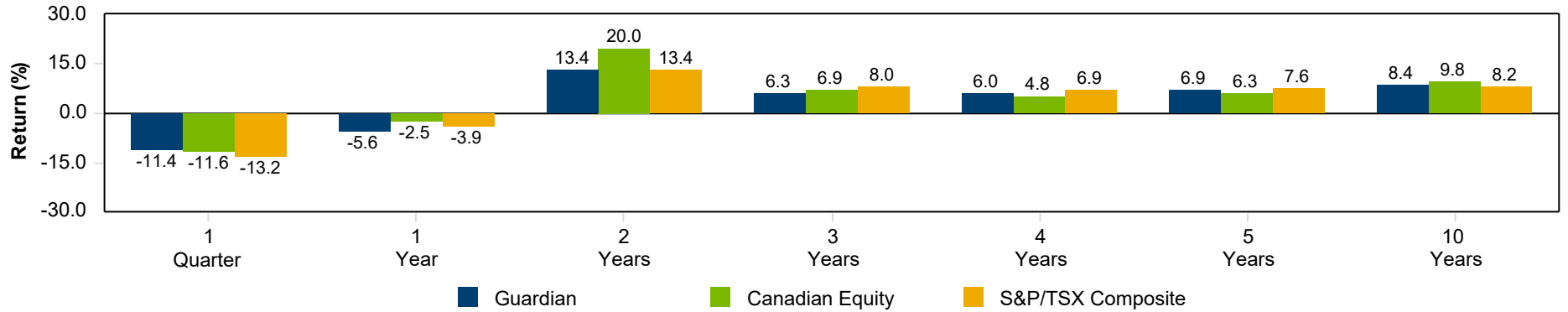
Asset Class Analysis

Canadian Equity

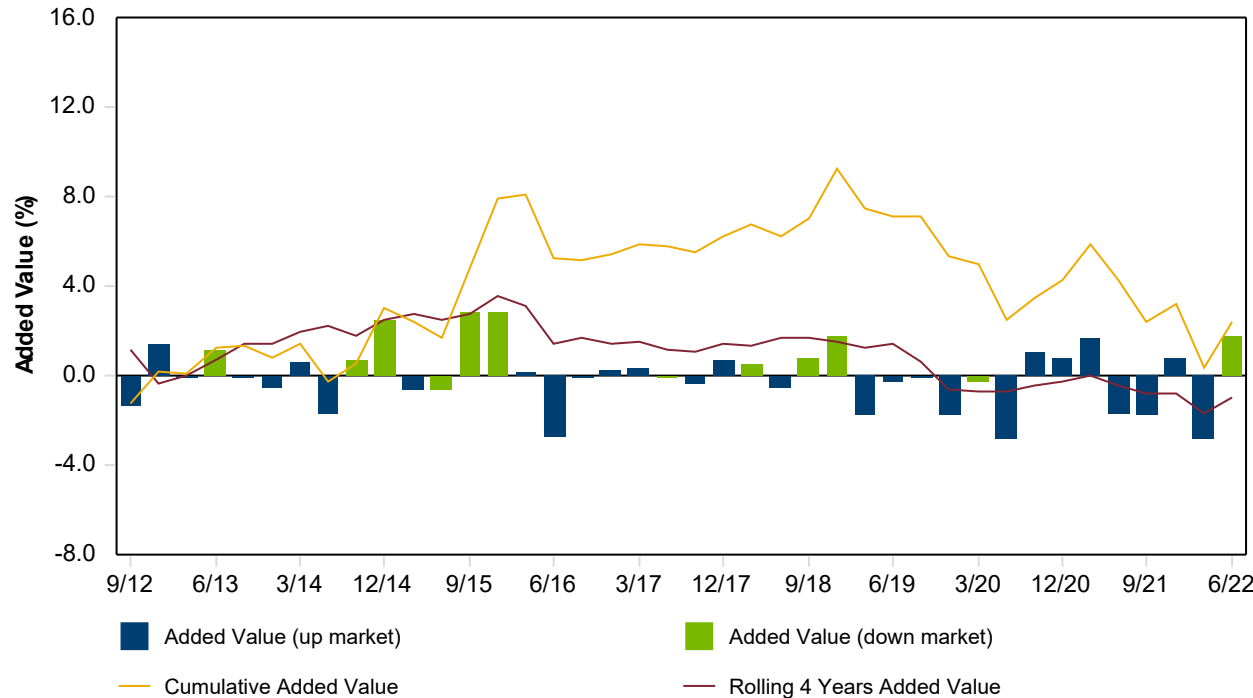
Guardian Performance Summary

As of 30 June 2022

Return Summary



Added Value History (%)



Performance Statistics

	Quarters	%
Market Capture		
Up Markets	28	91.7
Down Markets	12	79.3
Batting Average		
Up Markets	28	39.3
Down Markets	12	75.0
Overall	40	50.0

Canadian Equity

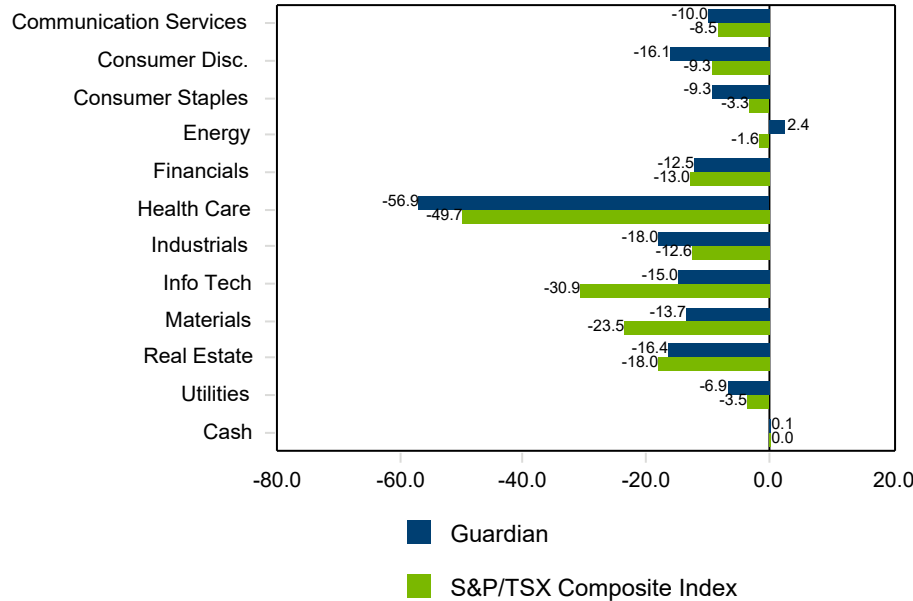
Guardian Portfolio Characteristics

As of 30 June 2022

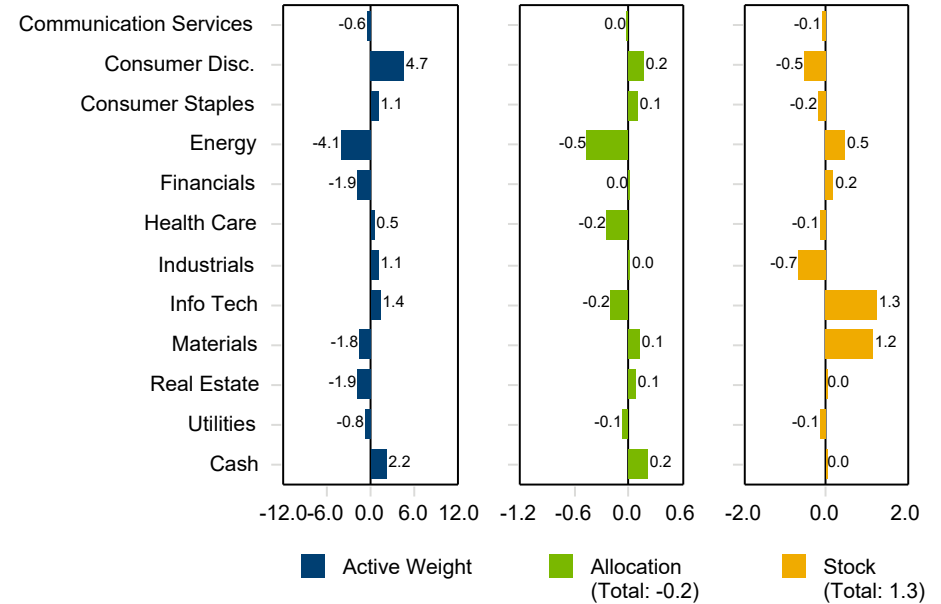
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	51,243	60,371
Median Mkt. Cap (\$M)	21,550	3,559
Price/Earnings ratio	11.6	11.6
Price/Book ratio	2.0	2.0
5 Yr. EPS Growth Rate (%)	18.5	19.9
Current Yield (%)	3.1	3.2
Return on Equity (%)	3.8	-2.7
Debt to Equity (%)	158.8	-31.0
Number of Holdings	39	239

Manager Top Ten Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Suncor Energy	7.44	2.36	5.08	11.98
Royal Bank of Canada	7.12	6.54	0.58	-8.63
Bank of Montreal	6.40	3.08	3.32	-15.06
Canadian Pacific Railway	5.06	3.10	1.96	-12.68
CIBC	4.71	2.09	2.62	-16.53
Brookfield Asset Management	3.96	3.10	0.86	-18.76
CGI Group	3.68	0.81	2.87	2.96
TELUS	3.67	1.46	2.21	-11.25
TransCanada	3.44	2.42	1.02	-4.17
Canadian Natural Resources	3.20	2.96	0.24	-9.71
% of Portfolio	48.68	27.92	20.76	

Sector Returns (%)



Sector Performance Attribution (%)

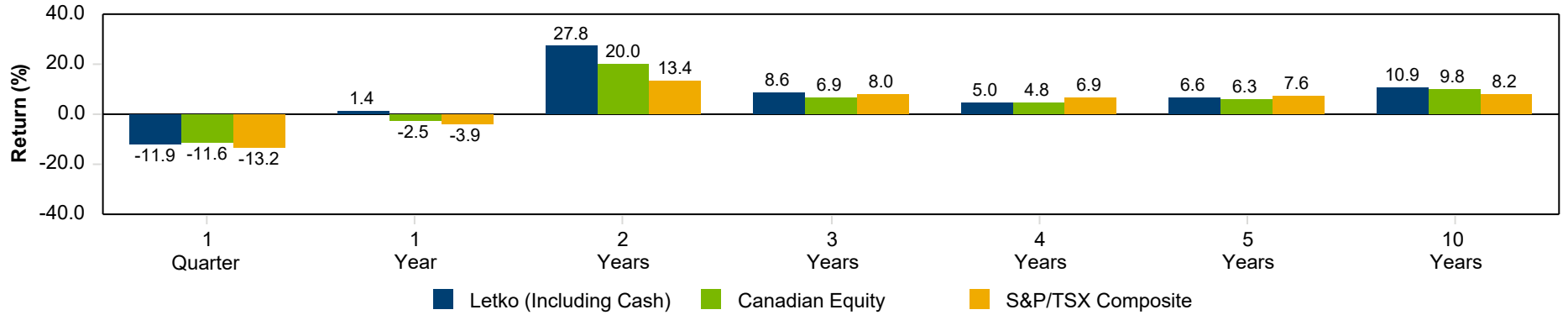


Canadian Equity

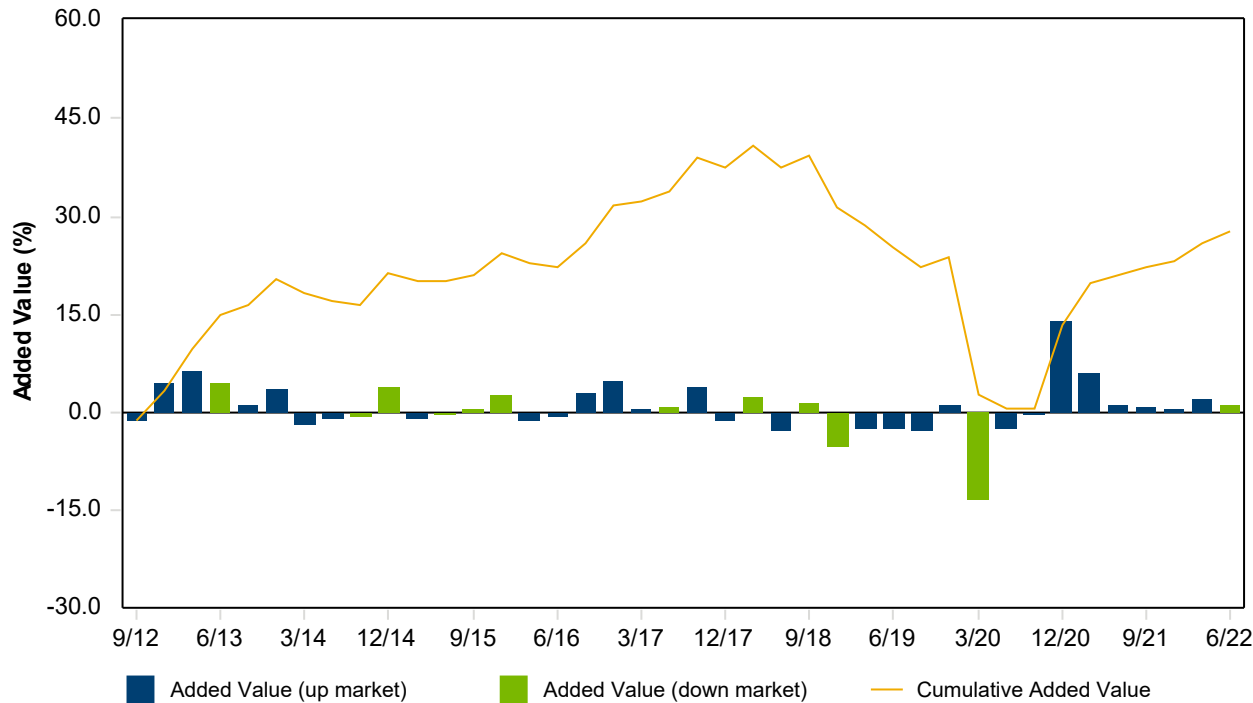
Letko Performance Summary

As of 30 June 2022

Return Summary



Added Value History (%)



Performance Statistics

	Quarters	%
Market Capture		
Up Markets	28	121.7
Down Markets	12	100.9
Batting Average		
Up Markets	28	53.6
Down Markets	12	66.7
Overall	40	57.5

Canadian Equity

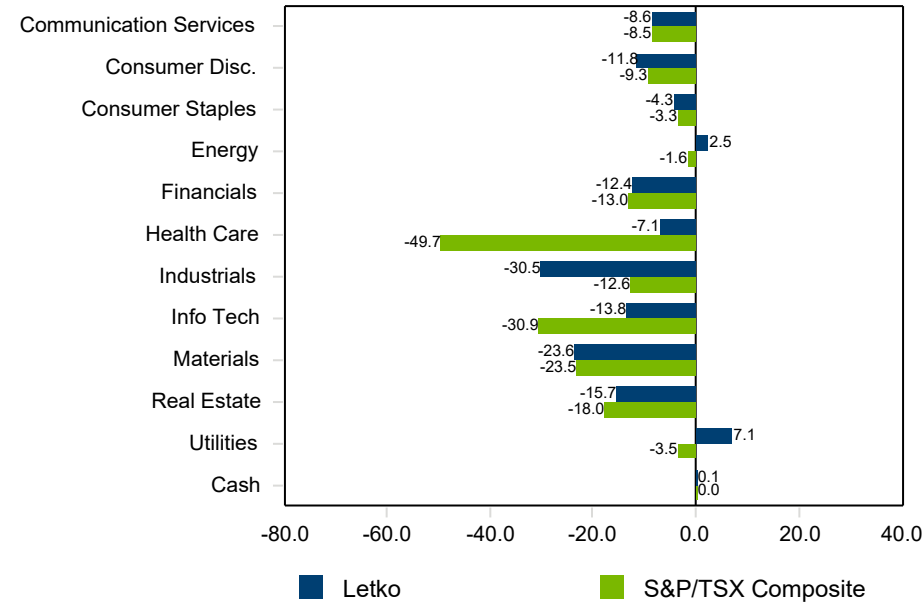
Letko Portfolio Characteristics

As of 30 June 2022

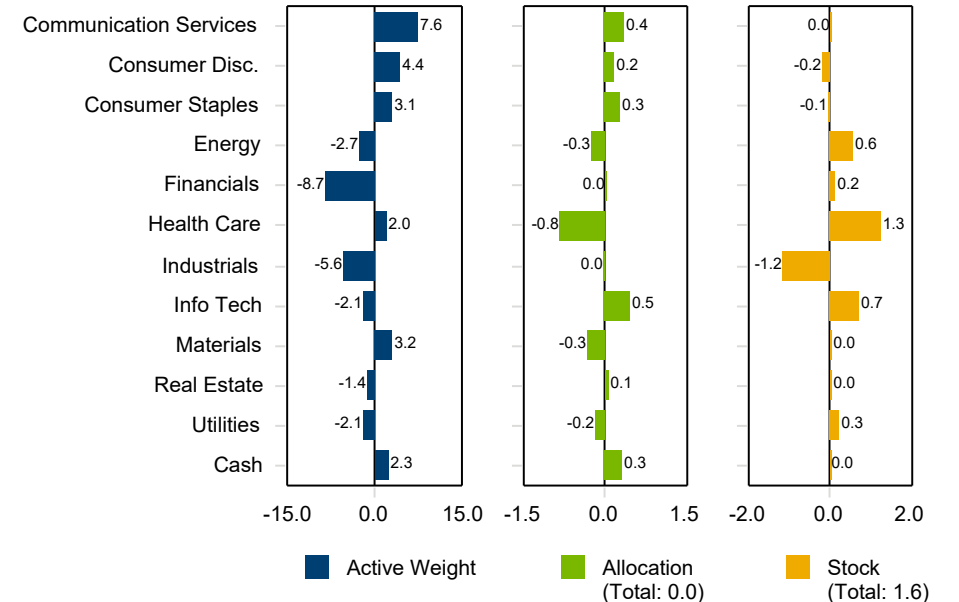
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	51,291	60,371
Median Mkt. Cap (\$M)	19,090	3,559
Price/Earnings ratio	8.0	11.6
Price/Book ratio	1.9	2.0
5 Yr. EPS Growth Rate (%)	18.4	19.9
Current Yield (%)	3.3	3.2
Return on Equity (%)	5.7	-2.7
Debt to Equity (%)	86.9	-31.0
Number of Holdings	95	239

Manager Top Ten Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Manulife Financial	3.27	1.59	1.68	-15.05
Bank of Nova Scotia	3.16	3.40	-0.24	-14.02
George Weston	3.10	0.39	2.71	-1.88
Toronto-Dominion Bank	3.02	5.69	-2.67	-14.11
Bank of Montreal	3.00	3.08	-0.08	-15.06
Suncor Energy	2.83	2.36	0.47	11.98
Rogers Communications	2.82	0.80	2.02	-12.13
Cenovus Energy	2.77	1.13	1.64	17.94
Royal Bank of Canada	2.68	6.54	-3.86	-8.63
BCE	2.67	2.13	0.54	-7.38
% of Portfolio	29.32	27.11	2.21	

Sector Returns (%)



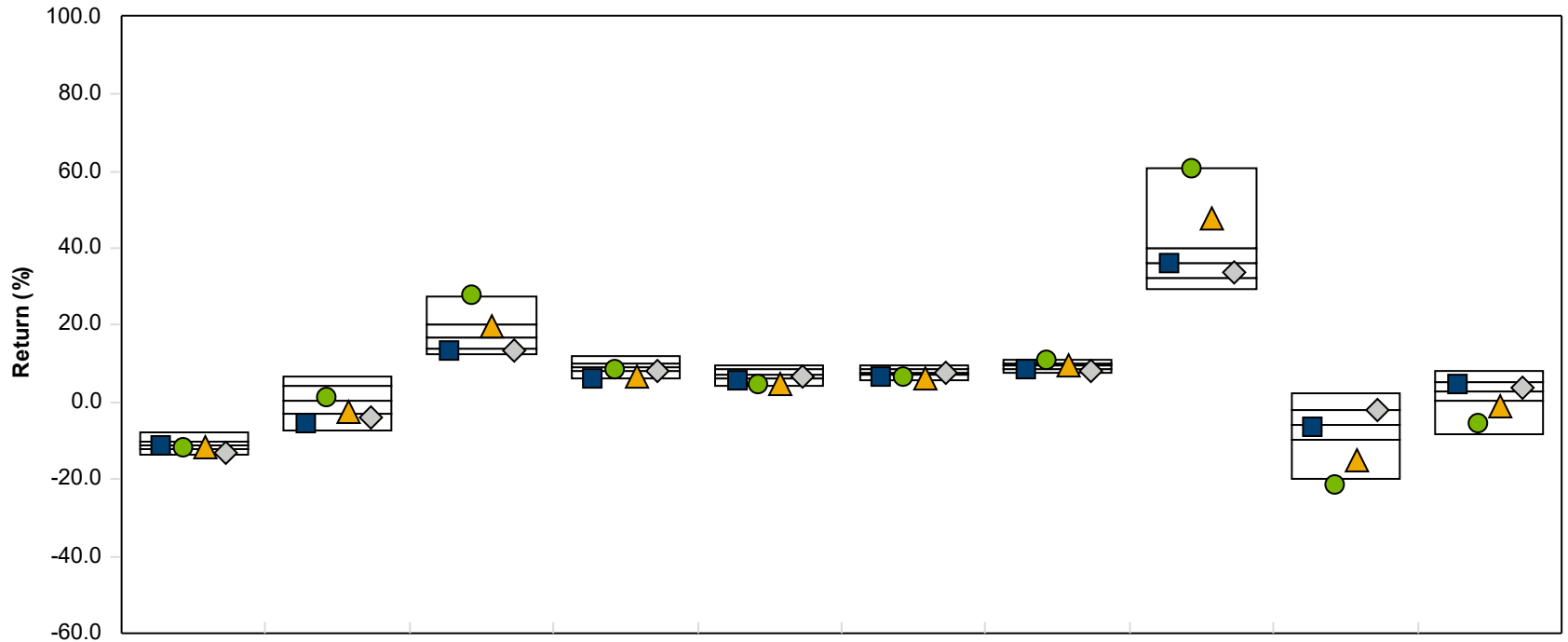
Sector Performance Attribution (%)



Canadian Equity

Peer Group Analysis

As of 30 June 2022
 Canadian Equity



	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	1 Year Ending Jun-2021	1 Year Ending Jun-2020	1 Year Ending Jun-2019
■ Guardian	-11.4 (59)	-5.6 (93)	13.4 (84)	6.3 (95)	6.0 (81)	6.9 (77)	8.4 (83)	36.2 (51)	-6.5 (55)	4.8 (29)
● Letko	-11.9 (67)	1.4 (39)	27.8 (5)	8.6 (58)	5.0 (93)	6.6 (83)	10.9 (6)	61.0 (5)	-21.5 (99)	-5.2 (90)
▲ Total Canadian Equities	-11.6 (62)	-2.5 (73)	20.0 (26)	6.9 (94)	4.8 (94)	6.3 (89)	9.8 (40)	47.6 (17)	-15.1 (92)	-1.1 (80)
◆ S&P/TSX Composite	-13.2 (94)	-3.9 (85)	13.4 (84)	8.0 (75)	6.9 (64)	7.6 (55)	8.2 (87)	33.9 (63)	-2.2 (30)	3.9 (40)
5th Percentile	-7.6	6.5	27.6	11.9	9.5	9.8	10.9	60.6	2.3	7.9
1st Quartile	-10.0	4.1	20.0	9.9	8.5	8.7	10.3	40.3	-1.8	5.4
Median	-11.1	0.3	16.7	8.9	7.3	7.8	9.5	36.2	-5.7	3.1
3rd Quartile	-12.0	-2.9	14.2	8.0	6.1	7.0	8.7	32.5	-9.5	0.4
95th Percentile	-13.5	-7.3	12.3	6.2	4.5	5.7	7.8	29.4	-19.7	-8.2
Population	83	83	83	83	83	83	83	86	90	99

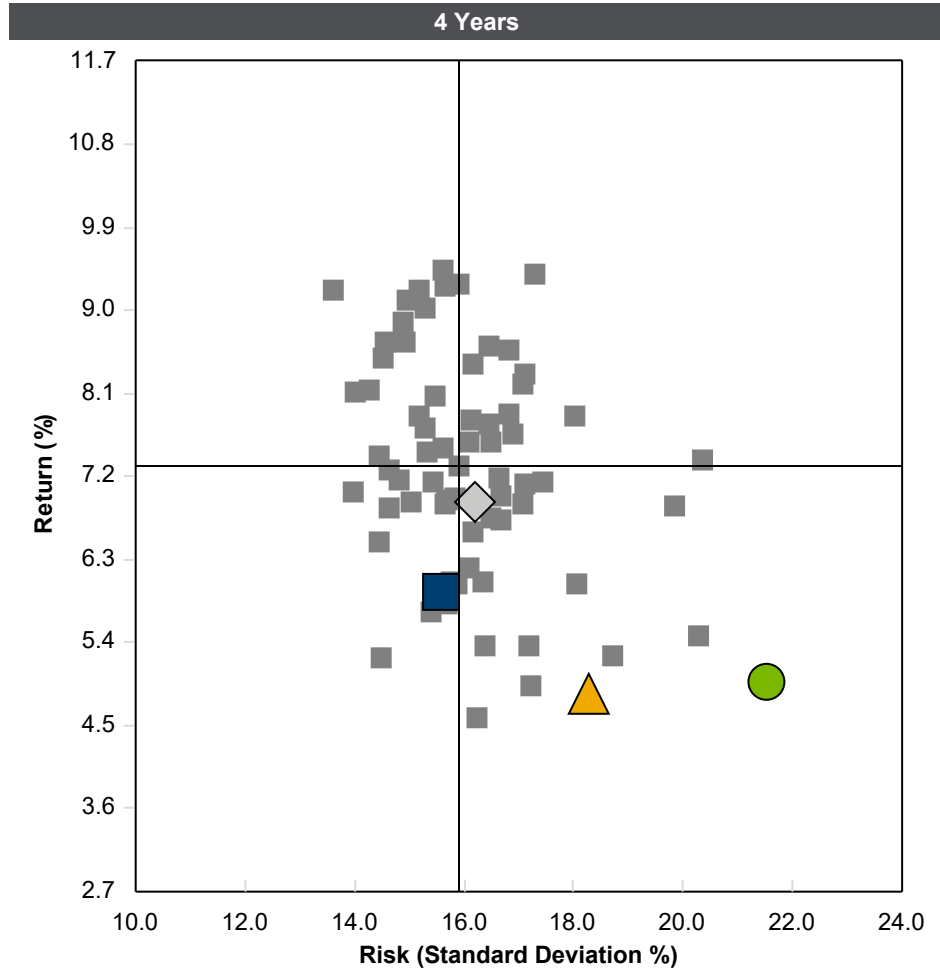
Parentheses contain percentile rankings.
 Source: Aon Manager Universe

Canadian Equity

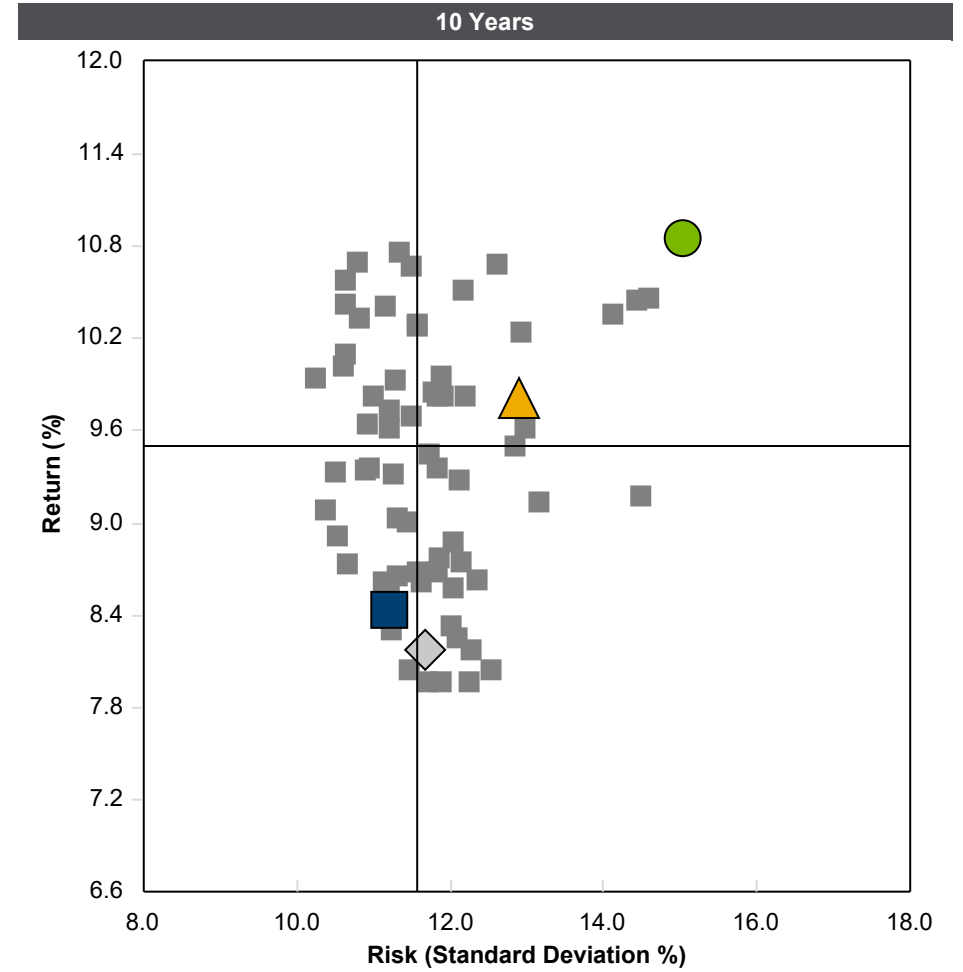
Peer Group Scattergram

Periods Ending 30 June 2022

Canadian Equity



	Return	Standard Deviation
Guardian	6.0	15.6
Letko	5.0	21.5
Canadian Equity	4.8	18.3
S&P/TSX Composite	6.9	16.2
— Median	7.3	15.9

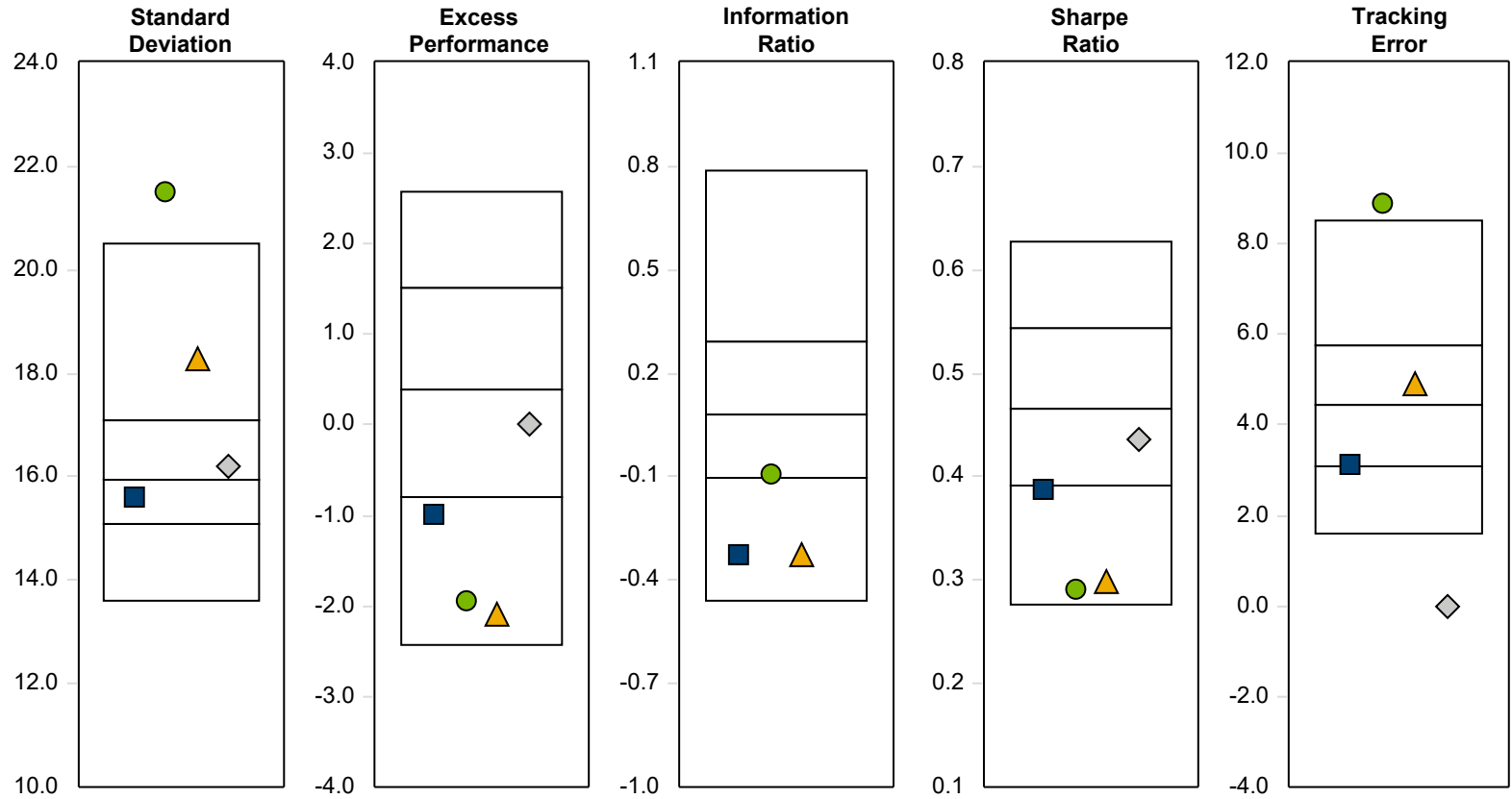


	Return	Standard Deviation
Guardian	8.4	11.2
Letko	10.9	15.0
Canadian Equity	9.8	12.9
S&P/TSX Composite	8.2	11.7
— Median	9.5	11.6

Source: Aon Manager Universe

Peer Group Analysis - Performance Statistics

As of 30 June 2022



	4 Years	4 Years	4 Years	4 Years	4 Years
■ Guardian	15.6 (64)	-1.0 (81)	-0.3 (89)	0.4 (77)	3.1 (75)
● Letko	21.5 (3)	-2.0 (93)	-0.1 (75)	0.3 (95)	8.9 (5)
▲ Total Canadian Equities	18.3 (14)	-2.1 (94)	-0.3 (89)	0.3 (93)	4.9 (39)
◆ S&P/TSX Composite	16.2 (44)	0.0 (64)	N/A	0.4 (63)	0.0 (100)
5th Percentile	20.5	2.6	0.8	0.6	8.5
1st Quartile	17.1	1.5	0.3	0.5	5.8
Median	15.9	0.4	0.1	0.5	4.4
3rd Quartile	15.1	-0.8	-0.1	0.4	3.1
95th Percentile	13.6	-2.4	-0.5	0.3	1.6

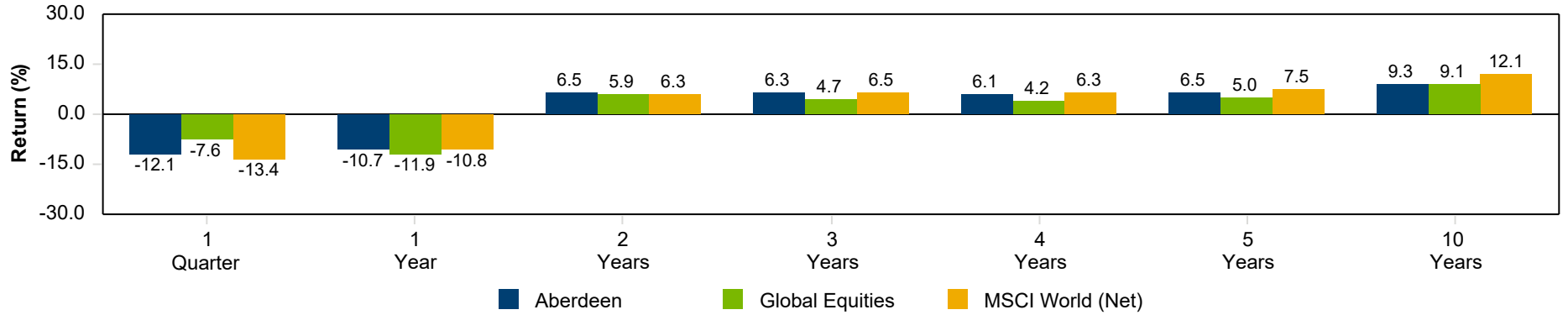
Parentheses contain percentile rankings.
 Source: Aon Manager Universe

Global Equity

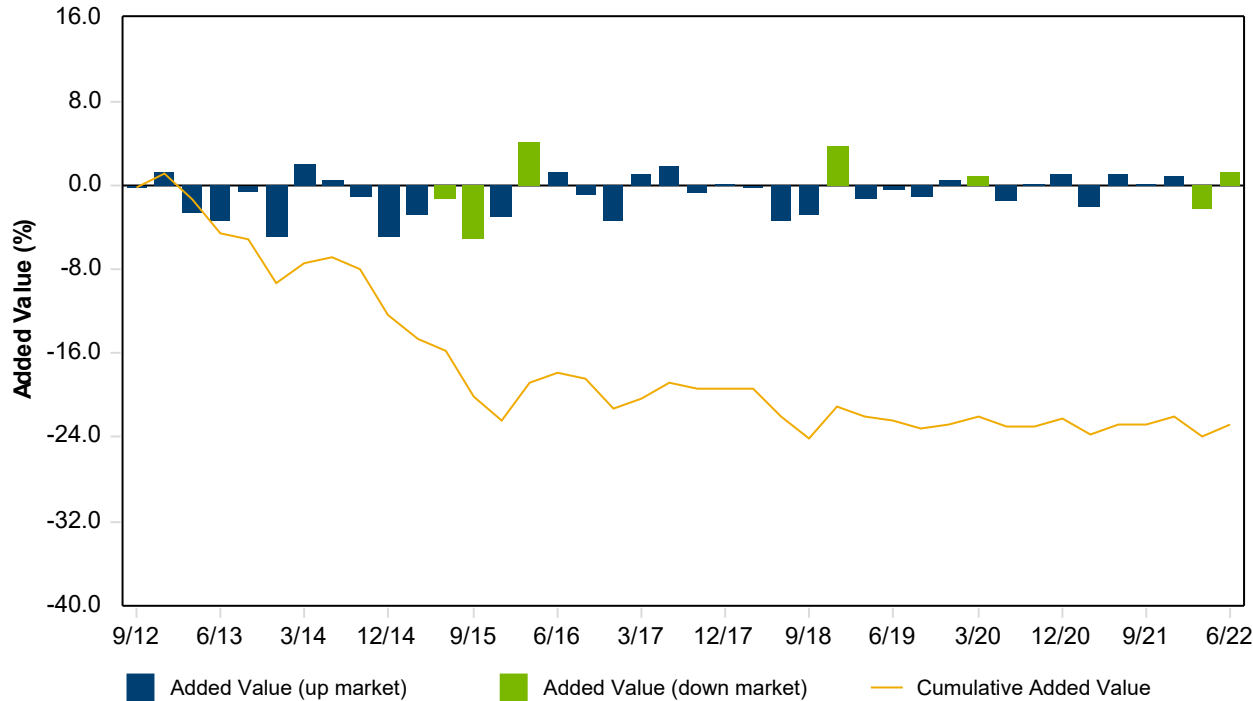
Aberdeen Performance Summary

As of 30 June 2022

Return Summary



Added Value History (%)



Performance Statistics

	Quarters	%
Market Capture		
Up Markets	33	83.5
Down Markets	7	97.1
Batting Average		
Up Markets	33	39.4
Down Markets	7	57.1
Overall	40	42.5

Global Equity

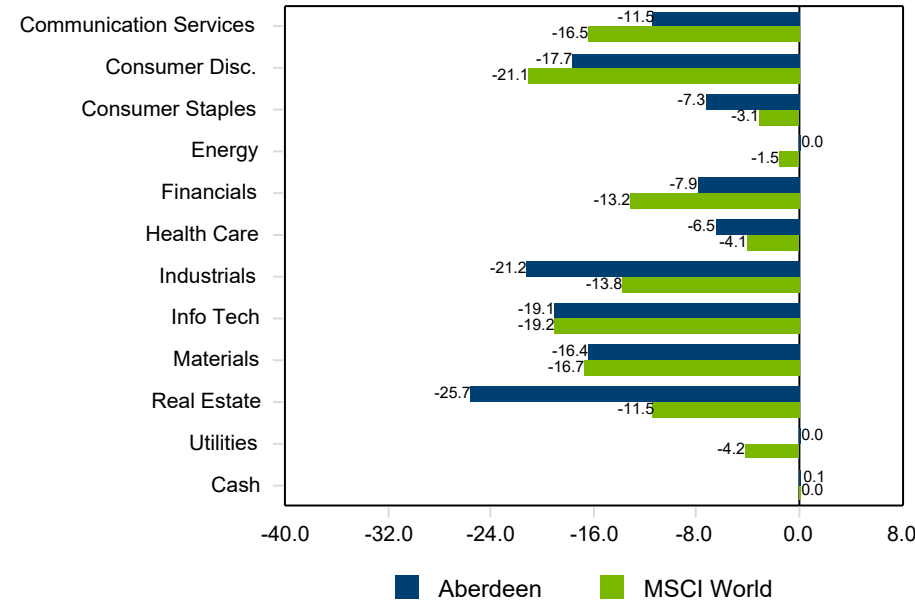
Aberdeen Portfolio Characteristics

As of 30 June 2022

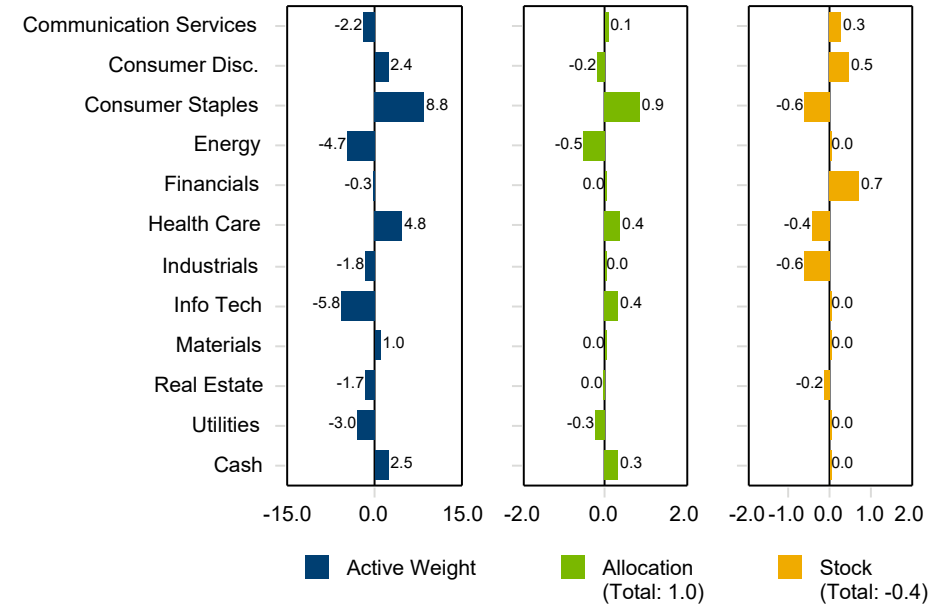
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	365,328	432,500
Median Mkt. Cap (\$M)	107,104	21,081
Price/Earnings ratio	21.7	16.3
Price/Book ratio	4.4	3.3
5 Yr. EPS Growth Rate (%)	17.1	17.7
Current Yield (%)	1.5	2.3
Return on Equity (%)	7.2	3.3
Debt to Equity (%)	84.5	71.0
Number of Holdings	46	1,513

Manager Top Ten Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Microsoft	4.50	3.72	0.78	-13.76
AIA Group	3.69	0.27	3.42	7.81
Amazon.com	3.56	1.98	1.58	-32.71
LVMH	3.17	0.34	2.83	-12.08
AstraZeneca	3.03	0.41	2.62	1.54
Nestle	3.01	0.67	2.34	-5.89
Google	2.98	1.33	1.65	-19.08
Diageo	2.89	0.20	2.69	-12.95
Taiwan Semiconductor ADR	2.78	0.00	2.78	-18.58
Estee Lauder	2.70	0.12	2.58	-3.19
% of Portfolio	32.31	9.04	23.27	

Sector Returns (%)



Sector Performance Attribution (%)

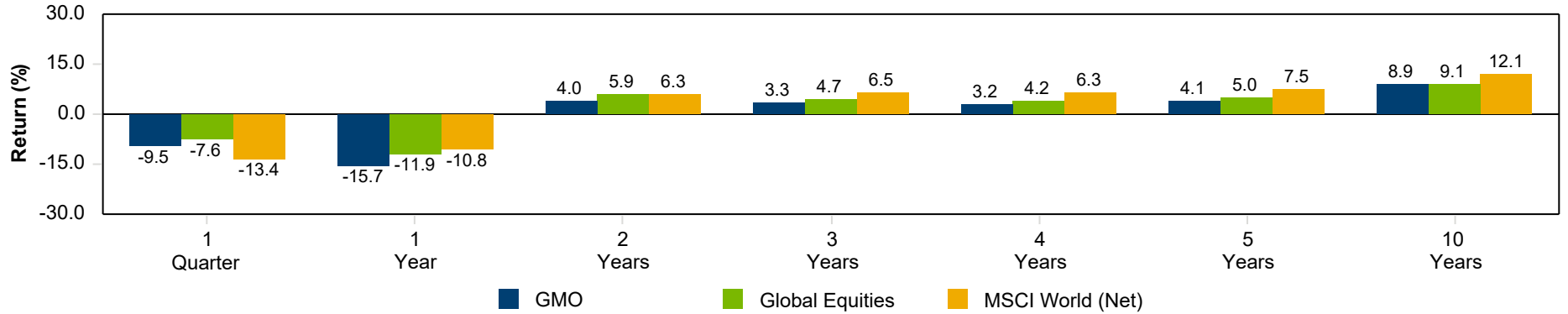


Global Equity

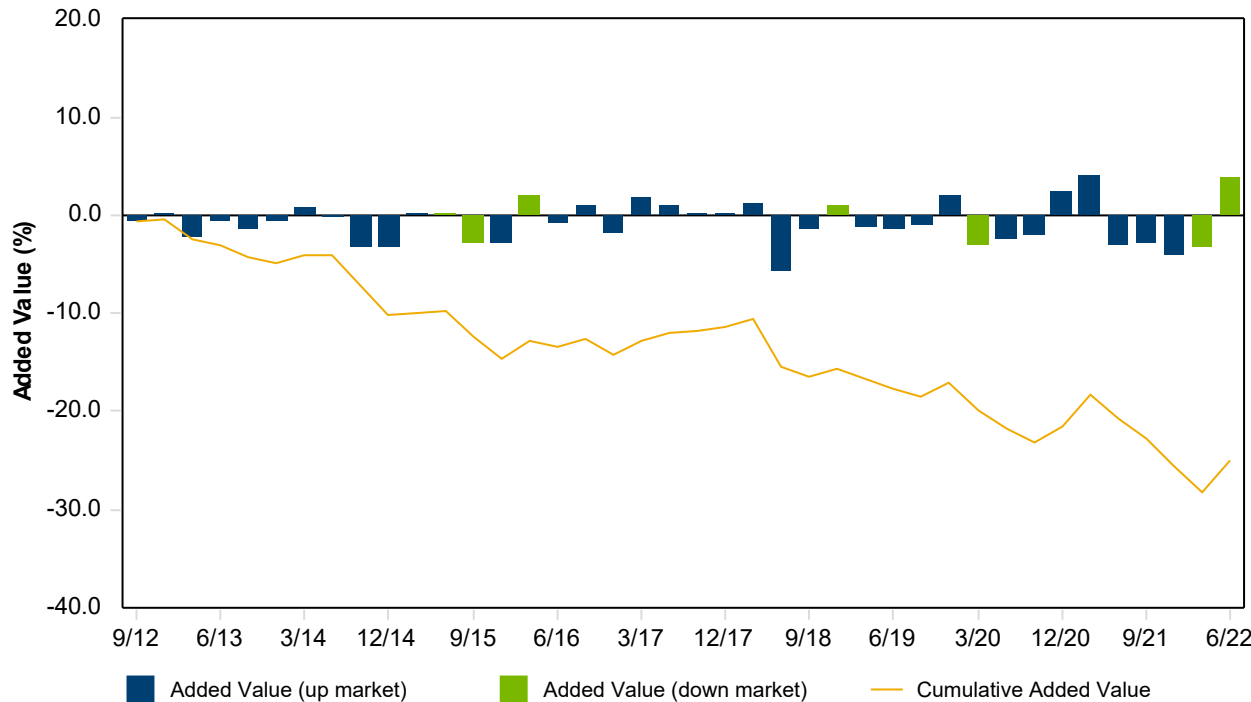
GMO Performance Summary

As of 30 June 2022

Return Summary



Added Value History (%)



Performance Statistics

	Quarters	%
Market Capture		
Up Markets	33	84.4
Down Markets	7	103.7
Batting Average		
Up Markets	33	36.4
Down Markets	7	57.1
Overall	40	40.0

Global Equity

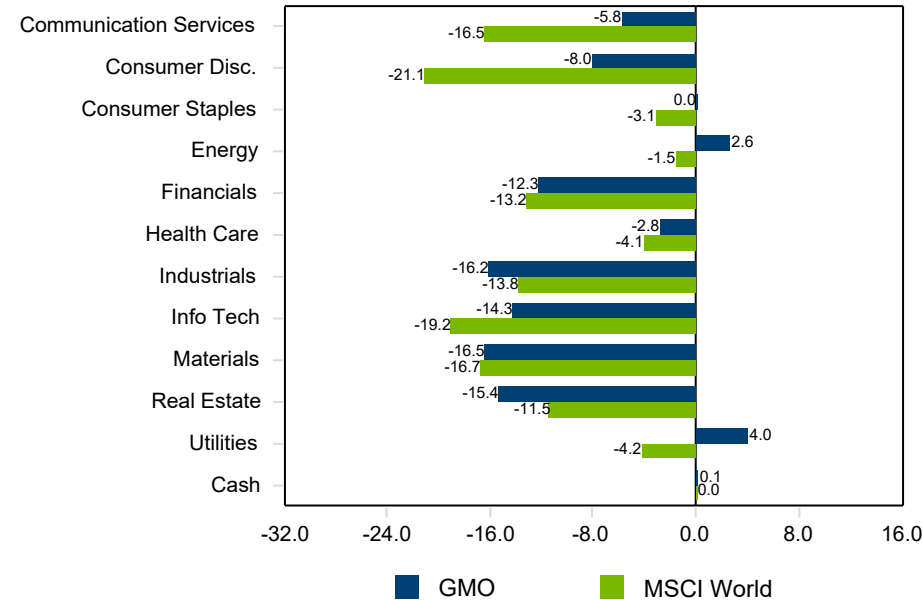
GMO Portfolio Characteristics

As of 30 June 2022

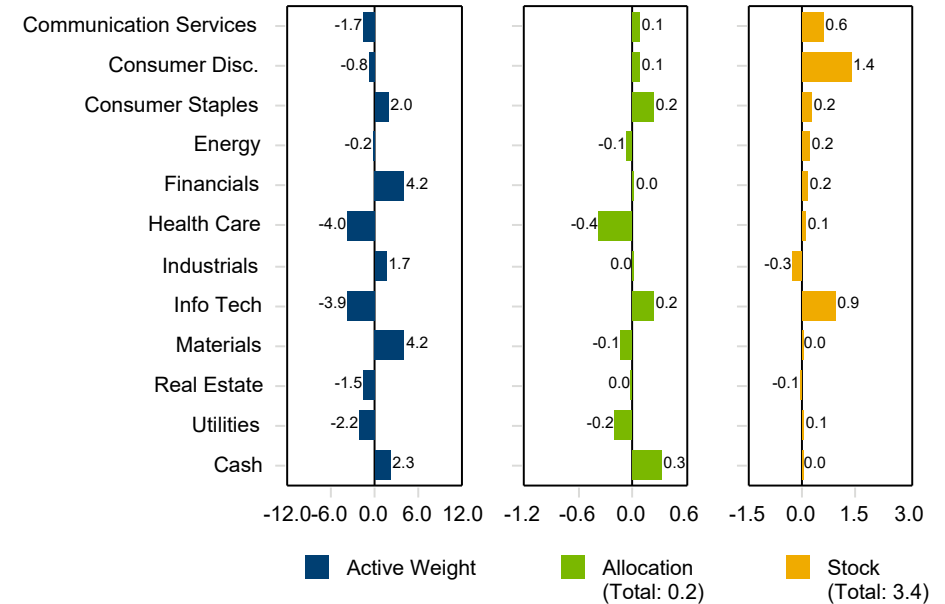
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	168,516	432,500
Median Mkt. Cap (\$M)	3,426	21,081
Price/Earnings ratio	9.0	16.3
Price/Book ratio	2.2	3.3
5 Yr. EPS Growth Rate (%)	14.9	17.7
Current Yield (%)	4.2	2.3
Return on Equity (%)	12.5	3.3
Debt to Equity (%)	52.1	71.0
Number of Holdings	1,148	1,513

Manager Top Ten Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Roche	1.51	0.48	1.03	-13.70
Microsoft	1.31	3.72	-2.41	-13.76
Apple	1.14	4.54	-3.40	-19.02
Taiwan Semiconductor ADR	1.05	0.00	1.05	-18.58
British American Tobacco	1.00	0.19	0.81	4.95
Taiwan Semiconductor	0.97	0.00	0.97	-20.22
KDDI	0.94	0.10	0.84	-1.19
Samsung Electronics	0.93	0.00	0.93	-20.56
Rio Tinto Group	0.84	0.05	0.79	-18.46
Nippon Telegraph & Telephone	0.82	0.07	0.75	1.40
% of Portfolio	10.51	9.15	1.36	

Sector Returns (%)



Sector Performance Attribution (%)

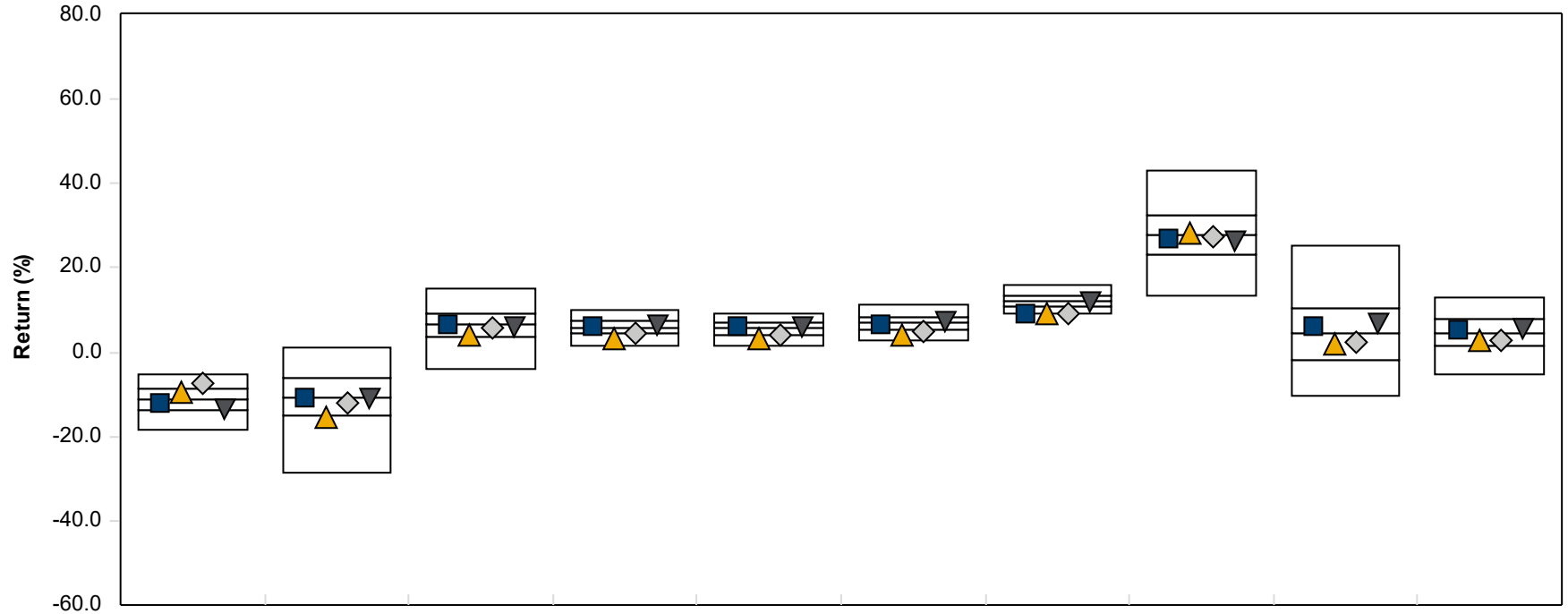


Global Equity

Peer Group Analysis

As of 30 June 2022

Global Equity



	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	1 Year Ending Jun-2021	1 Year Ending Jun-2020	1 Year Ending Jun-2019
■ Aberdeen	-12.1 (58)	-10.7 (51)	6.5 (53)	6.3 (41)	6.1 (43)	6.5 (57)	9.3 (95)	27.0 (59)	6.0 (45)	5.4 (43)
▲ GMO	-9.5 (30)	-15.7 (79)	4.0 (75)	3.3 (86)	3.2 (85)	4.1 (90)	8.9 (96)	28.3 (49)	1.9 (64)	2.8 (67)
◆ Global Equities	-7.6 (19)	-11.9 (60)	5.9 (58)	4.7 (71)	4.2 (69)	5.0 (79)	9.1 (96)	27.3 (56)	2.3 (62)	2.8 (66)
▼ MSCI World (Net)	-13.4 (74)	-10.8 (52)	6.3 (55)	6.5 (39)	6.3 (39)	7.5 (39)	12.1 (53)	26.6 (60)	6.9 (40)	5.7 (41)
5th Percentile	-5.2	1.1	14.9	9.8	9.3	11.1	15.8	43.0	25.4	13.0
1st Quartile	-8.9	-6.1	9.3	7.3	7.2	8.4	13.3	32.6	10.3	7.8
Median	-11.4	-10.6	6.8	5.9	5.6	7.0	12.3	28.0	4.5	4.5
3rd Quartile	-13.6	-14.8	3.8	4.4	3.9	5.2	10.9	23.1	-1.9	1.5
95th Percentile	-18.5	-28.8	-3.9	1.4	1.4	3.0	9.2	13.5	-10.4	-5.1
Population	279	279	279	279	279	279	279	303	342	365

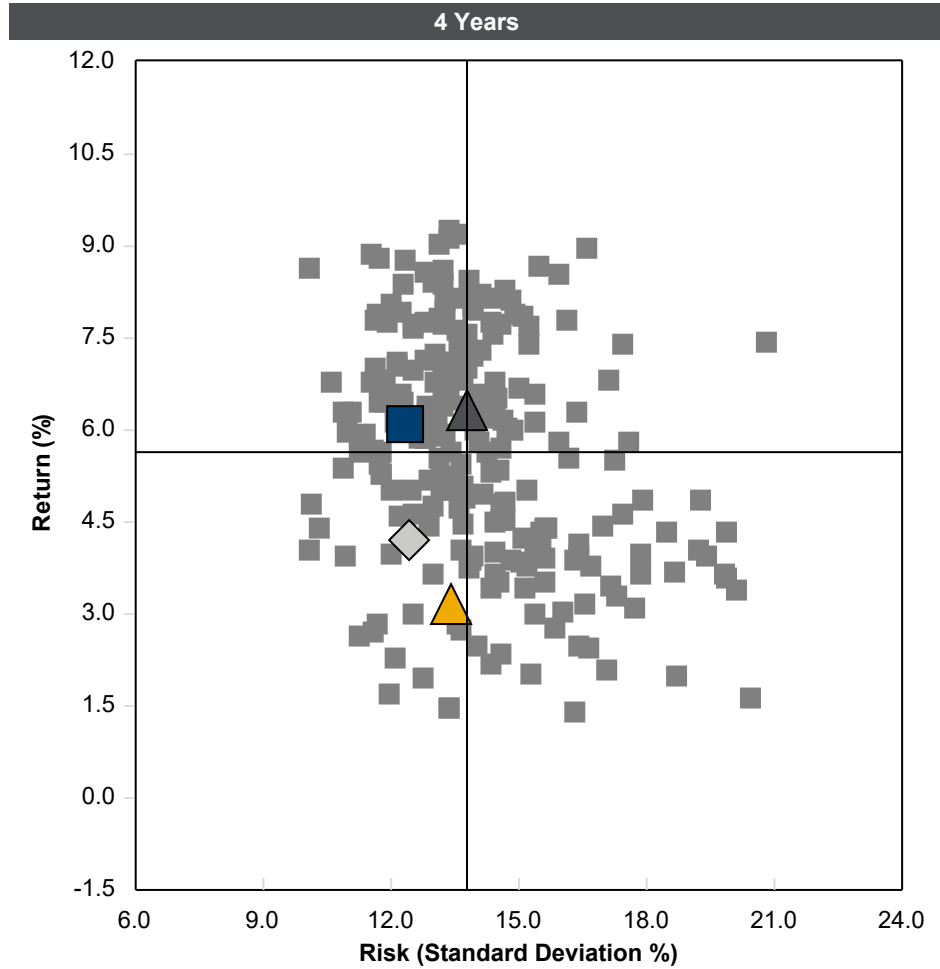
Parentheses contain percentile rankings.
 Source: Aon Manager Universe

Global Equity

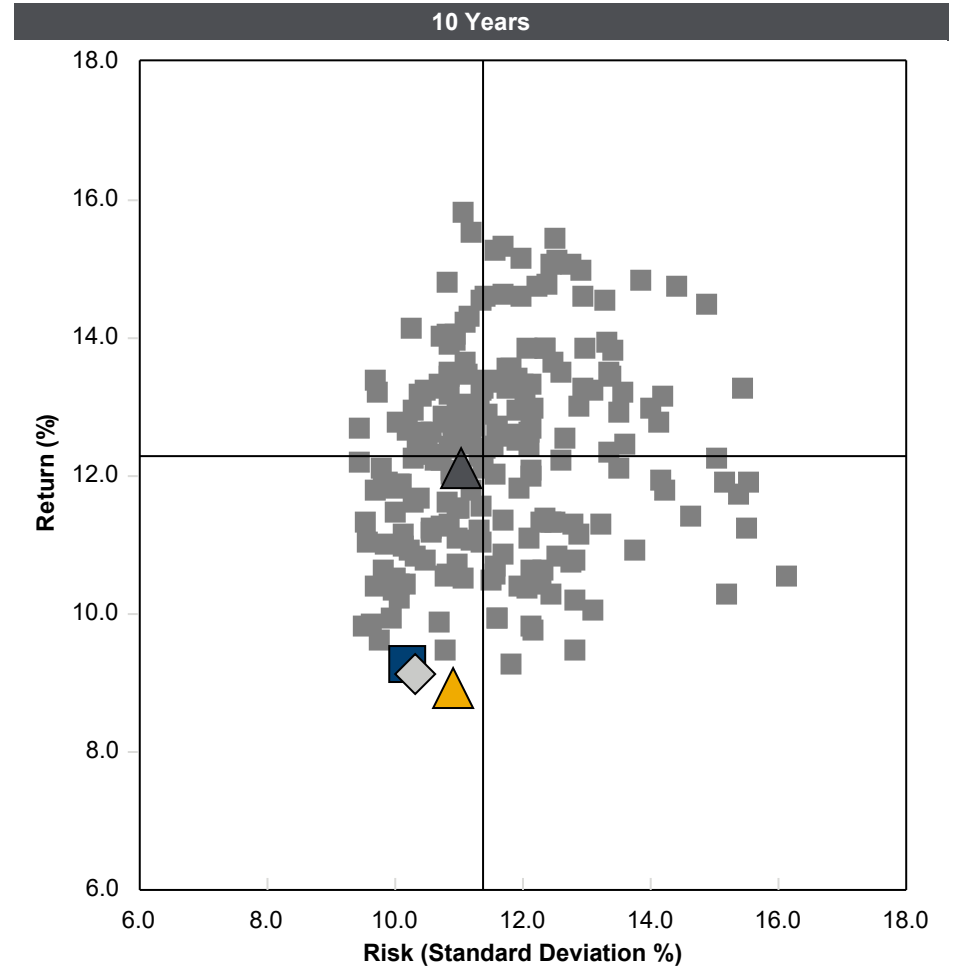
Peer Group Scattergram

Periods Ending 30 June 2022

Global Equity



	Return	Standard Deviation
■ Aberdeen	6.1	12.3
▲ GMO	3.2	13.4
◇ Global Equities	4.2	12.4
▲ MSCI World (Net)	6.3	13.8
— Median	5.6	13.8

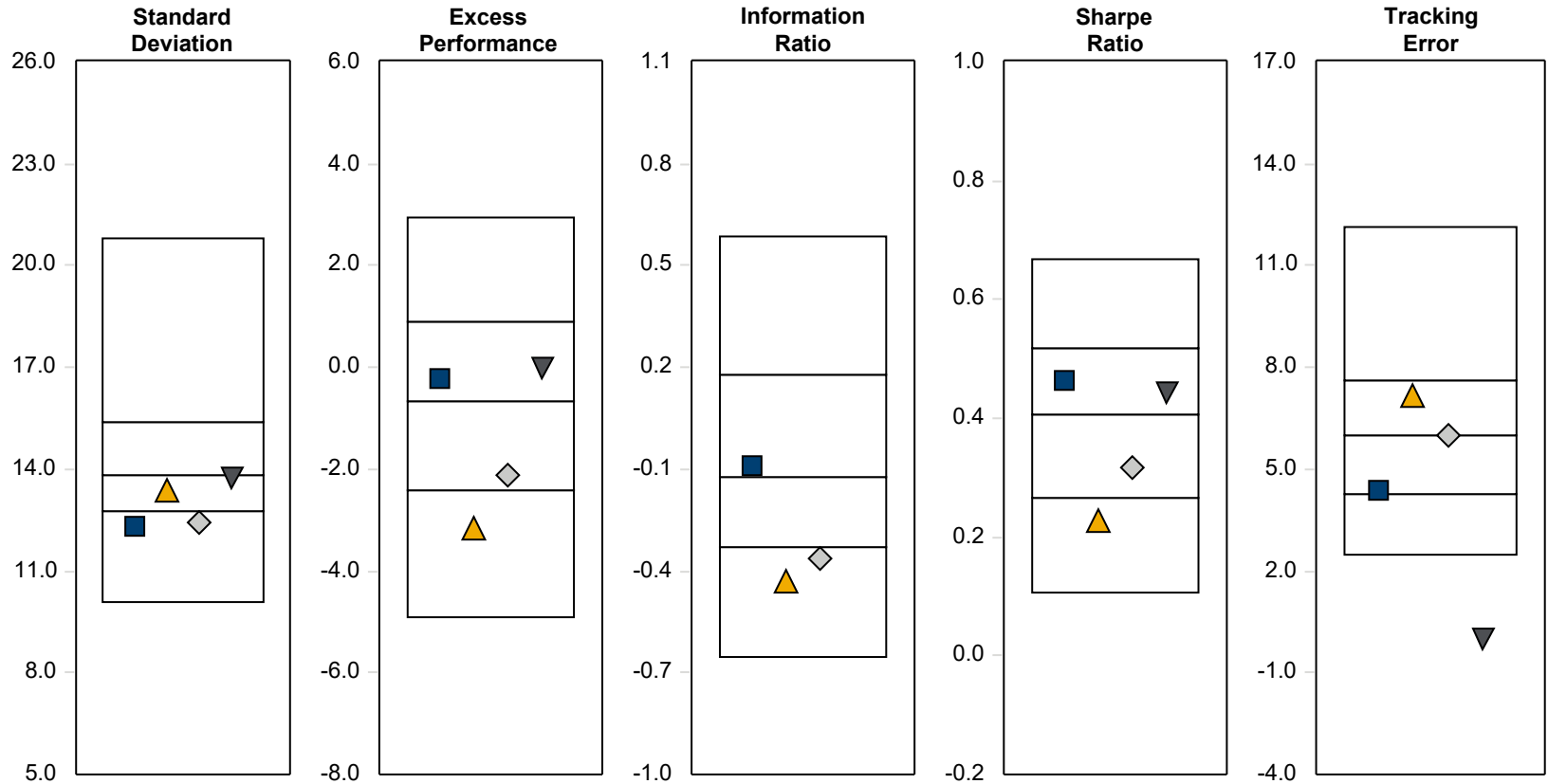


	Return	Standard Deviation
■ Aberdeen	9.3	10.2
▲ GMO	8.9	10.9
◇ Global Equities	9.1	10.3
▲ MSCI World (Net)	12.1	11.0
— Median	12.3	11.4

Source: Aon Manager Universe

Peer Group Analysis - Performance Statistics

As of 30 June 2022



	4 Years	4 Years	4 Years	4 Years	4 Years
■ Aberdeen	12.3 (79)	-0.2 (43)	-0.1 (48)	0.5 (38)	4.4 (71)
▲ GMO	13.4 (60)	-3.1 (85)	-0.4 (86)	0.2 (83)	7.1 (34)
◇ Global Equities	12.4 (79)	-2.1 (69)	-0.4 (80)	0.3 (66)	6.0 (50)
▼ MSCI World (Net)	13.8 (51)	0.0 (39)	N/A	0.4 (42)	0.0 (100)
5th Percentile	20.8	3.0	0.6	0.7	12.2
1st Quartile	15.4	0.9	0.2	0.5	7.6
Median	13.8	-0.7	-0.1	0.4	6.0
3rd Quartile	12.8	-2.4	-0.3	0.3	4.2
95th Percentile	10.1	-4.9	-0.7	0.1	2.5

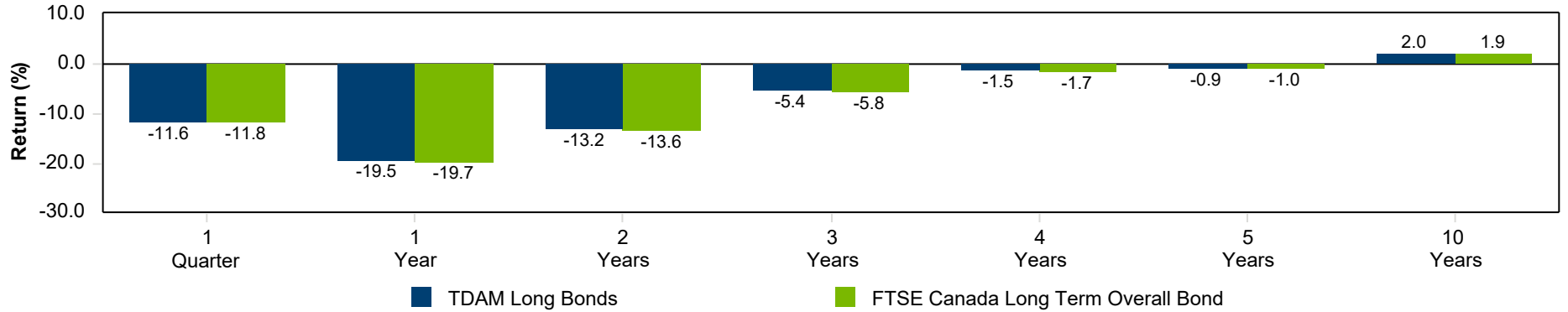
Parentheses contain percentile rankings.
 Source: Aon Manager Universe

Bonds

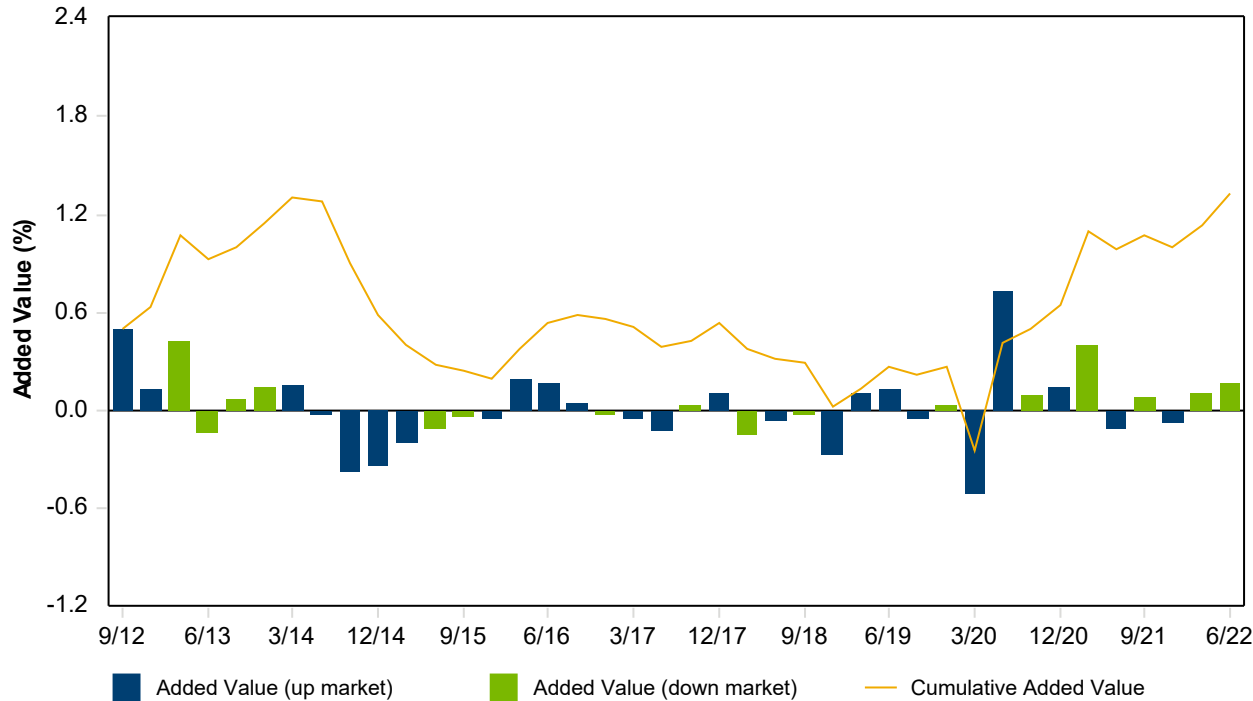
TDAM Long Bonds Performance Summary

As of 30 June 2022

Return Summary



Added Value History (%)



Performance Statistics

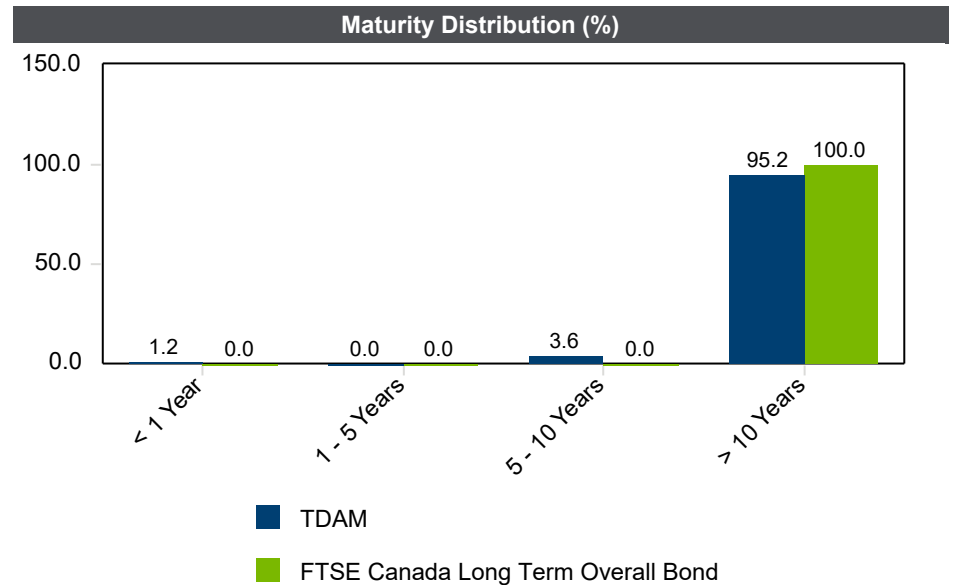
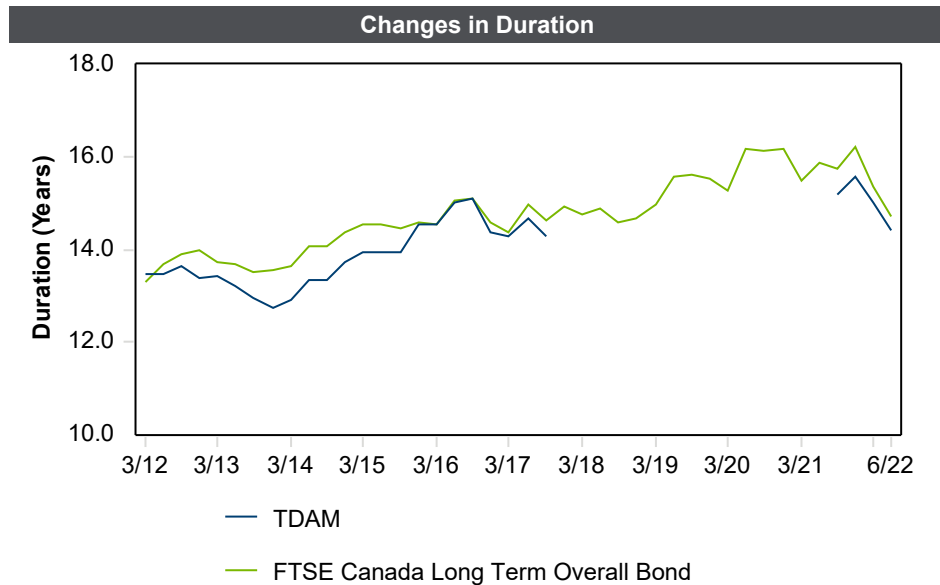
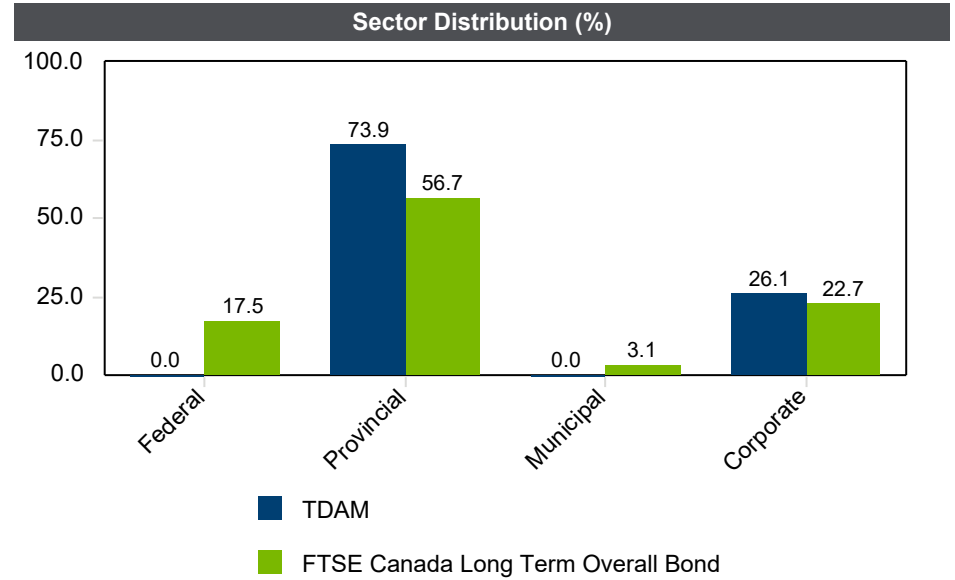
	Quarters	%
Market Capture		
Up Markets	24	100.3
Down Markets	16	98.3
Batting Average		
Up Markets	24	45.8
Down Markets	16	62.5
Overall	40	52.5

Bonds

TDAM Long Bond Fund Characteristics

As of 30 June 2022

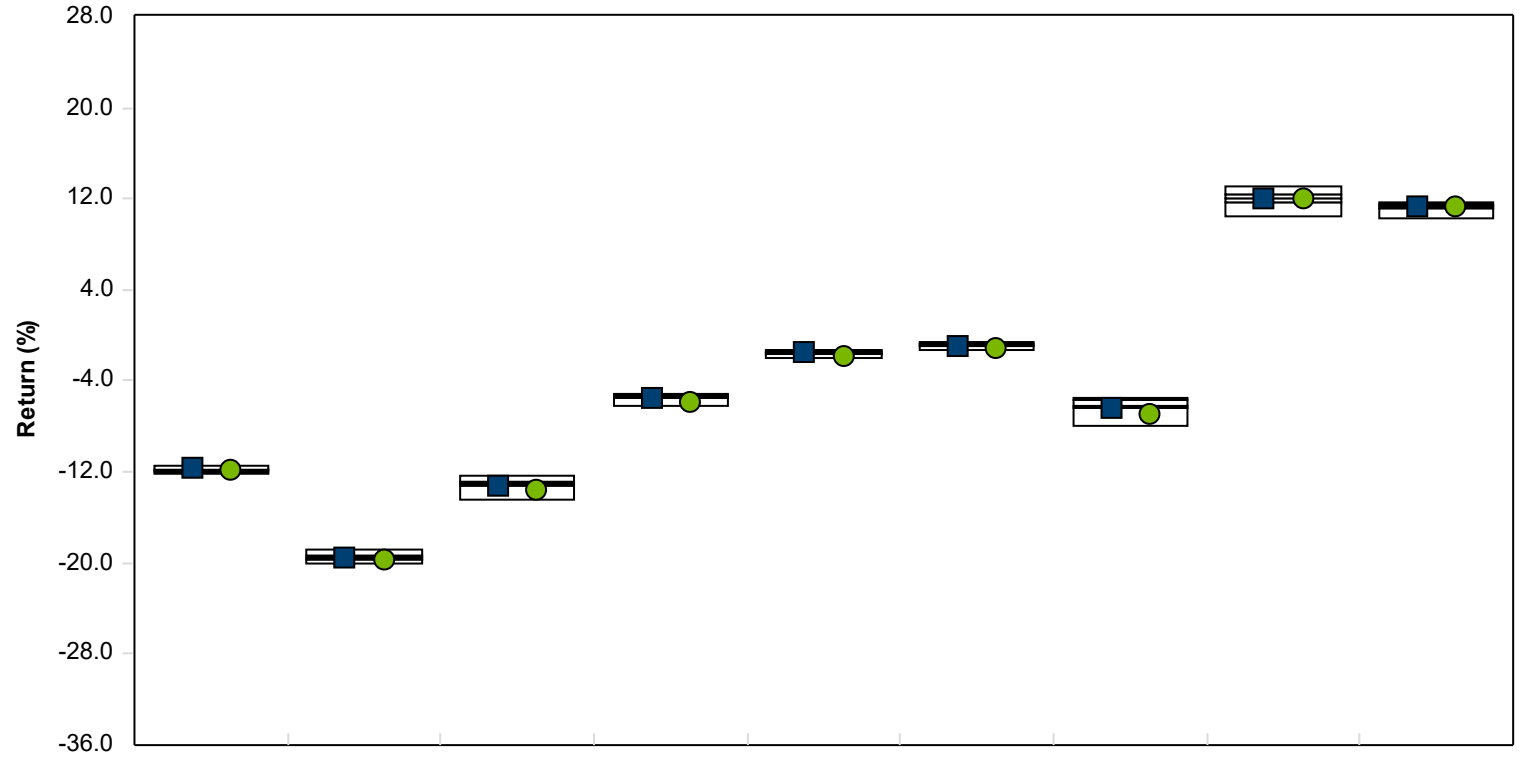
Portfolio Characteristics		
	Portfolio	Benchmark
Modified Duration	14.4	14.7
Avg. Maturity	21.4	22.8
Avg. Quality	A	A+
Yield To Maturity (%)	4.3	4.3



Bonds

Peer Group Analysis

As of 30 June 2022
 Canadian Long Bond



	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	1 Year Ending Jun-2021	1 Year Ending Jun-2020	1 Year Ending Jun-2019
■ TDAM Long Bonds	-11.6 (15)	-19.5 (37)	-13.2 (60)	-5.4 (59)	-1.5 (57)	-0.9 (66)	-6.4 (72)	12.1 (47)	11.4 (60)
● FTSE Canada Long Term Overall Bond	-11.8 (51)	-19.7 (81)	-13.6 (90)	-5.8 (89)	-1.7 (86)	-1.0 (88)	-6.9 (91)	12.0 (60)	11.4 (38)
5th Percentile	-11.4	-18.8	-12.4	-5.2	-1.3	-0.5	-5.5	13.0	11.7
1st Quartile	-11.7	-19.4	-12.9	-5.3	-1.4	-0.7	-5.7	12.5	11.5
Median	-11.8	-19.6	-13.1	-5.4	-1.4	-0.8	-6.3	12.1	11.4
3rd Quartile	-12.0	-19.7	-13.2	-5.5	-1.6	-0.9	-6.4	11.7	11.2
95th Percentile	-12.2	-20.1	-14.4	-6.1	-2.0	-1.2	-7.9	10.4	10.3
Population	19	19	19	19	19	19	20	20	22

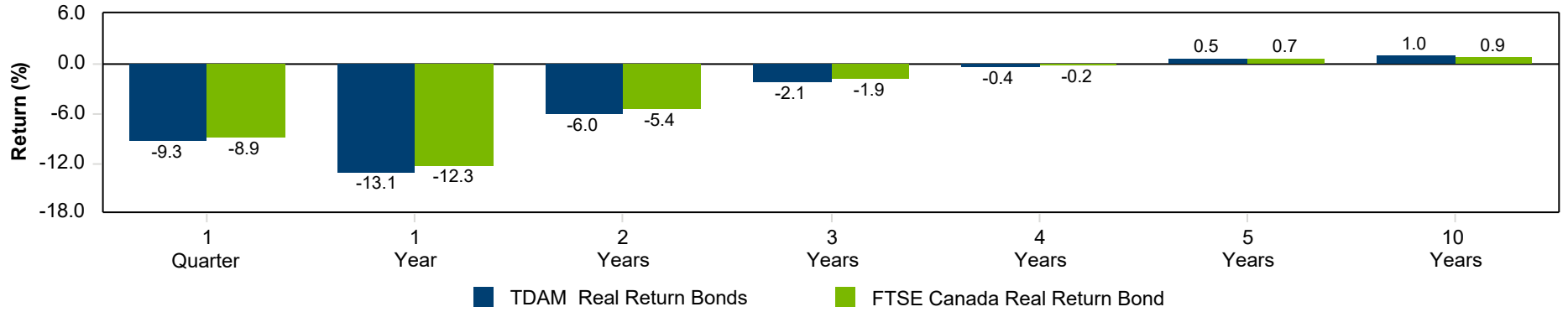
Parentheses contain percentile rankings.
 Source: Aon Manager Universe

Bonds

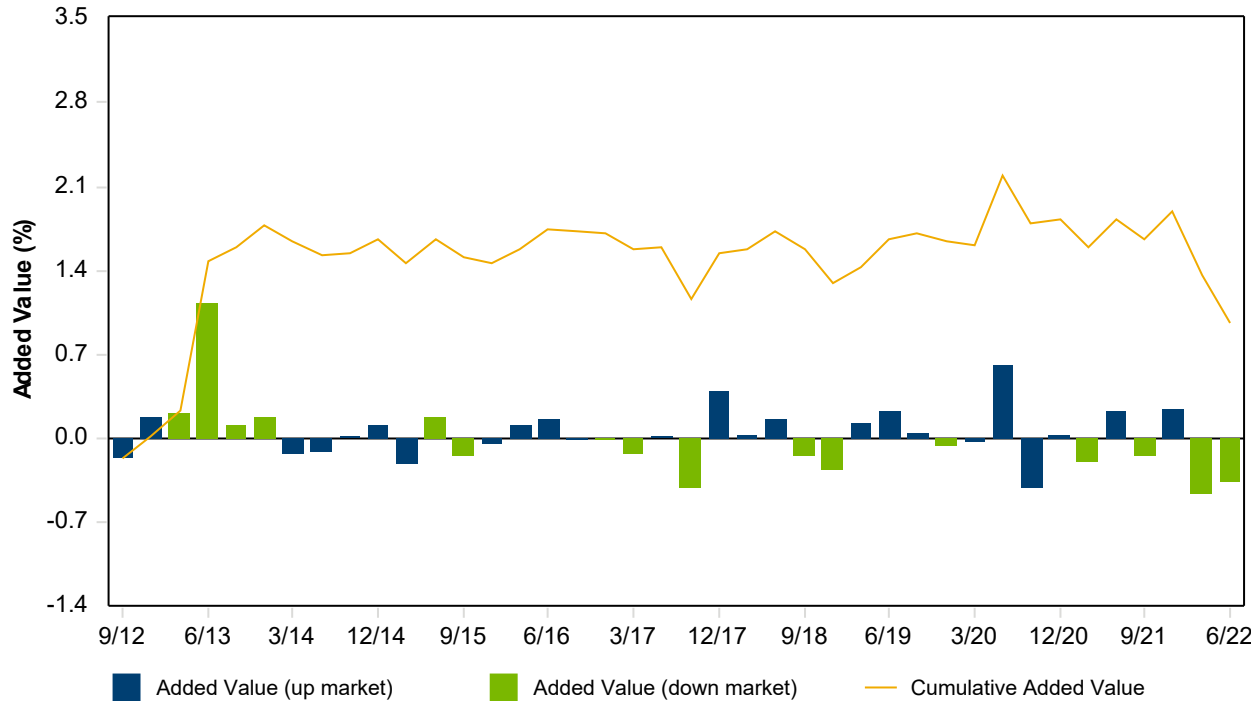
TDAM Real Return Bonds Performance Summary

As of 30 June 2022

Return Summary



Added Value History (%)



Performance Statistics

	Quarters	%
Market Capture		
Up Markets	24	102.3
Down Markets	16	101.0
Batting Average		
Up Markets	24	66.7
Down Markets	16	31.3
Overall	40	52.5

Appendix A - Plan Information

Plan Information

Summary of Investment Objective

The investment policy contains specific performance objectives for the fund and the investment managers.

All investment rates of return are measured over moving four-year periods. Return objectives are net of fees and include realized and unrealized capital gains or losses plus income from all sources.

Returns will be calculated on a time-weighted basis and compared to the objectives described below.

The objective of the total fund is to outperform a benchmark portfolio that is comprised of the following weightings:

	1 April 2022 to 30 June 2022	1 October 2021 to 31 March 2022	1 July 2021 to 30 September 2021	1 April 2021 to 30 June 2021	1 January 2021 to 30 March 2021	1 July 2020 to 31 December 2020	1 April 2020 to 30 June 2020	1 January 2020 to 31 March 2020	1 April 2019 to 31 December 2019	1 January 2019 to 31 March 2019	1 October 2018 to 31 December 2018
S&P/TSX Composite	23%	20%	21%	23%	27%	28%	30%	24%	26%	27%	28%
MSCI World (C\$)	22%	19%	21%	22%	27%	28%	30%	25%	25%	26%	28%
FTSE Canada Long Bond	20%	18%	19%	20%	23%	23%	25%	21%	21%	22%	23%
FTSE Canada Real Return Bond	35%	43%	39%	35%	23%	21%	15%	31%	28%	25%	21%
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

		1 April 2018 to 30 September 2018	1 January 2018 to 31 March 2018	1 October 2017 to 31 December 2017	1 July 2014 to 30 September 2017	1 April 2012 to 30 June 2014	1 July 2011 to 31 March 2012	1 January 2008 to 30 June 2011	1 July 2006 to 31 December 2007	Up to 30 June 2006
S&P/TSX Composite		27%	27%	27%	28%	30%	30%	30%	30%	25%
MSCI World (C\$)		26%	27%	26%	28%	30%	30%	0%	0%	0%
MSCI World ex. Cda (C\$)		22%	23%	0%	0%	0%	0%	15%	15%	18%
S&P 500 - hedged to C\$		25%	23%	0%	0%	0%	0%	5%	8%	9%
MSCI EAFE - hedged to C\$		100%	100%	0%	0%	0%	0%	5%	8%	9%
FTSE Canada Universe Bond				0%	0%	0%	40%	45%	40%	40%
FTSE Canada Long Bond				22%	22%	25%	0%	0%	0%	0%
FTSE Canada Real Return Bond				25%	22%	15%	0%	0%	0%	0%
				100%	100%	100%	100%	100%	100%	100%

Appendix B - Manager Updates

Manager Updates

Manager Updates

As of 30 June 2022

Aberdeen Standard Investments

Q2 2022

Business

There were no significant events during the quarter.

Staff

There were no significant events during the quarter.

GMO

Q2 2022

Business

GMO recently announced the merger of the Global Equity and Emerging Market Equity Teams. Simon Harris will lead the combined Systematic Equity Team and Warren Chiang has been named Head of Portfolio Management. Chiang will continue as a portfolio manager to the GMO Emerging Market Equity Strategy. We recommend clients make no changes to the Global Equity All Country Allocation and Global Equity Developed Allocation strategies.

Staff

In June 2022, Romae Smith and Rui Gong joined as Research Analyst in the Systematic Equity team. Alexandra Koban-Hogue joined as a Research Analyst as well on the Focused Equity team.

In May 2022, Uday Tharar, Research Analyst (Consultant) and Lun Yang, Quantitative Research Analyst left to pursue a new opportunity.

In June 2022, Amit Bhartia, Head of Fundamental Emerging Markets Equity left because of restructuring reasons. In the same month, Prateek Maheshwari, Research Analyst, left to pursue a new opportunity.

Manager Updates

Manager Updates

As of 30 June 2022

Guardian Capital

Q2 2022

Business

There was no significant events.

Staff

Delphine Arrighi, Head of Emerging Market Debt, GuardCap Asset Management. left the firm. Clive Lloyd, Senior Advisor to the Emerging Markets Team retired.

Kevin Roseke was hired as Managing Director, Guardian Smart Infrastructure Manager.

Letko, Brosseau & Associates Inc. ("Letko, Brosseau")

Q2 2022

Business

There were no significant events.

Staff

Tudor Padure, Investment Analyst, left LBA in Q2 to pursue other opportunities.

Manager Updates

As of 30 June 2022

TD Asset Management ("TDAM")

Q2 2022

Business

The TD Emerald 2030 Retirement Target Date Pooled Fund Trust, TD Emerald 2040 Retirement Target Date Pooled Fund Trust, TD Emerald 2050 Retirement Target Date Pooled Fund Trust and the TD Emerald Retirement Income Pooled Fund Trust were closed during the quarter.

The TD Emerald Low Volatility Canadian Equity Pooled Fund Trust is open for new investors effective June 7, 2022.

Staff

On March 3, 2021, Ted Welter (formerly Head of Alternative Investments) announced that, with the successful integration of Greystone Managed Investments Inc. and TDAM, it was an appropriate time to focus his attention on the long-term continuity of the Alternatives platform and take on a new strategic role as Managing Director, Alternatives. In doing so, he advised that Jeff Tripp would take over as Managing Director, Head of Alternative Investments on July 1, 2021. As part of the next phase of this transition, Ted Welter will be retiring on September 30, 2022 after 32 years in the business. As part of Jeff Tripp's responsibilities as Head of Alternative Investments, Jeff assumed the role of Chair of the Alternatives Investment Committee as of July 1, 2022. Ted will continue as a member of the Committee until September 30, 2022 and will support Jeff and the Alternatives team in the ongoing leadership transition.

Appendix C - Capital Market Environment

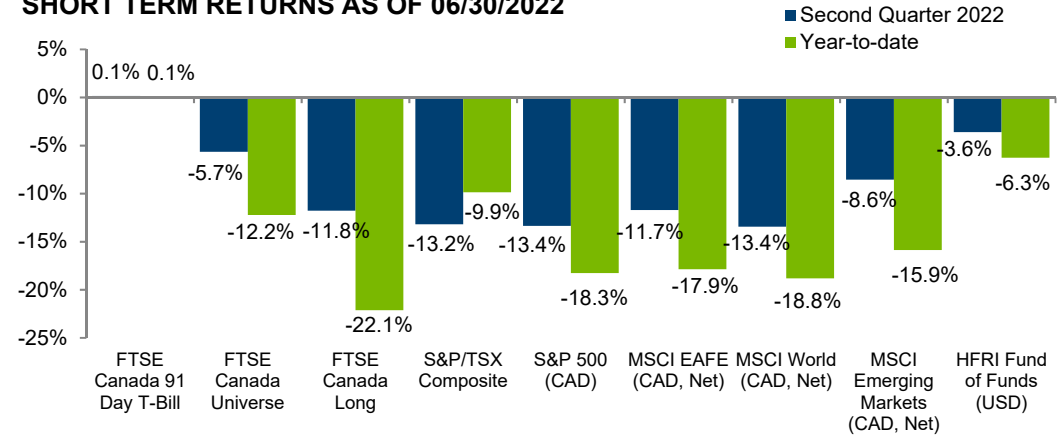
Capital Markets Environment

Capital Markets Environment

As of 30 June 2022

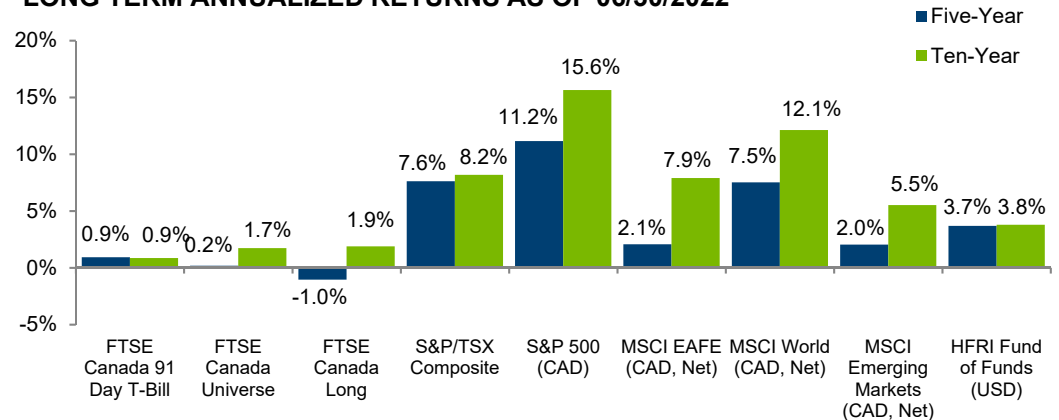
- Geopolitical risk remained in Q2, as the conflict in Ukraine entered its fifth month. At the latest G7 summit, members agreed to explore the possibilities of putting a price cap on Russian oil to impair Moscow's ability to finance the conflict and curb soaring inflation. The European Union agreed to implement a sixth package of sanctions on Russia, which includes removing Sberbank, Russia's largest bank, from the SWIFT-cross border payment system and a ban on sea-borne oil purchases from Russia, which is almost two-thirds of Europe's imports from Russia. The MSCI World Index fell 14.3% in local currency terms and 13.4% in Canadian dollar (CAD) terms.
- The Bank of Canada increased its benchmark overnight rate by 50bps in both April and May to end the quarter at 1.5%. Meanwhile, the Canadian economy expanded at an annualized rate of 3.1% in Q1, less than half of the 6.6% growth in Q4 2021 as exports fell.
- The U.S. Federal Reserve (Fed) increased its benchmark interest rate by 50 bps in May and 75bps in June (the largest rate increase since 1994) to end the quarter at a range of 1.50-1.75%. According to the median estimate on the Fed dot plot, officials expect the interest rate to reach 3.4% by the end of the year. The Fed announced its plans to shrink its \$9 trillion balance sheet in a phased manner by stopping the reinvestment of proceeds from maturing securities from June.
- The Bank of England (BoE) increased the base rate to 1.25%, its highest level in 13 years. The BoE now expects inflation to rise above 11.0% by the end of 2022. Elsewhere, the European Central Bank (ECB) signaled that it may increase rates by 75 bps by the end of September, ending its negative interest rate policy. The ECB indicated that it would flexibly invest the proceeds from its €1.7tn asset purchase program to support peripheral countries with wider spreads.

SHORT TERM RETURNS AS OF 06/30/2022



Sources: S&P, MSCI, FTSE. Unless it's otherwise stated, gross CAD returns are shown in this report.

LONG TERM ANNUALIZED RETURNS AS OF 06/30/2022



Sources: S&P, MSCI, FTSE

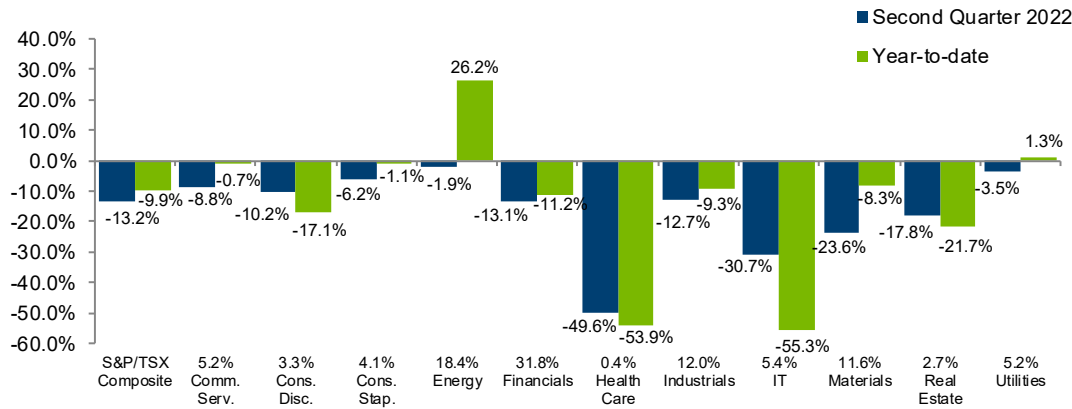
Capital Markets Environment

Capital Markets Environment

As of 30 June 2022

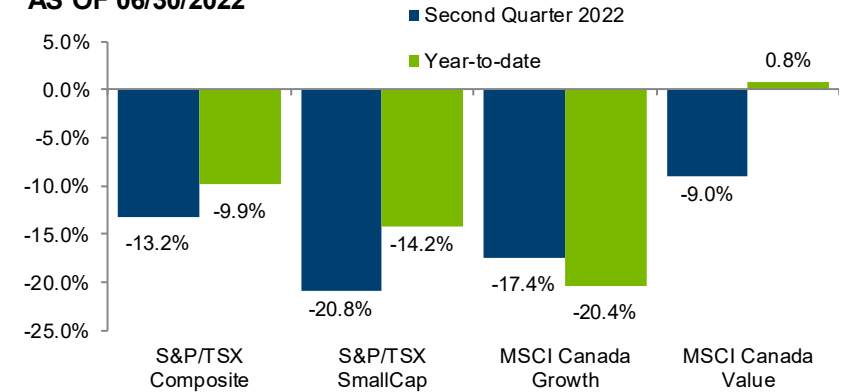
Canadian Equity Markets

S&P/TSX COMPOSITE SECTOR RETURNS (CAD) AS OF 06/30/2022



Source: S&P

CANADIAN EQUITY STYLE/SIZE RETURNS (CAD) AS OF 06/30/2022



Source: S&P, MSCI

- The S&P/TSX Composite Total Return Index fell 13.2% during the quarter and 9.9% year-to-date in CAD terms.
- Performance was negative across all sectors in the quarter. Energy and Utilities were the best performers for the quarter, falling the least at -1.9% and -3.5%, respectively, while Health Care and Technology were the worst performers at -49.6% and -30.7%, respectively. The Energy sector remains the strongest sector on a year-to-date basis with a 26.2% return.
- Growth underperformed value for the quarter (-17.4% vs -9.0%) and also underperformed on a year-to-date basis (-20.4% versus +0.8%).
- Across market capitalization, small-cap equity (-20.8%) underperformed large-cap (-13.2%) for the second quarter and also on a year-to-date basis.

Capital Markets Environment

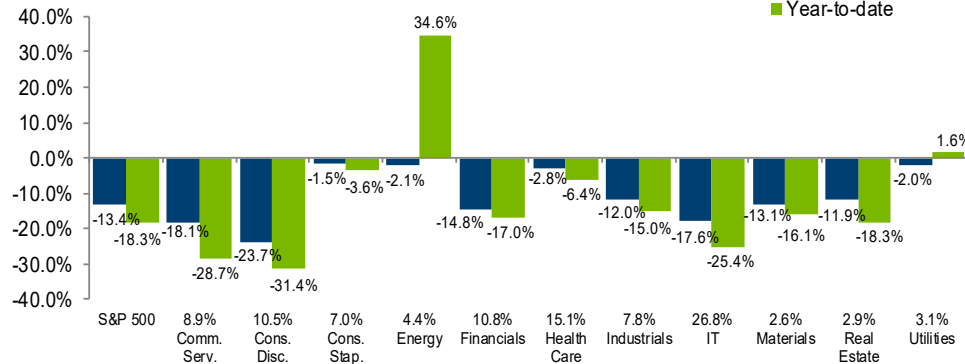
Capital Markets Environment

As of 30 June 2022

U.S. Equity Markets

S&P 500 GICS SECTOR RETURNS (CAD) AS OF 06/30/2022

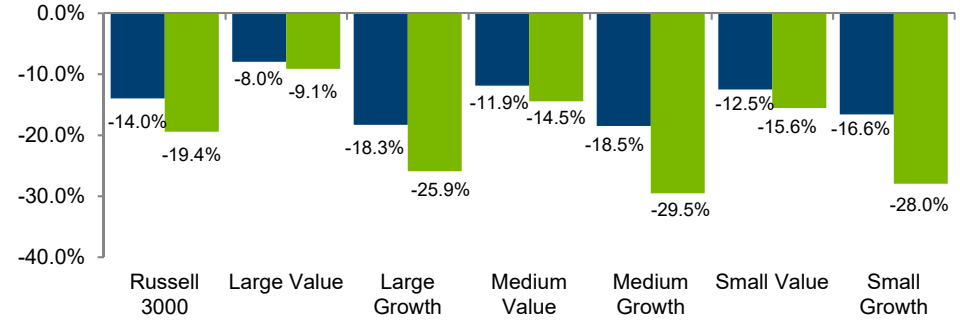
■ Second Quarter 2022
 ■ Year-to-date



Source: S&P

RUSSELL STYLE RETURNS (CAD) AS OF 06/30/2022

■ Second Quarter 2022
 ■ Year-to-date

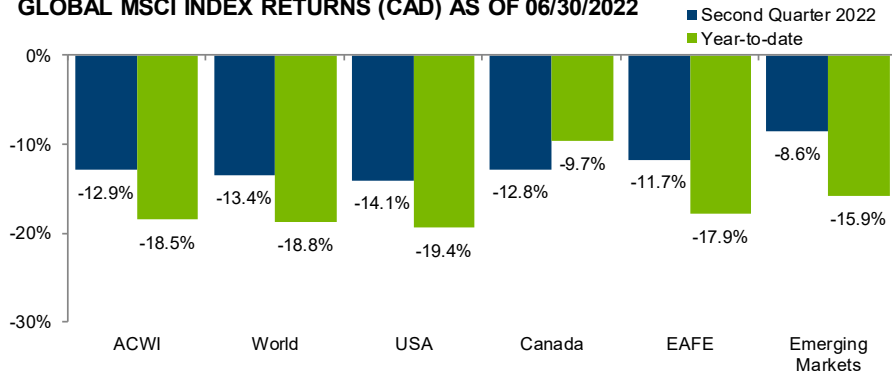


Source: Russell Indexes

- U.S. equities had a weak quarter with the S&P 500 Index falling by 16.1% in USD terms. The US equity market fell steadily over the quarterly, as inflation concerns led to the expectation of a faster than anticipated tightening of monetary policy, which weighed on the performance of sectors such as Information Technology and Consumer Discretionary. The depreciation of the Canadian dollar against the U.S. dollar limited the loss to -13.4% in CAD terms. Performance was negative across all sectors in the quarter. Consumer Staples and Utilities were the best performers (-1.5% and -2.0%) while the Consumer Discretionary and Communication Services sectors were the worst performers (-23.7% and 18.1%).
- Large-cap stocks outperformed medium-cap stocks over the quarter. On a style basis, value outperformed growth across market capitalizations over the quarter and on a year-to-date basis.
- The U.S. annual consumer price index (CPI) remained at a 40-year high as it rose 9.1% year-on-year in June.

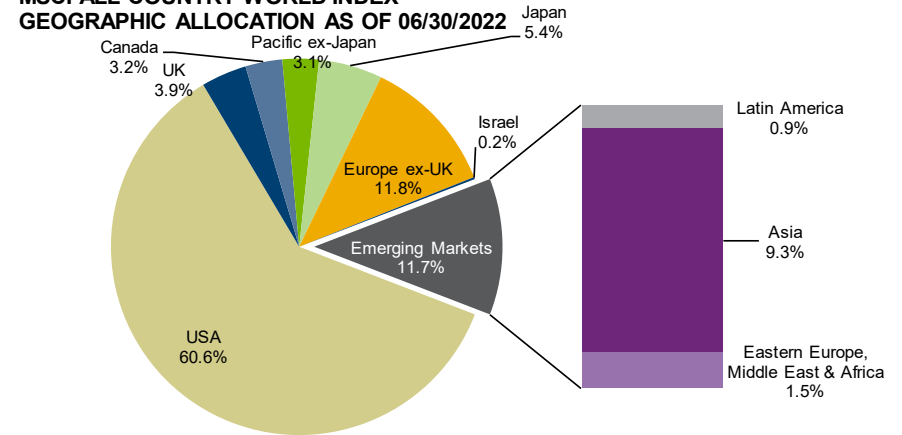
Global Equity Markets

GLOBAL MSCI INDEX RETURNS (CAD) AS OF 06/30/2022



Source: MSCI. Gross returns shown for the MSCI Canada and USA indices, whilst net returns are shown for the other indices.

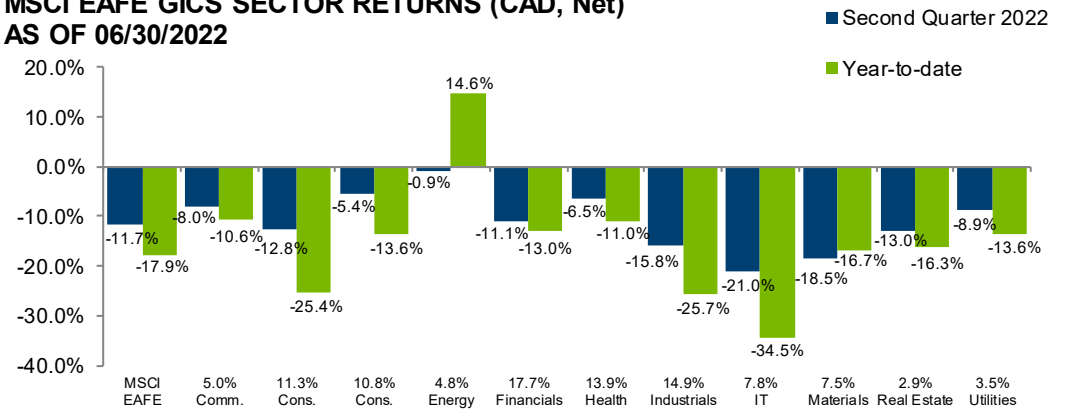
MSCI ALL COUNTRY WORLD INDEX GEOGRAPHIC ALLOCATION AS OF 06/30/2022



Source: MSCI

- Global equities ended the quarter lower, with the MSCI All Countries World Index falling by 12.9% in CAD terms.
- The MSCI EAFE Index fell by 7.8% in local currency terms and 11.7% in CAD terms over the quarter. UK, European and Japanese equities all fell in the quarter. Among these regions, European equities posted the weakest return in Q2 due to mainland Europe's close trading relationship with Russia and, in particular, reliance on Russian energy which impacted the Industrial sector. Meanwhile, the Bank of Japan maintained its loose monetary policy, in contrast to most central banks.
- Emerging market (EM) equities delivered a negative return once again as investors' risk appetite fell, with the majority of constituents performing poorly. In particular, EM Latin American equities returned -21.5% as inflation and growth fears rose. Furthermore, the strengthening of the US dollar also weighed upon most EM countries which are generally net exporters. However, Chinese equities posted a strong quarter, rallying 4.5%, as Covid-19 lockdowns were eased and new economic stimulus was announced.
- All sectors within the MSCI EAFE Index provided negative returns over the quarter. Information Technology (-21.0%) and Materials (-18.5%) were the worst performers.

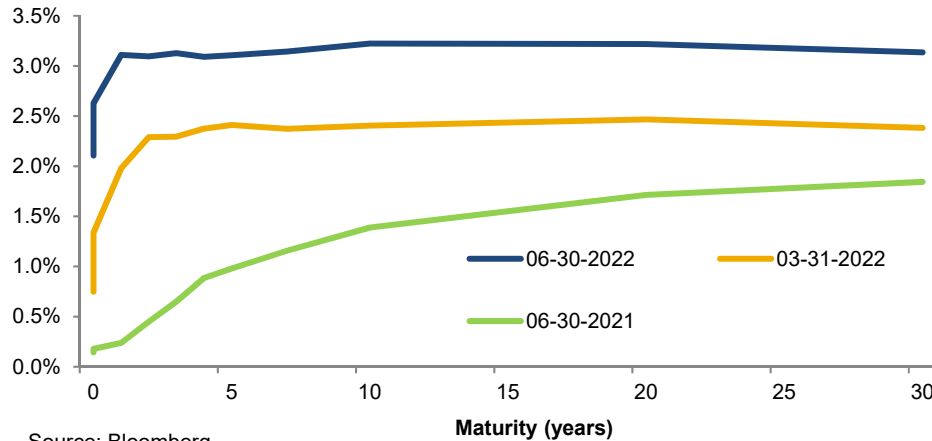
MSCI EAFE GICS SECTOR RETURNS (CAD, Net) AS OF 06/30/2022



Source: MSCI

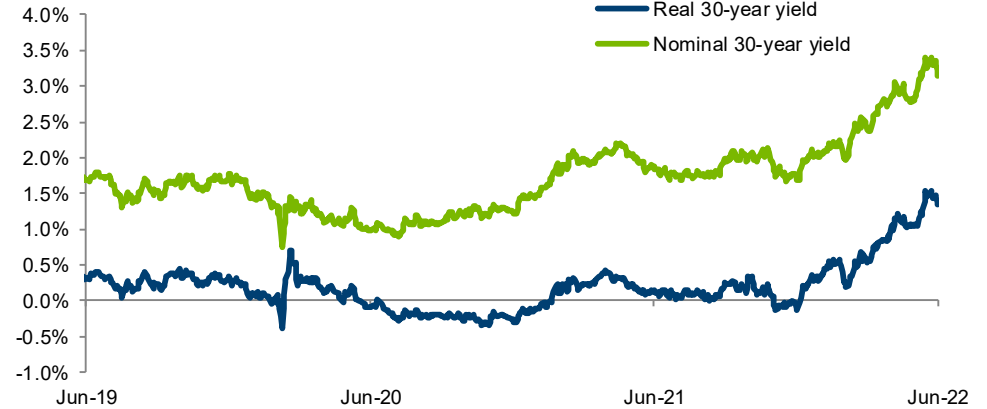
Canada Fixed Income Markets

CANADIAN FEDERAL YIELD CURVE



Source: Bloomberg

CANADIAN 30-YEAR FEDERAL YIELDS



Source: Bloomberg

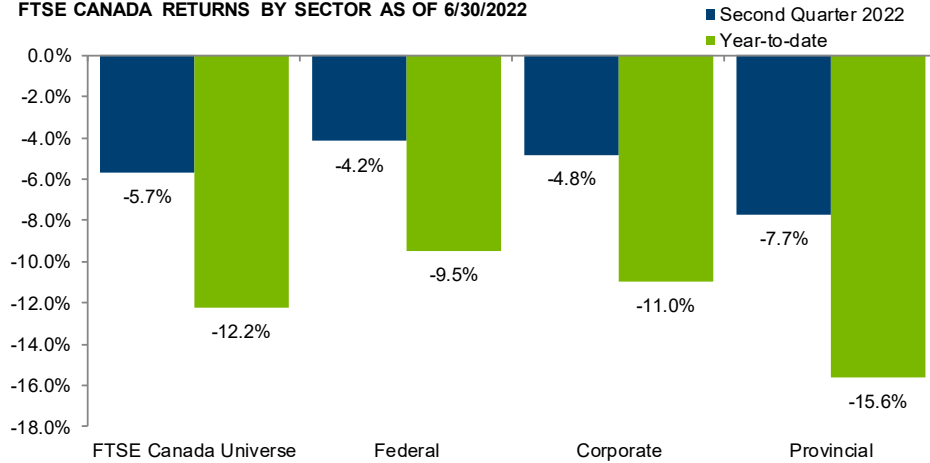
- Canadian treasury yields saw notable increases in the quarter, particularly in the front end of the curve. The 3-month yield had the largest move over the quarter, rising 136 bps, followed by the 6-month yield up 129 bps. The longer end of the curve also rose, but at a slower pace, with the 10-year note yield up 82bps to 3.22%, and the 30-year yield up 75bps to 3.14%.
- Real yields also rose, with the real 30-year yield increasing 80bps to 1.34%.
- Meanwhile, Canada's annual inflation rate accelerated to the fastest pace since 1983 as the Consumer Price Index (CPI) rose by 8.1% in the year to June. The inflation reading continued well above the Bank of Canada's control range of 1-3%.

Capital Markets Environment

Capital Markets Environment

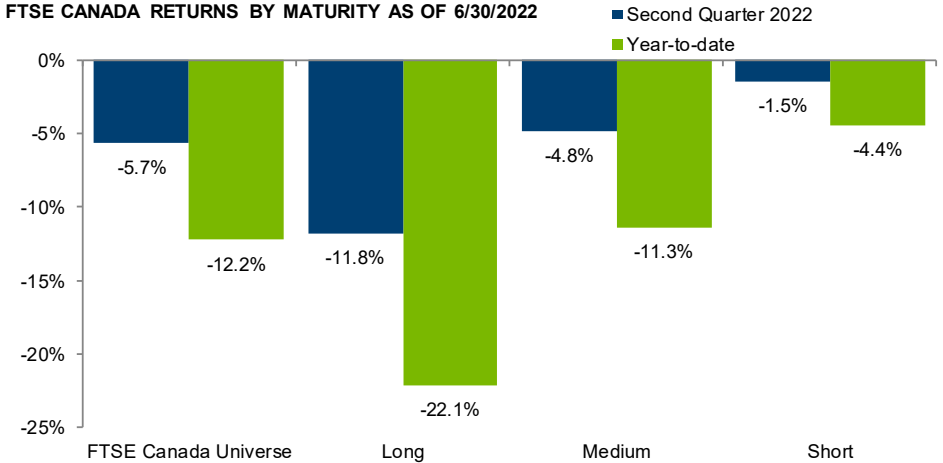
As of 30 June 2022

FTSE CANADA RETURNS BY SECTOR AS OF 6/30/2022



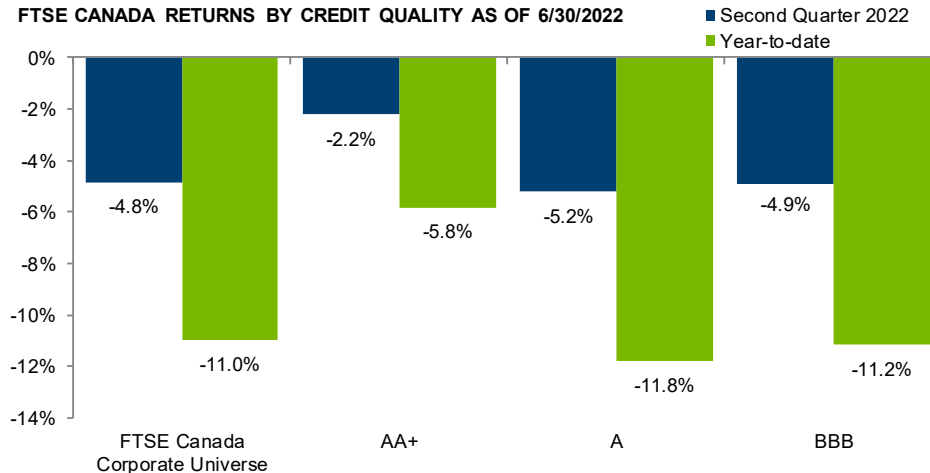
Source: FTSE

FTSE CANADA RETURNS BY MATURITY AS OF 6/30/2022



Source: FTSE

FTSE CANADA RETURNS BY CREDIT QUALITY AS OF 6/30/2022

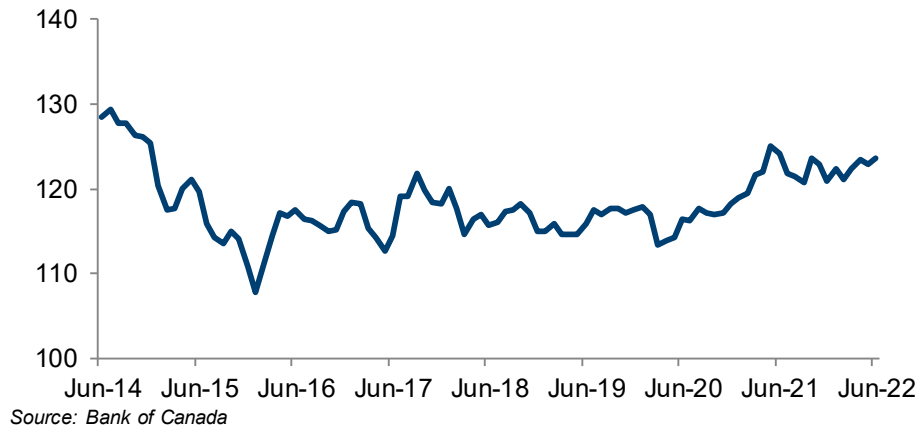


Source: FTSE

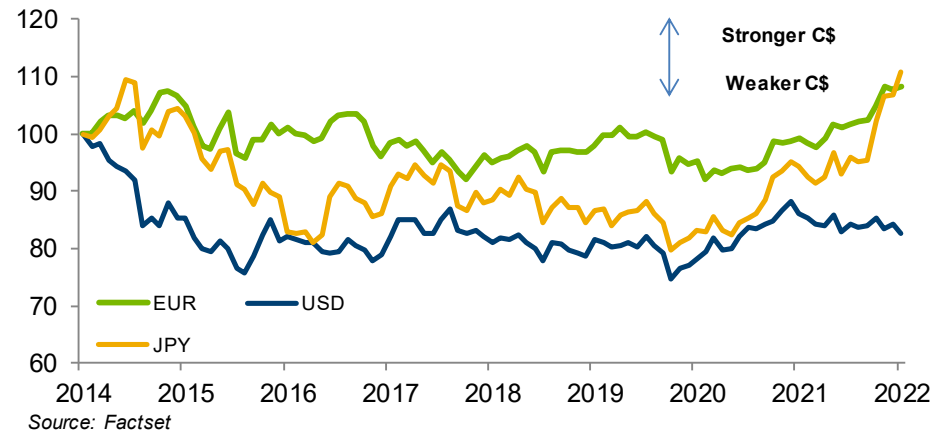
- Canadian bond market performance was negative over the quarter. Canadian Provincial bonds underperformed all credit segments, including Federal and Corporate issues.
- Within credit, investment grade 'A' rated issues underperformed 'BBB' and 'AA+' issues.
- Long maturity bonds underperformed both medium and short maturity bonds over the quarter as yields rose.

Currency

TRADE WEIGHTED CANADIAN DOLLAR INDEX (1999 = 100)



CANADIAN DOLLAR RELATIVE TO EUR, USD AND JPY REBASED TO 100 AT 30/6/2014



- As measured by the broad trade-weighted Canadian dollar (CAD) index, the CAD rose 1.0% during the second quarter, appreciating against all the major currencies, except for the U.S. dollar.
- On a trade-weighted basis, the U.S. dollar appreciated by 4.9% and it rose by 3.2% against the CAD over the quarter. Additionally, the CAD appreciated by 8.4% against the yen and 3.1% against the euro.
- The yen weakened sharply against the US dollar, reaching a twenty-year low over the quarter.

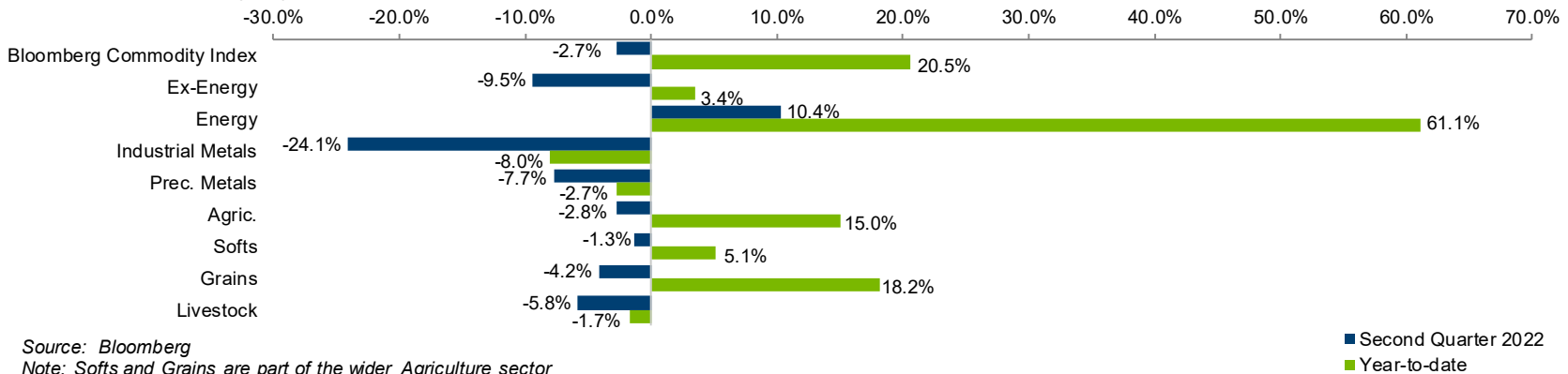
Capital Markets Environment

Capital Markets Environment

As of 30 June 2022

Commodities

COMMODITY RETURNS (CAD) AS OF 06/30/2022



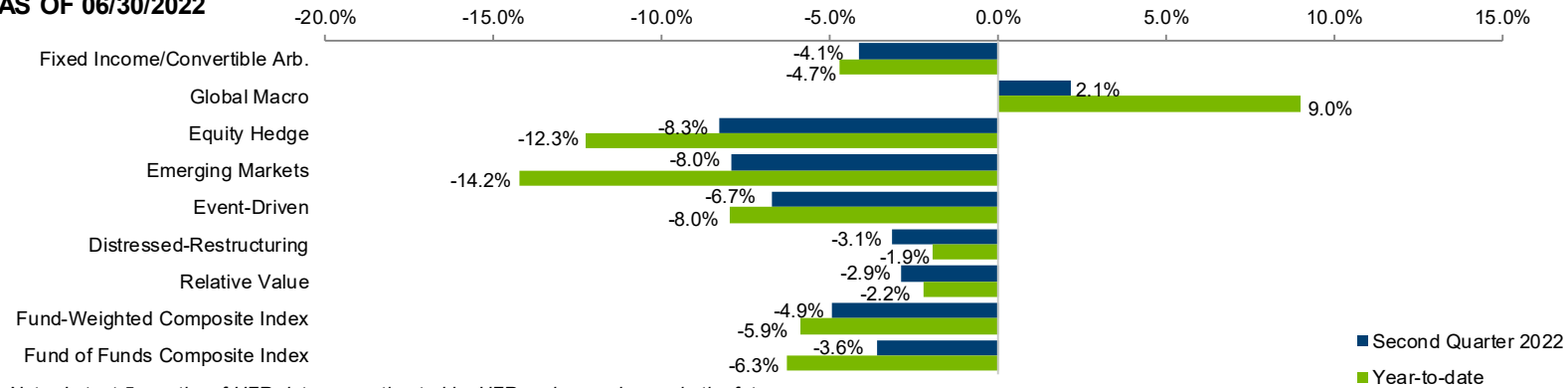
- Commodity prices were pegged back later in the quarter, after rising for two consecutive months, with the Bloomberg Commodity Index falling by 2.7% for the quarter.
- Energy continued to have outsized gains, with the sector up 10.4% over the quarter and 61.1% on a year-to-date basis. The price of Brent crude oil rose by 6.4% to \$115/bbl while WTI crude oil spot prices rose by 5.5% to \$106/bbl over the quarter.
- Industrial Metals fell the most over the quarter at -24.1%.
- Meanwhile, OPEC+ agreed to a larger than expected oil production increase due to surging energy prices. The group decided to increase production by 648,000 barrels per day for July and August.

Capital Markets Environment

As of 30 June 2022

Hedge Fund Markets Overview

HEDGE FUND PERFORMANCE (USD)
 AS OF 06/30/2022



Note: Latest 5 months of HFR data are estimated by HFR and may change in the future.
 Source: HFR

- Hedge fund performance was generally negative over the quarter, with only the Global Macro strategy outperforming.
- The HFRI Fund-Weighted Composite and HFRI Fund of Funds Composite Index produced returns of -4.9% and -3.6% over the quarter, respectively.
- Over the quarter, Global Macro was the only one to generate positive returns with returns of 2.1%.
- Equity Hedge and Emerging Markets strategies were the worst performers with returns of -8.3% and -8.0% respectively.
- On a year-to-date basis, all strategies, except for Global Macro, were negative.

Appendix D - Description of Market Indices and Statistics

Index Definitions

As of 30 June 2022

S&P/TSX Composite

S&P/TSX Composite Index comprises approximately 70 percent of market capitalization for Canadian-based, Toronto Stock Exchange listed companies. It is calculated on a float market capitalization and is the broadest Canadian equity index available. The index also serves as the premier benchmark for Canadian pension funds and mutual market funds.

S&P 500

Standard and Poor's 500 Composite Stock Index consists of 500 large companies in the United States chosen for market size, liquidity and industry group representation. It is a market-value weighted index, with each stock's weight in the index proportionate to its market value. For the purposes of this report, the S&P 500 Index returns are converted from U.S. dollars into Canadian dollars, and therefore reflect currency gains or losses.

MSCI EAFE

The MSCI Europe, Australasia and Far East (EAFE) Index is a widely recognized benchmark of non-North American stock markets. It is an unmanaged index composed of a sample of companies representative of the market structure of 21 European and Pacific Basin Countries and includes reinvestment of all dividends. This index aims to capture 85% of the free float adjusted market capitalization in each industry group in each country.

MSCI World

MSCI World Index consists of more than 1,600 stocks in 23 of the world's largest industrialized countries globally and represents approximately 85% of the total market capitalization in those countries. The index is computed on a float-based capitalization.

FTSE Canada Universe Bond

The FTSE Canada Universe Bond Index covers all marketable Canadian bonds with term to maturity of more than one year. The Index contains approximately one thousand marketable Canadian bonds with an average term of approximately 10.9 years and an average duration of approximately 8.0 years. The purpose of the Index is to reflect the performance of the broad "Canadian Bond Market" in a similar manner to the S&P/TSX Capped Composite Index in the Canadian Equity Market.

FTSE Canada Long Term Overall Bond

The FTSE Canada Long Term Overall Bond Index is a capitalization-weighted index containing bonds with a term to maturity of greater than 10 years. It includes approximately 300 marketable Canadian bonds. The average term is approximately 23.1 years and the average duration is approximately 15.5 years.

FTSE Canada Real Return Bond

The FTSE Canada Real Return Bond Index measures the daily performance of Canadian real return bonds. It currently contains the outstanding real return bonds in the market.

CPI

Consumer Price Index is used to gauge Canada's inflation rate. The series used is the all items, not seasonally adjusted, 2002 base, widely known as the headline inflation.

Description of Market Indices and Statistics

Statistic Definitions

As of 30 June 2022

Active Return

Arithmetic difference between the portfolio return and the benchmark return over a specified time period.

Active Weight

The difference between the portfolio weight and the benchmark weight, where the weight is based on the beginning of period weights for the sector/region/asset class for a certain periodicity (monthly or quarterly, depending upon the reporting frequency), adjusted by the relative return for the sector/region/asset class.

Annualized Value Added

A portfolio's excess return over a benchmark, annualized as it is recorded.

Asset Allocation

The value added or subtracted by under or over weighting sectors/regions/asset classes versus the benchmark weights. Asset allocation measures the impact on performance attributed only to the sector/region/asset class weighting decisions by the manager. It assumes that the manager holds the same securities in each sector/region/asset class and in the same proportion as in the benchmark. Any differences in return can be attributed to differences in sector weights between the manager's fund and the benchmark.

Batting Average

The frequency, expressed in percentage terms, of the portfolio's return equaling or exceeding the benchmark's return.

Beta

A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.

Correlation

Also called coefficient of correlation, it is a measure of the co-movements of two sets of returns. Indicates the degree in which two sets of returns move in tandem.

Cumulative Added Value

The geometrically linked excess return of a portfolio over a benchmark.

Down Market Capture

The portfolio's average return as a percentage of the benchmark return, during periods of negative benchmark return. Lower values indicate better portfolio performance.

Downside Risk

A measure similar to standard deviation, but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. The higher the factor, the riskier the portfolio.

Statistic Definitions

As of 30 June 2022

Duration

A measure of a bond portfolio's sensitivity to movements in interest rates.

EPS

Earnings Per Share

Excess Return

Arithmetic difference between the managers return and the risk-free return over a specified time period.

Excess Risk

A measure of the standard deviation of a portfolio's performance relative to the risk free return.

Information Ratio

Measured by dividing the active rate of return by the tracking error. The higher the Information Ratio, the more value-added contribution by the manager.

Return

Compounded rate of return for the period.

R-Squared

The percentage of a portfolio's performance explained by the behaviour of the appropriate benchmark. High R-Square means a higher correlation of the portfolio's performance to the appropriate benchmark.

Security Selection

The value added or subtracted by holding securities at weights which differ from those in the benchmark, including securities not in the benchmark or a zero weight. The security selection return assumes the manager weights for each sector/region/asset class in the portfolio are in the same proportion as in the overall benchmark, and excess returns are due to security selection. That is, differences in returns between the manager's fund and the benchmark are attributed to the securities the manager has chosen.

Sharpe Ratio

Represents the excess rate of return over the risk free return divided by the standard deviation of the return. The result is the absolute rate of return per unit of risk. The higher the value, the better the portfolio's historical risk-adjusted performance.

Simple Alpha

The difference between the portfolio's return and the benchmark's return.

Statistic Definitions

As of 30 June 2022

Sortino Ratio

Represents the excess return over the risk-free rate divided by the downside deviation (i.e. the standard deviation of negative asset returns). Therefore, the Sortino Ratio differentiates harmful volatility from general volatility. A large Sortino Ratio indicates there is a low probability of a large loss.

Standard Deviation

A statistical measure of the range of a portfolio's performance, the variability of a return around its average return over a specified time period.

Tracking Error

A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate benchmark.

Treynor Ratio

Similar to Sharpe ratio, but focuses on beta rather than excess risk (standard deviation). Represents the excess rate of return over the risk free rate divided by the beta. The result is the absolute rate of return per unit of risk. The higher the value, the better the portfolio's historical risk-adjusted performance.

Up Market Capture

The portfolio's average return as a percentage of the benchmark return, during periods of positive benchmark return. Higher values indicate better portfolio performance.

Appendix E - Fee Analysis

Appendix F - Disclosure

Disclosure

Statement of Disclosure

As of 30 June 2022

Aon Hewitt Inc. reconciles the rates of return with each investment manager quarterly. Aon Hewitt Inc. calculates returns from the custodian/trustee statements while the managers use different data sources. Occasionally discrepancies occur because of differences in computational procedures, security prices, "trade date" versus "settlement date" accounting, etc. We monitor these discrepancies closely and find that they generally do not tend to persist over time. However, if a material discrepancy arises or persists, we will bring the matter to your attention after discussion with your money manager.

This report may contain slight discrepancies due to rounding in some of the calculations. All data presented is in Canadian dollars unless otherwise stated.

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Canadian DB pension plan quarterly returns tied for lowest in three decades

Français



NEWS PROVIDED BY

RBC Investor & Treasury Services →

Jul 29, 2022, 09:01 ET

Geo-political climate, interest hikes and other economic concerns weigh on performance

TORONTO, July 29, 2022 /CNW/ - Canadian pension plans delivered negative returns in public market asset classes across the board this past quarter, according to the RBC I&TS All Plan Universe. Global economic health concerns, stock market selloffs and rising bond yields weighed heavily on defined benefit (DB) pension plan assets, which decreased by 8.6% for the second quarter of 2022, bringing year-to-date total returns to -14.7%.

This was the most significant decline since Q3 2008, when assets also fell by 8.6%, at the time breaking the record for the lowest quarterly return RBC had ever reported since it began tracking Canadian DB plan performance and asset allocation in 1994.

"Uncertainty in the global economic landscape – particularly surrounding the war in Ukraine, substantial inflation, higher interest rates imposed by the central banks across the globe and a new strain of Covid-19 – contributed to this outcome," said Niki Zaphiratos, Managing Director, Asset Owners, RBC Investor & Treasury Services.

"The uptick of long-term bond yields, however, actually improved plans' solvency ratios," continued Zaphiratos. "While this is good news for plan sponsors, investors need to remain cautious, given economists' warnings around the prospects for more interest rate hikes over the second half of the year and the resultant negative impact on the global economy."

Global equities lost 12.2% for Canadian plans in Q2 and were down 18.5% on a year-to-date basis. In comparison, the MSCI World Index returned a somewhat lower -13.4% over the quarter, with notable weakness in sectors such as consumer discretionary (-21.3%), information technology (-19.2%) and communication services (-16.8%). There was a significant spread in performance of nearly 10% between global growth and value stocks over the quarter. The MSCI World Growth index plummeted -18.6% in Q2 (-27.3% YTD), whereas the MSCI World Value index saw a more moderate decline of -8.7% for the quarter (-10.3% YTD).

Canadian equities kept pace with their global counterparts and again outperformed the benchmark, losing 11.3% for the quarter (-8.1% YTD). The TSX Composite Index lost 13.2% over the quarter (-9.9% YTD).

"Though the Canadian equity market has benefitted from a large exposure to energy stocks (26.2% year-to-date), it lost ground over the quarter, as sectors such as financials and materials were beaten down due to concerns over high interest rates and slow economic growth," commented Zaphiratos.

Plans returned -9.8% over the quarter in the Canadian fixed income asset class and were down 19.0% on a year-to-date basis. As the central banks continued to move away from their ultra-accommodative policies, yields rapidly increased across the curve. Within the FTSE Canada Universe Bond Index, the long term bonds segment saw the highest decline, with the benchmark FTSE Long Bond index returning -11.8% (-22.1% YTD), while the short term bonds segment returned -1.5% (-4.4% YTD). Corporate bonds fared better than their government equivalents.

Historic performance

Period	Median return (%)	Period	Median return (%)
Q2 2022	-8.6	Q1 2020	-7.1
Q1 2022	-5.5	Q4 2019	2.0
Q4 2021	4.5	Q3 2019	1.7
Q3 2021	0.6	Q2 2019	2.7
Q2 2021	4.4	Q1 2019	7.2
Q1 2021	-0.2	Q4 2018	-3.5
Q4 2020	5.4	Q3 2018	0.1
Q3 2020	3.0	Q2 2018	2.2
Q2 2020	9.6	Q1 2018	0.2

About RBC

Royal Bank of Canada is a global financial institution with a purpose-driven, principles-led approach to delivering leading performance. Our success comes from the 89,000+ employees who leverage their imaginations and insights to bring our vision, values and strategy to life so we can help our clients thrive and communities prosper. As Canada's biggest bank and one of the largest in the world, based on market capitalization, we have a diversified business model with a focus on innovation and providing exceptional experiences to our 17 million clients in Canada, the U.S. and 27 other countries. Learn more at [rbc.com](https://www.rbc.com).

We are proud to support a broad range of community initiatives through donations, community investments and employee volunteer activities. See how at [rbc.com/community-social-impact](https://www.rbc.com/community-social-impact).

About the RBC Investor & Treasury Services All Plan Universe

RBC Investor & Treasury Services has managed one of the industry's largest and most comprehensive universes of Canadian pension plans for more than 30 years. The All Plan Universe, a widely recognized performance benchmark indicator, tracks the performance and asset allocation of a cross-section of assets across Canadian defined benefit pension plans. The All Plan Universe is produced by RBC Investor & Treasury Services' Risk & Investment Analytics service, which delivers independent and cost effective solutions that help institutional investors monitor investment decisions, optimize performance, reduce costs, mitigate risk and enhance governance.

About RBC Investor & Treasury Services

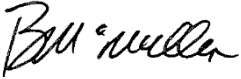
RBC Investor & Treasury Services (RBC I&TS) provides asset and payment services to corporate investors and financial institutions globally. Trusted with CAD 4.4 trillion in assets under administration, clients are at the heart of our service offering. As a financially strong partner, our focus is on safeguarding client assets as we leverage data and technology solutions to deliver meaningful insights, simplify our clients' operations and support their growth.

SOURCE RBC Investor & Treasury Services

For further information: Ylana Kurtz, ylana.kurtz@rbc.com, 416 348 2330



CITY OF HAMILTON
CORPORATE SERVICES DEPARTMENT
Financial Planning, Administration and Policy Division

TO:	Chair and Members HMRF / HWRF Pension Administration Sub-Committee
COMMITTEE DATE:	March 30, 2023
SUBJECT/REPORT NO:	Master Trust Pension Investment Performance Report as at December 31, 2022 (FCS23044(a)) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Gerald T. Boychuk (905) 546-2424 Ext. 4321
SUBMITTED BY:	Brian McMullen Director, Financial Planning, Administration and Policy Corporate Services Department
SIGNATURE:	

COUNCIL DIRECTION

Not applicable.

INFORMATION

Attached as Appendix "A" to Report FCS23044(a) is Aon Hewitt's investment performance report for the Hamilton Municipal Retirement Fund (HMRF), the Hamilton-Wentworth Retirement Fund (HWRF) and the Hamilton Street Railway (HSR) as of December 31, 2022. Together the three pension funds make up the Master Trust, which is referred to as the "Plan" throughout Report FCS23044(a).

As of December 31, 2022, the market value of the assets of the Plan was \$294.8 M, a decrease of \$67.9 M compared with \$362.7 M as of December 31, 2021. The funded ratio decreased to 82.0% from 84.8% at year-end due to rapid and very large domestic interest rate increases, leading to decreased valuations of assets worldwide, threats of war with Russia's invasion of the Ukraine and poor economic outlook due to high global debt loads and tariff intervention in world trade.

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

**SUBJECT: Master Trust Pension Investment Performance Report as at
December 31, 2022 (FCS23044(a)) (City Wide) – Page 2 of 6**

For the one-year period ending December 31, 2022, the Plan's return was -12.7%, outperforming its benchmark return of -13.6% by 0.9%. The benchmark return is based on the benchmark asset mix for the Plan. The Plan's return of -12.7% underperformed the OMERS (Gross) plan return of 4.2% by 16.9%.

Table 1 shows the Plan's one-year return for the last five years (ending December 31 in each year).

**Table 1
Plan's 1 year (ended Dec. 31) Returns**

	12 Months Ended Dec. 31/22	12 Months Ended Dec. 31/21	12 Months Ended Dec. 31/20	12 Months Ended Dec. 31/19	12 Months Ended Dec. 31/18
Plan Return	-12.7%	12.6%	8.7%	13.8%	-4.2%
Benchmark	-13.6%	10.9%	13.5%	16.4%	-2.6%
Value Added	0.9%	1.7%	-4.8%	-2.6%	-1.6%
Market Value	\$294.8 M	\$362.7 M	\$344.0 M	\$337.5 M	\$311.5 M
Funded Ratio	82.0%	84.8%	74.9%	78.6%	75.4%

The Plan's performance may be compared to the return earned in the broader pension market in Canada. RBC Investor & Treasury Service (RBCITS) reports its universe of pension funds, which totals nearly C\$4.0 Trillion and had an average annual return of -10.3% in the year ended December 31, 2022. The Plan's return of -12.7% underperformed the RBCITS average annual return by -2.4%. Canadian and Global equity returns were major contributors to the Plan's overall return. The significant number and magnitude of increases in interest rates in 2022 and expected in early 2023 and beyond has devalued Fixed income and Equity values in 2022, led to negative returns of -21.48% in longer term bonds and a negative -14.0% return in Real Return bonds held within the portfolio.

Table 2 compares the Plan's returns to OMERS fund's gross returns over one, five and ten-year periods, all ending December 31, 2022. The Plan's gross returns are lower than OMERS gross returns all periods. This is unexpected due to OMERS strategy of emphasizing alternative investments, public equity and fixed income securities, which remained stable but generated very good returns in 2022. OMERS (Gross) return of 4.2% outperformance is accounted for by their returns in real estate, infrastructure, private equity, health care, intellectual property and cash holdings.

**SUBJECT: Master Trust Pension Investment Performance Report as at
December 31, 2022 (FCS23044(a)) (City Wide) – Page 3 of 6**

**Table 2
Annualized Returns**

	Dec. 31/22 One-Year Annualized Return	5-Year Annualized Return	10-Year Annualized Return
Plan (HSR, HMRF, HWRF)	-12.7%	3.1%	6.1%
Plan Benchmark	-13.6%	4.3%	6.6%
OMERS (Gross)	4.2%	7.5%	8.0%
OMERS Benchmark (Gross)	7.2%	7.1%	7.4%

The Plan's ten-year gross annualized return for the period ending December 31, 2022 is 6.1% underperforming the benchmark return of 6.6% by 0.5% and underperforming OMERS return of 8.0% by 1.9%.

The Plan's five-year gross annualized return for the period ending December 31, 2022 is 3.1% underperforming the benchmark return of 4.3% by 1.2% and underperforming OMERS return of 7.5% by 4.4%.

The Plan's gross return for the period ending December 31, 2022 is -12.7% outperforming the benchmark of -13.6% by 0.9% and underperformed OMERS return of 4.2% by 16.9%. OMERS results are reported in OMERS 2022 financial reports available online.

OMERS invests in public market securities (such as public equities and bonds) and in private market investments (such as private equity, real estate, infrastructure and strategic investments). The Plan invests only in public market securities. Private market investments require expertise developed over many years, have limited liquidity, require significant administrative costs and current valuations may or may not be realized. However, in 2022 OMERS significant and material alternative investments pulled their overall return higher compared to RBCITS average pension plan.

Asset Mix

Table 3 shows the percentage of Plan assets in each asset class as of December 31, 2022 compared to December 31, 2021.

**SUBJECT: Master Trust Pension Investment Performance Report as at
December 31, 2022 (FCS23044(a)) (City Wide) – Page 4 of 6**

**Table 3
Percentage of Plan Assets in Each Asset Class**

Asset Class	Dec. 31, 2022	Dec. 31, 2021	Change
Canadian Equity	26.4%	23.7%	+2.7%
Global Equity	<u>18.3%</u>	<u>20.8%</u>	<u>-2.5%</u>
Total Equity	44.7%	44.5%	+0.2%
Canadian Fixed Income	55.2%	55.4%	-0.2%
Cash	0.1%	0.0%	+0.1%

Note: Anomalies due to rounding.

Total equity increased by 0.2% to 44.7%. Global equity decreased by 2.5% to 18.3%. Canadian equity holdings increased by 2.7% to 26.4%. Canadian fixed income decreased by 0.2% to 55.2% including cash. The year saw equity losses domestically and internationally in the portfolio ranging from -0.1% to -11.0%. The fixed income portfolios incurred larger losses for the year ranging from -14.9% (Real Return Bonds) to -21.6% (Long Bonds), a -17.3% overall fixed income return on holdings of 18.7% Long Bonds and 36.5% Real Return Bonds and cash for disbursement.

The Master Trust at year-end was within its prescribed boundaries set by the Plan's investment policy with the funded ratio at 82.0%.

Managers' Performance

Managers' investment performance relative to their benchmark and peer group is summarized in Table 4. One-year rates of return, percentages of plan assets and rankings in terms of quartile performance are as of December 31, 2022.

**SUBJECT: Master Trust Pension Investment Performance Report as at
December 31, 2022 (FCS23044(a)) (City Wide) – Page 5 of 6**

**Table 4
Managers' Performance**

	Manager Return	Benchmark Return	Value Added (Manager Return less Benchmark Return)	Percentage Total Assets
Period Ending Dec.31/22				
Canadian Equity:				
Guardian	-6.0%	-5.8%	-0.2%	13.6%
Letko	-0.1%	-5.8%	5.7%	12.8%
Global Equity				
Aberdeen ⁽¹⁾	-10.0%	-12.3%	2.3%	4.6%
GMO ⁽²⁾	-11.0%	-12.3%	2.3%	13.8%
Fixed Income:				
TDAM Long Bonds ⁽³⁾	-21.6%	-21.8%	0.2%	18.7%
TDAM Real Return Bonds	-14.9%	-14.3%	-0.6%	36.5%

Notes: ⁽¹⁾ Engaged in April 2010

⁽²⁾ Engaged in July 2010

⁽³⁾ Toronto Dominion Asset Management (TDAM) engaged in March 2012

Guardian, one of the two Canadian active equity managers, had a return of -6.0% and underperformed its benchmark return of -5.8% by 0.2%. Its performance is fourth quartile (88%) over the one-year and fourth quartile (93%) over the four-year period, with a benchmark return of 11.2% and an actual return of 9.6%. Guardian manages 13.6% of Plan assets with an added value of -0.2% over four years.

Letko, the second Canadian active equity manager, had a return of -0.1% and outperformed its benchmark return of -5.8% by 5.7%. Its performance is second quartile (29%) over the one-year period and third quartile over the four-year period (68%) with an actual return of 11.0% with a benchmark return of 11.2%, with an added value of -0.2% over four years. Letko manages 12.8% of the Plan assets.

Aberdeen is a global equity manager. Its return of -10.0% outperformed the benchmark return of -12.3% by 2.3%. Its performance is third quartile (53%) over the one-year period and added value of 2.3%. Aberdeen manages 4.6% of the Plan assets. The firm's performance is second quartile (36%) over four years, outperforming the benchmark of 10.0% by 0.4% with a return of 10.4%.

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

**SUBJECT: Master Trust Pension Investment Performance Report as at
December 31, 2022 (FCS23044(a)) (City Wide) – Page 6 of 6**

GMO is the second active global equity manager. GMO's return of -11.0% outperformed the benchmark return of -12.3 by 1.3%. Its performance is third quartile (62%) over the one-year period and added value of 1.3%. GMO manages 13.8% of Plan assets and is fourth quartile (88%) over four years returning 7% compared to the 10.0% benchmark a value added of -3.0%.

TDAM Long Bonds – The active long bond fund manager has 18.7% of the portfolio holdings under management. Performance over one year is a return of -21.6% compared to the benchmark return of -21.8% which is a value added of 0.2%. The four-year return was -1.2% compared to the benchmark of -1.5% with an added value of 0.3%.

TDAM Real Return Bonds – The passively managed fund has 36.5% of the portfolio under management and returned -14.9% over the one-year period compared to the benchmark return of -14.3%. Value added was -0.6%. The four-year return was 1.6% compared to the benchmark of 1.6% with an added value of 0%.

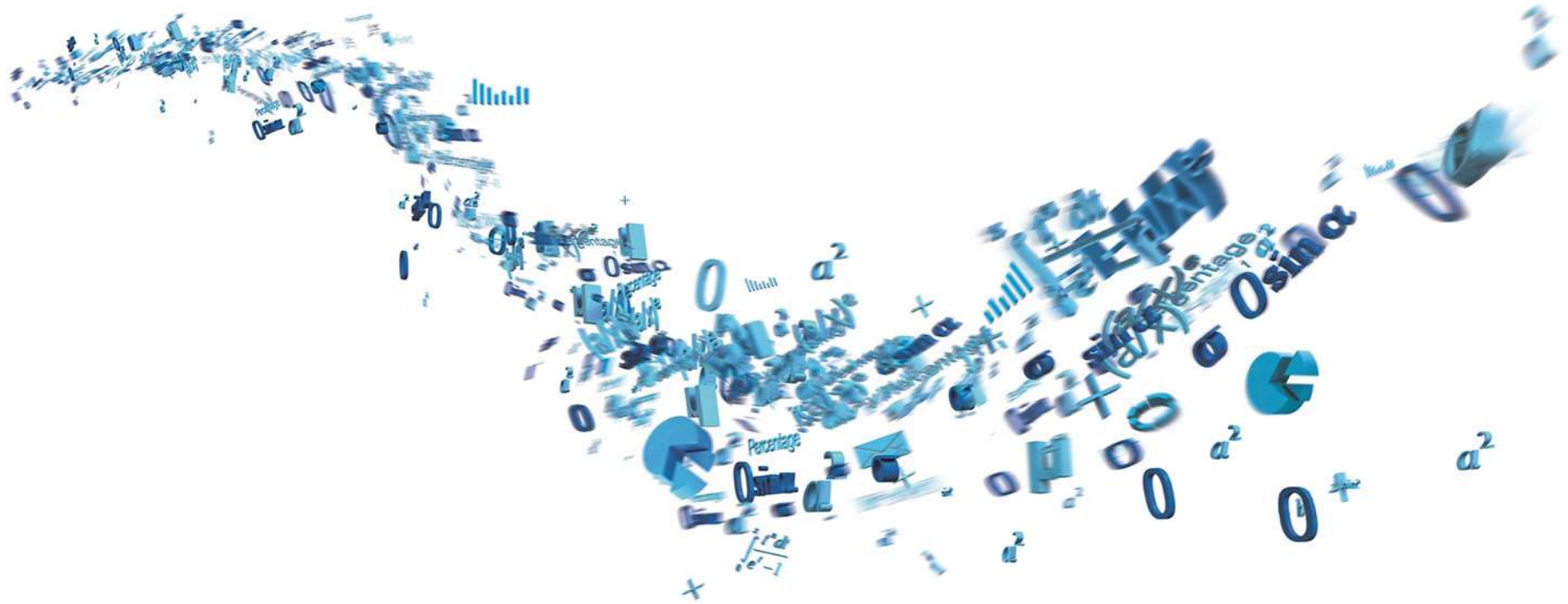
In summary, the Plan's gross return of -12.7% underperformed OMERS' gross return 4.2% by 16.9% and its funding ratio decreased to 82.0% from last year's 84.8%. Interest Rates have risen very quickly and substantially in all terms in 2022 and are expected to continue. We changed the fund's balance and escalated the holdings of the Real Return Bonds specifically and reduced equity holdings as funding for the overall Master Trust improved to a trigger point emphasizing Bonds. This allowed the fund to capture equity returns and prepare for the inevitable increases in inflation and interest rates while reducing equity holdings. All returns were negative but close to their benchmarks with a value-added range of -0.2% to 5.7% contributing to overall negative returns. The highest return was -0.1% (Letko) and the lowest was -21.6% (TDAM Long Bonds) at year end. The Plan's return of -12.7% bettered its benchmark of -13.6% and added value of 0.9% but missed the RBCITS average of -10.3% by 2.4%.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report FCS23044(a) – The City of Hamilton Master Trust Period Ending December 31, 2022 – AON Performance Review and Investment Manager Evaluation

Appendix "B" to Report FCS23044(a) – Canadian DB pension plans return -10.3% in 2022: RBC Investor & Treasury Services – January 31, 2023

GB/dt



The City of Hamilton Master Trust Defined Benefit Plan | Fourth Quarter 2022

Quarterly Investment Review

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

Table Of Contents

1	Executive Summary	Page 1
2	Capital Markets Performance	Page 6
3	Total Fund Analysis	Page 9
4	Asset Class Analysis	Page 18
5	Appendix A - Plan Information	Page 37
6	Appendix B - Manager Updates	Page 39
7	Appendix C - Capital Market Environment	Page 45
8	Appendix D - Description of Market Indices and Statistics	Page 55
9	Appendix E - Fee Analysis	Page 60
10	Appendix F - Disclosure	Page 61

Executive Summary



Executive Summary

Trailing Period Performance

As of 31 December 2022

	Allocation		Performance (%)							
	Market Value (\$000)	%	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	
Total Fund	294,807	100.0	5.1 (44)	-12.7 (93)	-0.9 (89)	2.2 (92)	5.0 (92)	3.1 (96)	6.1 (93)	
Benchmark			4.0 (89)	-13.6 (100)	-2.1 (99)	2.8 (81)	6.1 (77)	4.3 (79)	6.6 (90)	
Value Added			1.1	0.9	1.2	-0.6	-1.1	-1.2	-0.5	
Canadian Equity	77,902	26.4	8.4 (12)	-3.3 (53)	11.8 (38)	7.5 (73)	9.8 (92)	5.5 (94)	9.2 (40)	
Guardian (including cash)	40,033	13.6	6.4 (36)	-6.0 (88)	7.9 (92)	6.7 (88)	9.6 (93)	6.2 (80)	8.0 (81)	
S&P/TSX Composite			6.0 (50)	-5.8 (86)	8.5 (87)	7.5 (73)	11.2 (61)	6.8 (59)	7.7 (89)	
Value Added			0.4	-0.2	-0.6	-0.8	-1.6	-0.6	0.3	
Letko (including cash)	37,869	12.8	10.7 (2)	-0.1 (29)	16.5 (10)	9.5 (35)	11.0 (68)	5.8 (91)	10.3 (9)	
S&P/TSX Composite			6.0 (50)	-5.8 (86)	8.5 (87)	7.5 (73)	11.2 (61)	6.8 (59)	7.7 (89)	
Value Added			4.7	5.7	8.0	2.0	-0.2	-1.0	2.6	
Global Equities	54,021	18.3	12.0 (34)	-8.2 (44)	3.2 (56)	5.0 (73)	8.2 (75)	5.6 (79)	9.4 (96)	
Aberdeen	13,439	4.6	12.3 (31)	-10.0 (53)	4.4 (50)	7.8 (26)	10.4 (36)	7.6 (45)	9.7 (94)	
MSCI World (Net)			8.2 (76)	-12.3 (67)	3.0 (57)	6.5 (47)	10.0 (47)	7.8 (41)	12.3 (53)	
Value Added			4.1	2.3	1.4	1.3	0.4	-0.2	-2.6	
GMO	40,582	13.8	11.9 (35)	-11.0 (62)	0.9 (73)	3.1 (92)	7.0 (88)	4.4 (93)	9.2 (97)	
MSCI World (Net)			8.2 (76)	-12.3 (67)	3.0 (57)	6.5 (47)	10.0 (47)	7.8 (41)	12.3 (53)	
Value Added			3.7	1.3	-2.1	-3.4	-3.0	-3.4	-3.1	

*GMO returns are reported net-of-fees.

Executive Summary

Trailing Period Performance

As of 31 December 2022

	Allocation		Performance (%)						
	Market Value (\$000)	%	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
Canadian Fixed Income	162,607	55.2	1.5	-17.3	-9.5	-2.7	0.5	0.4	1.8
TDAM Long Bonds	55,052	18.7	-1.1	-21.6	-13.3	-5.5	-1.2	-1.0	1.8
FTSE Canada Long Term Overall Bond			-1.0	-21.8	-13.6	-5.8	-1.5	-1.1	1.7
Value Added			-0.1	0.2	0.3	0.3	0.3	0.1	0.1
TDAM Real Return Bonds	107,459	36.5	2.9	-14.9	-6.9	-0.6	1.6	1.2	1.2
FTSE Canada Real Return Bond			2.8	-14.3	-6.6	-0.5	1.6	1.3	1.1
Value Added			0.1	-0.6	-0.3	-0.1	0.0	-0.1	0.1
TDAM Cash	162,607	55.2							
Operating Account	277	0.1							

*GMO returns are reported net-of-fees.

Executive Summary

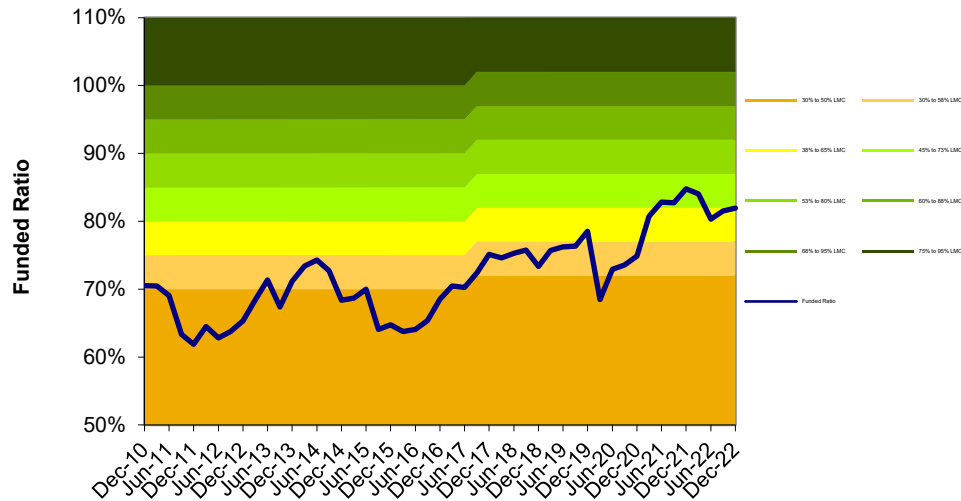
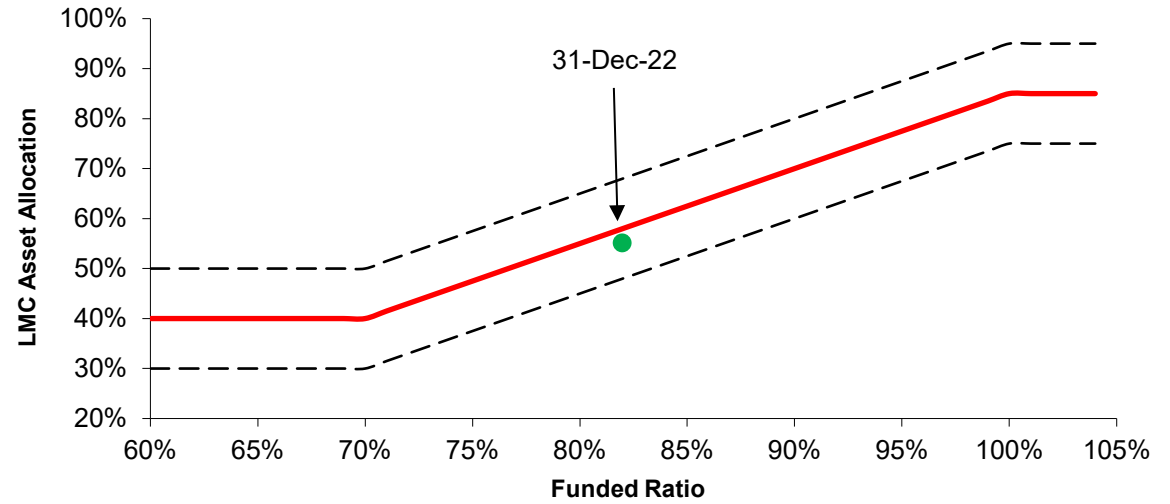
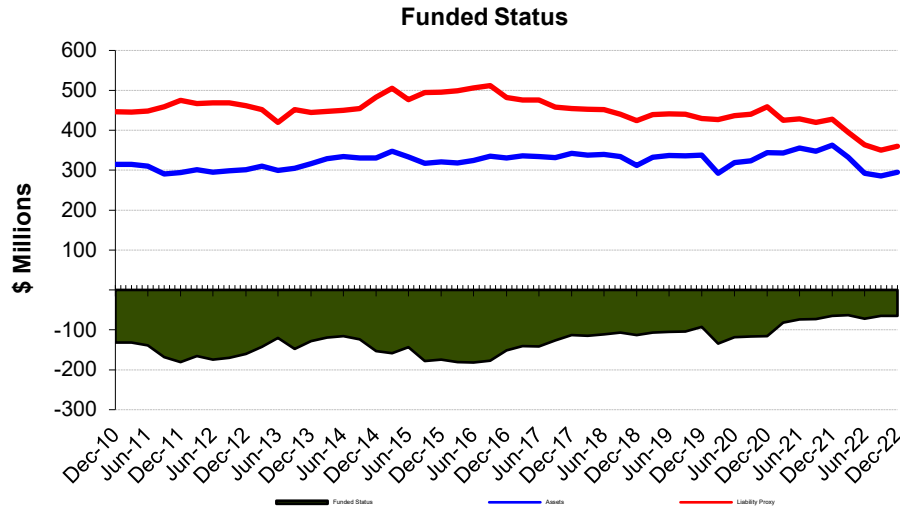
Trailing Period Performance

As of 31 December 2022

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total Fund	-12.7 (93)	12.6 (55)	8.7 (61)	13.8 (76)	-4.2 (85)	9.5 (35)	9.3 (22)	2.6 (93)	12.0 (28)	13.0 (91)	10.5 (24)
Benchmark	-13.6 (100)	10.9 (82)	13.5 (6)	16.4 (34)	-2.6 (56)	8.6 (59)	8.4 (33)	4.3 (82)	13.9 (1)	9.7 (97)	8.4 (71)
Value Added	0.9	1.7	-4.8	-2.6	-1.6	0.9	0.9	-1.7	-1.9	3.3	2.1
Canadian Equities	-3.3 (53)	29.3 (28)	-0.5 (78)	16.7 (90)	-10.0 (71)	12.3 (8)	24.1 (18)	-5.3 (49)	11.9 (41)	25.3 (16)	17.1 (2)
Guardian (including cash)	-6.0 (88)	23.8 (90)	4.5 (45)	18.5 (83)	-6.3 (13)	9.9 (31)	18.3 (59)	-4.0 (42)	13.0 (23)	13.8 (92)	13.7 (14)
S&P/TSX Composite	-5.8 (86)	25.1 (76)	5.6 (37)	22.9 (30)	-8.9 (52)	9.1 (52)	21.1 (35)	-8.3 (82)	10.6 (57)	13.0 (95)	7.2 (81)
Value Added	-0.2	-1.3	-1.1	-4.4	2.6	0.8	-2.8	4.3	2.4	0.8	6.5
Letko (including cash)	-0.1 (29)	35.8 (7)	-3.2 (95)	15.6 (91)	-12.7 (92)	13.8 (2)	28.1 (6)	-5.9 (56)	11.5 (45)	31.5 (3)	18.4 (1)
S&P/TSX Composite	-5.8 (86)	25.1 (76)	5.6 (37)	22.9 (30)	-8.9 (52)	9.1 (52)	21.1 (35)	-8.3 (82)	10.6 (57)	13.0 (95)	7.2 (81)
Value Added	5.7	10.7	-8.8	-7.3	-3.8	4.7	7.0	2.4	0.9	18.5	11.2
Global Equities	-8.2 (44)	16.1 (67)	8.6 (58)	18.3 (63)	-3.9 (71)	15.8 (52)	4.7 (35)	10.4 (92)	10.2 (82)	26.3 (92)	12.8 (69)
Aberdeen	-10.0 (53)	21.1 (30)	14.9 (41)	18.7 (61)	-2.8 (62)	17.1 (43)	5.4 (31)	5.3 (97)	10.5 (81)	21.3 (98)	14.0 (58)
MSCI World (Net)	-12.3 (67)	21.0 (31)	13.9 (45)	21.4 (40)	-0.6 (41)	14.4 (65)	3.8 (44)	18.9 (55)	14.4 (46)	35.1 (54)	13.3 (64)
Value Added	2.3	0.1	1.0	-2.7	-2.2	2.7	1.6	-13.6	-3.9	-13.8	0.7
GMO	-11.0 (62)	14.5 (77)	7.7 (63)	19.5 (57)	-5.3 (80)	18.1 (37)	4.2 (40)	12.9 (88)	8.1 (91)	29.1 (84)	12.5 (71)
MSCI World (Net)	-12.3 (67)	21.0 (31)	13.9 (45)	21.4 (40)	-0.6 (41)	14.4 (65)	3.8 (44)	18.9 (55)	14.4 (46)	35.1 (54)	13.3 (64)
Value Added	1.3	-6.5	-6.2	-1.9	-4.7	3.7	0.4	-6.0	-6.3	-6.0	-0.8
Canadian Fixed Income	-17.3	-0.9	12.5	10.8	-0.3	3.8	3.0	3.1	14.8	-7.4	5.5
TDAM Long Bonds	-21.6 (61)	-4.2 (74)	12.3 (54)	13.0 (45)	-0.2 (88)	7.0 (62)	2.8 (45)	3.4 (80)	16.8 (71)	-5.7 (53)	-
FTSE Canada Long Term Overall Bond	-21.8 (78)	-4.5 (86)	11.9 (72)	12.7 (65)	0.3 (49)	7.0 (61)	2.5 (80)	3.8 (50)	17.5 (31)	-6.2 (86)	5.2 (78)
Value Added	0.2	0.3	0.4	0.3	-0.5	0.0	0.3	-0.4	-0.7	0.5	-
TDAM Real Return Bonds	-14.9	1.9	13.2	8.4	-0.3	0.6	3.1	2.6	13.0	-11.5	-
FTSE Canada Real Return Bond	-14.3	1.8	13.0	8.0	0.0	0.7	2.9	2.8	13.2	-13.1	2.9
Value Added	-0.6	0.1	0.2	0.4	-0.3	-0.1	0.2	-0.2	-0.2	1.6	-

Parentheses contain percentile rankings.

Quarterly Performance Report for the City of Hamilton Funded Status and Glide Path Information for December 31, 2022



Snapshot (Wind-Up)	31-Mar-22	30-Jun-22	30-Sep-22	31-Dec-22
Market value of assets (\$ Millions)	\$332.0	\$292.0	\$285.6	\$294.8
Liability proxy (\$ Millions)	\$394.8	\$363.5	\$350.2	\$359.7
Funded status (\$ Millions)	(\$62.8)	(\$71.5)	(\$64.6)	(\$64.9)
Funded ratio	84.1%	80.3%	81.6%	82.0%
Current LMC Asset Allocation	55.2%	55.4%	55.4%	55.2%

Rebalancing

- The rebalancing strategy for this plan requires that assets be rebalanced to the target allocation (indicated by the red line) whenever the LMC Asset Allocation falls outside of the range deemed acceptable for a given funded ratio (indicated by the dashed lines).

- Because the LMC Asset Allocation as of December 31, 2022 is within the range determined acceptable for the current funded ratio (82.0%), the asset mix does not require rebalancing.

Capital Markets Performance



Capital Market Performance

Major Capital Markets' Returns

As of 31 December 2022

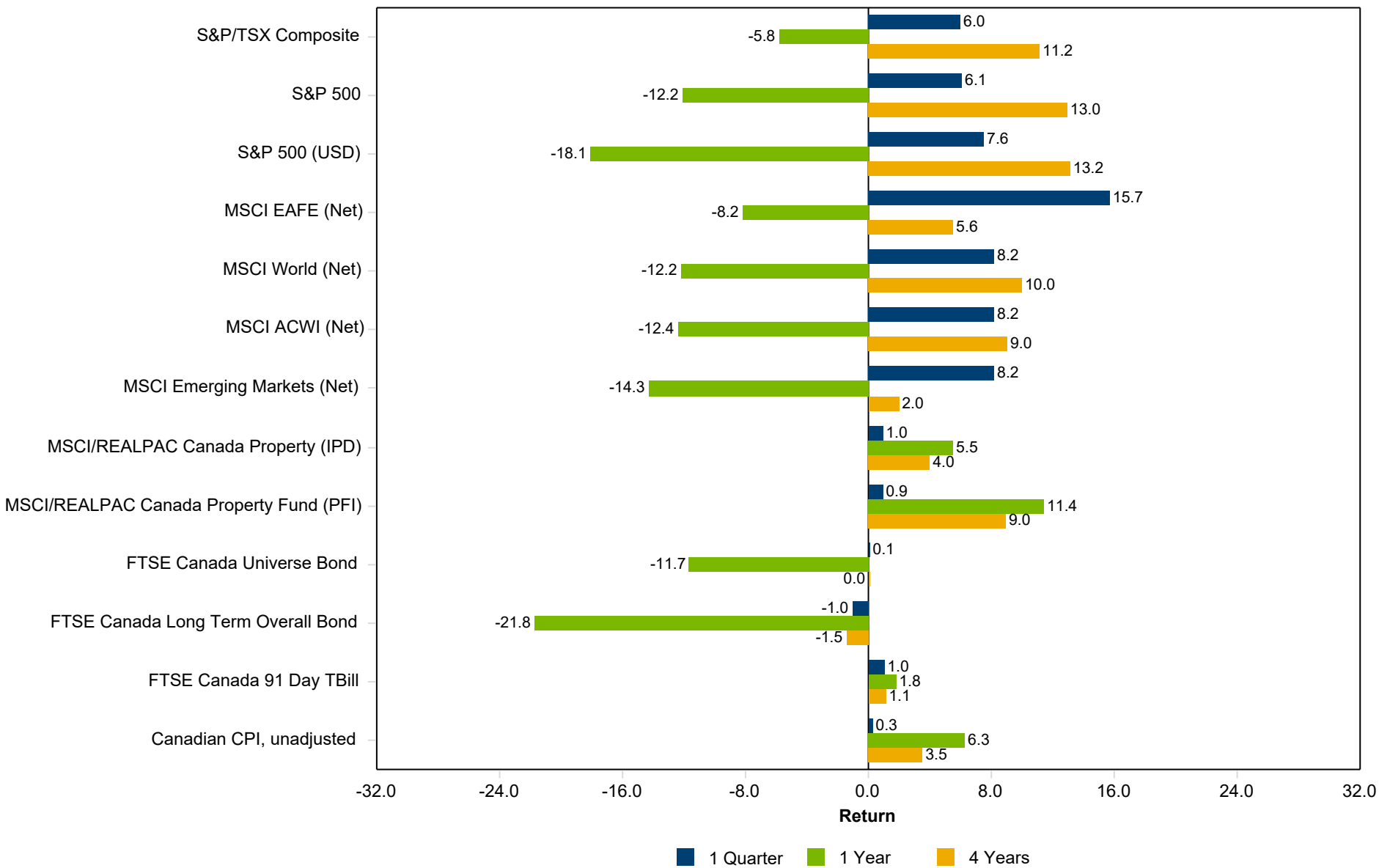
	1 Quarter	6 Months	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years
Equity								
S&P/TSX Composite	6.0	4.5	-5.8	8.5	7.5	11.2	6.8	7.7
S&P 500	6.1	7.5	-12.2	5.9	9.2	13.0	11.2	16.1
S&P 500 (USD)	7.6	2.3	-18.1	2.7	7.7	13.2	9.4	12.6
MSCI EAFE (Net)	15.7	11.7	-8.2	0.6	2.4	5.6	3.1	7.9
MSCI World (Net)	8.2	8.2	-12.2	3.0	6.5	10.0	7.8	12.3
MSCI ACWI (Net)	8.2	7.4	-12.4	1.4	5.5	9.0	6.9	11.4
MSCI Emerging Markets (Net)	8.2	1.9	-14.3	-9.0	-1.3	2.0	0.2	4.6
Real Estate								
MSCI/REALPAC Canada Annual Property	1.0	2.0	5.5	6.8	3.2	4.0	4.8	6.2
MSCI/REALPAC Canada Quarterly Property Fund	0.9	1.4	11.4	13.4	8.9	9.0	8.8	8.0
Fixed Income								
FTSE Canada Universe Bond	0.1	0.6	-11.7	-7.2	-2.2	0.0	0.3	1.6
FTSE Canada Long Term Overall Bond	-1.0	0.5	-21.8	-13.6	-5.8	-1.5	-1.1	1.7
FTSE Canada 91 Day TBill	1.0	1.5	1.8	1.0	0.9	1.1	1.2	0.9
Consumer Price Index								
Canadian CPI, unadjusted	0.3	0.1	6.3	5.6	3.9	3.5	3.2	2.4

Returns for periods greater than one year are annualized. Sector returns are based on the holdings loaded into our performance reporting software and may differ from MSCI sector returns. Note: MSCI recently announced a reorganization of the Global Industry Classification Sectors or GICS sectors. The Telecommunications sector was renamed "Communication Services". Going forward the Communication Services sector will include companies currently in the Information Technology sector that focus on facilitating communications, such as Alphabet (Google) and Facebook. Companies that provide media content, such as Disney and Comcast, will be moved from the Consumer Discretionary sector to the Communication Services sector. In addition, online retailers, such as Alibaba and eBay, will be moved from the Information Technology sector to the Consumer Discretionary sector.

Capital Market Performance

Comparative Performance

As of 31 December 2022



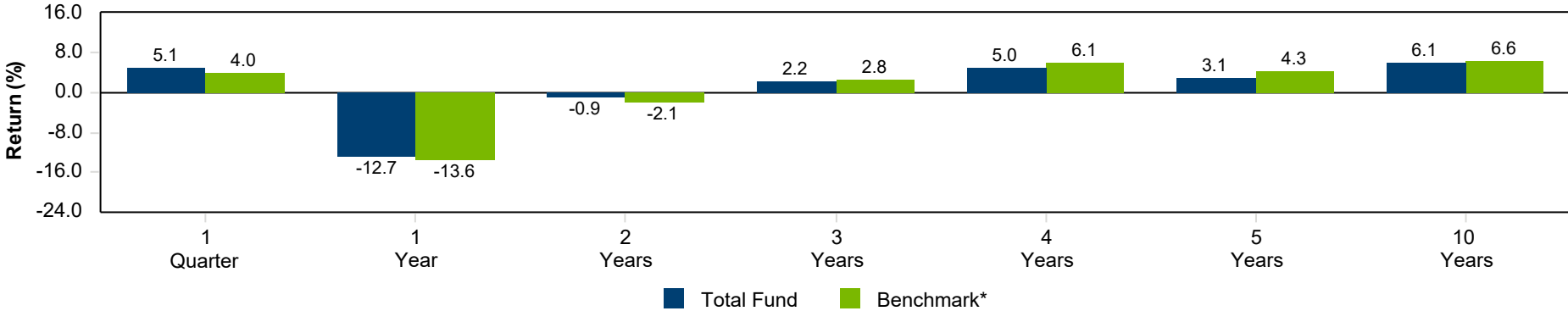
Total Fund Analysis

Total Fund

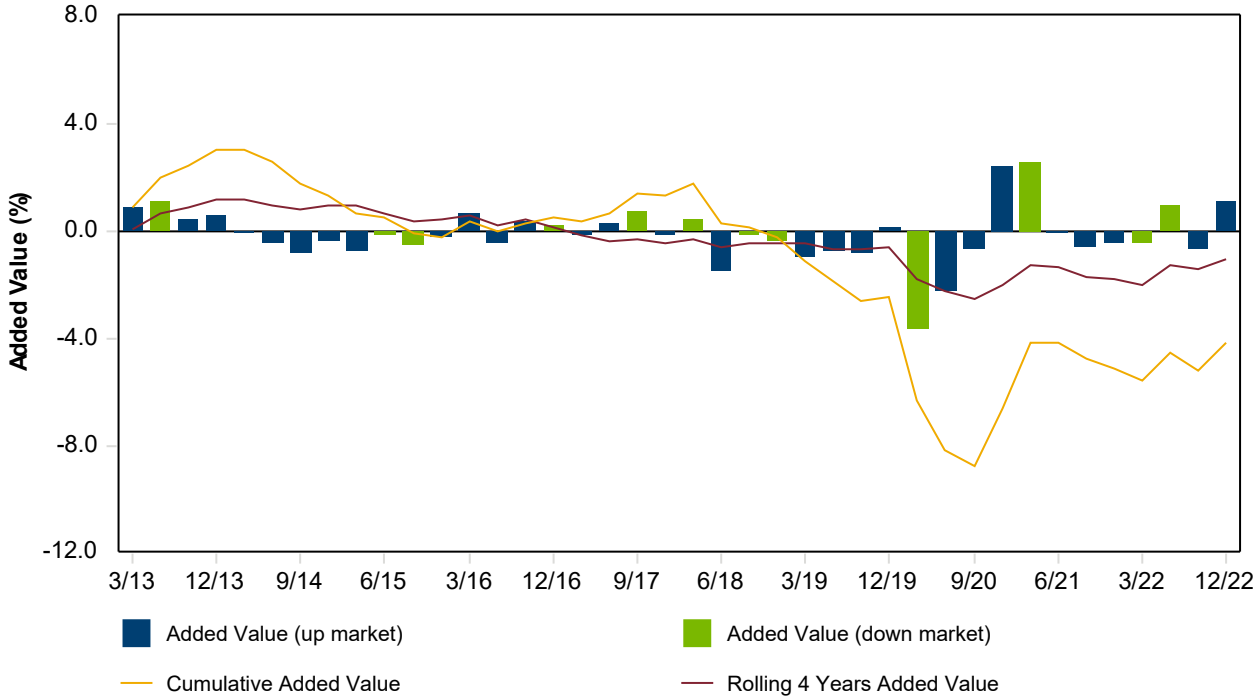
Total Fund Performance Summary

As of 31 December 2022

Return Summary



Added Value History (%)



Performance Statistics

	Quarters	%
Market Capture		
Up Markets	28	95.5
Down Markets	12	98.1
Batting Average		
Up Markets	28	32.1
Down Markets	12	50.0
Overall	40	37.5

* See Appendix A for benchmark components.



Total Fund

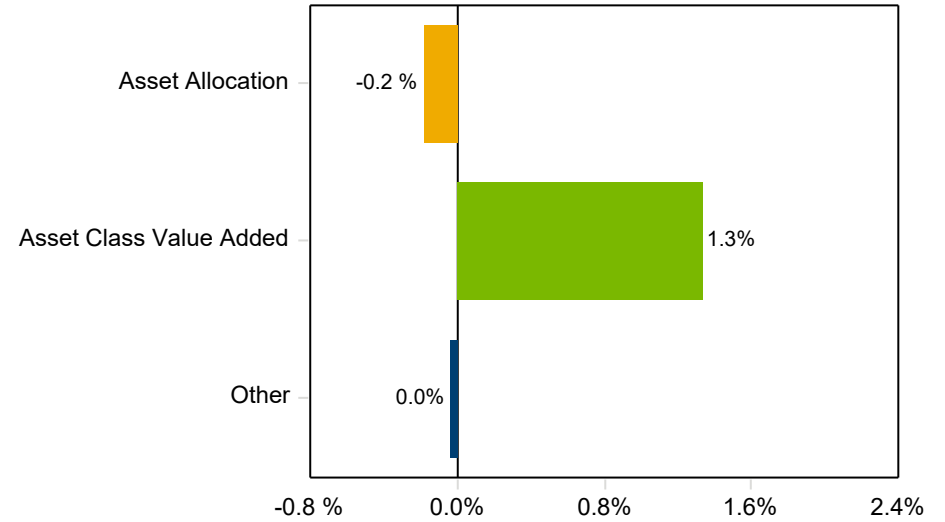
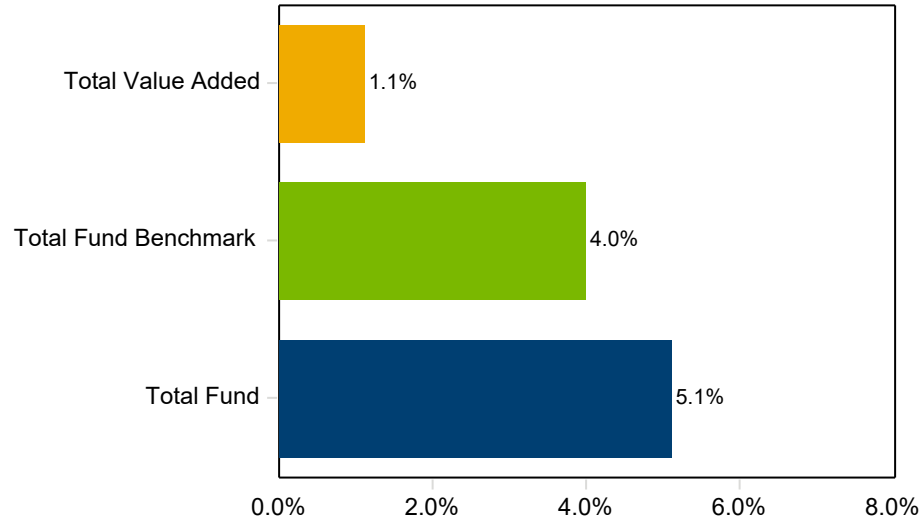
Total Fund Performance Attribution

1 Quarter Ending 31 December 2022

Total Fund vs. Benchmark

Total Fund Performance

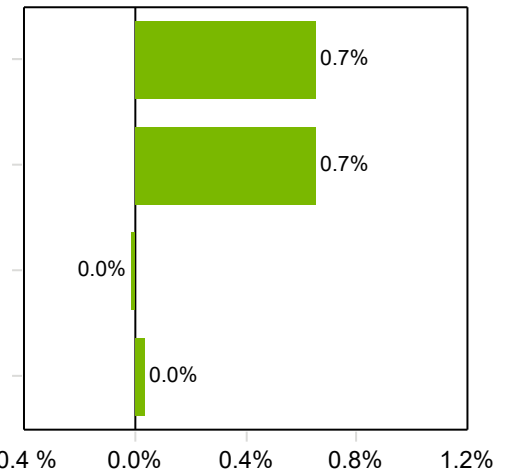
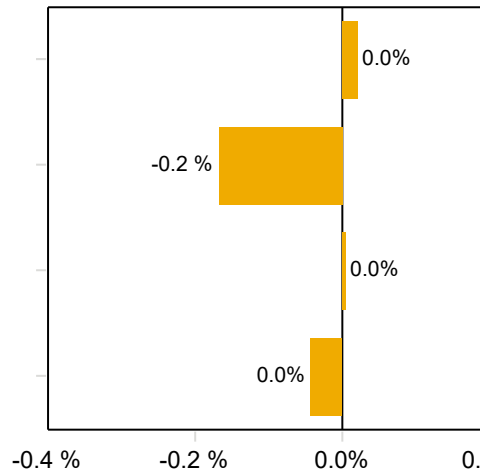
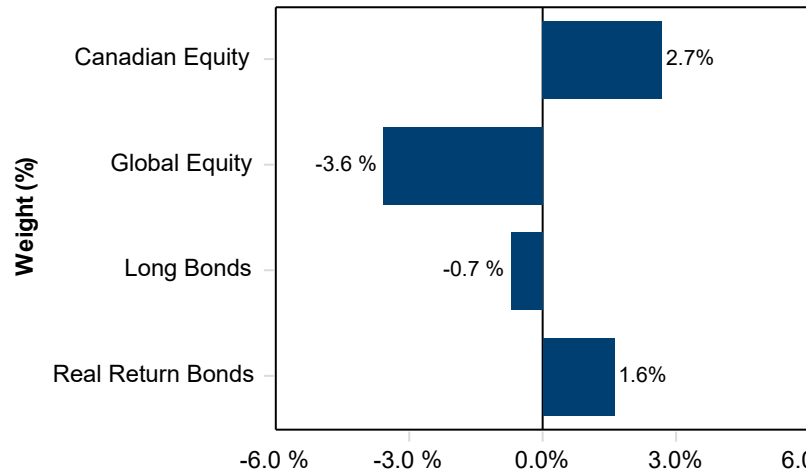
Total Value Added: 1.1%



1 Quarter

Total Asset Allocation: -0.2%

Total Asset Class Value Added: 1.3%



■ Active Weight

■ Asset Allocation Value Added

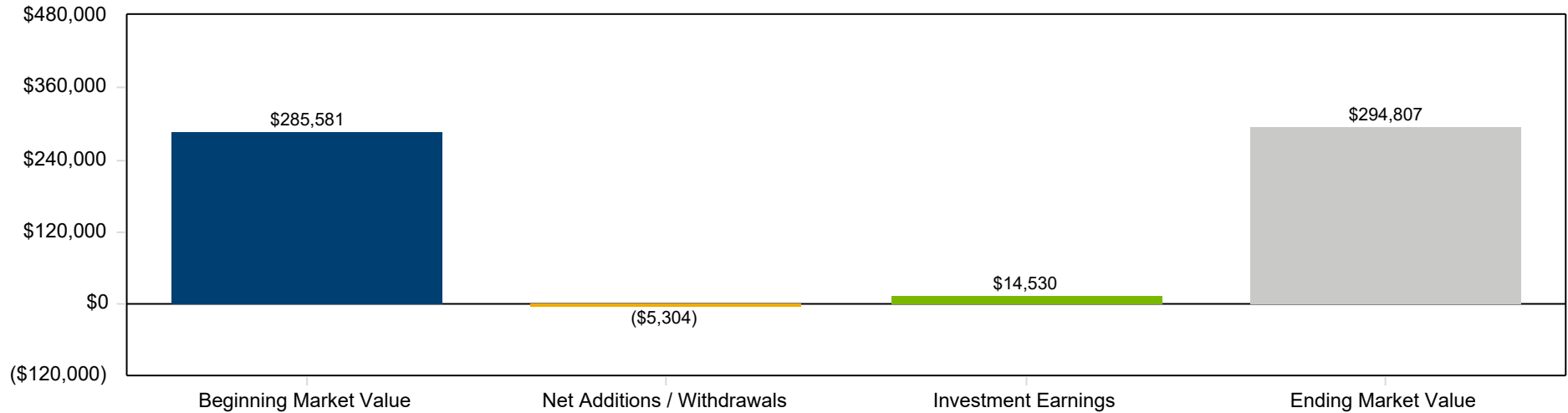
■ Asset Class Value Added

Total Fund

Total Fund Asset Summary

As of 31 December 2022

Change in Market Value (\$000)
 From 1 October 2022 to 31 December 2022



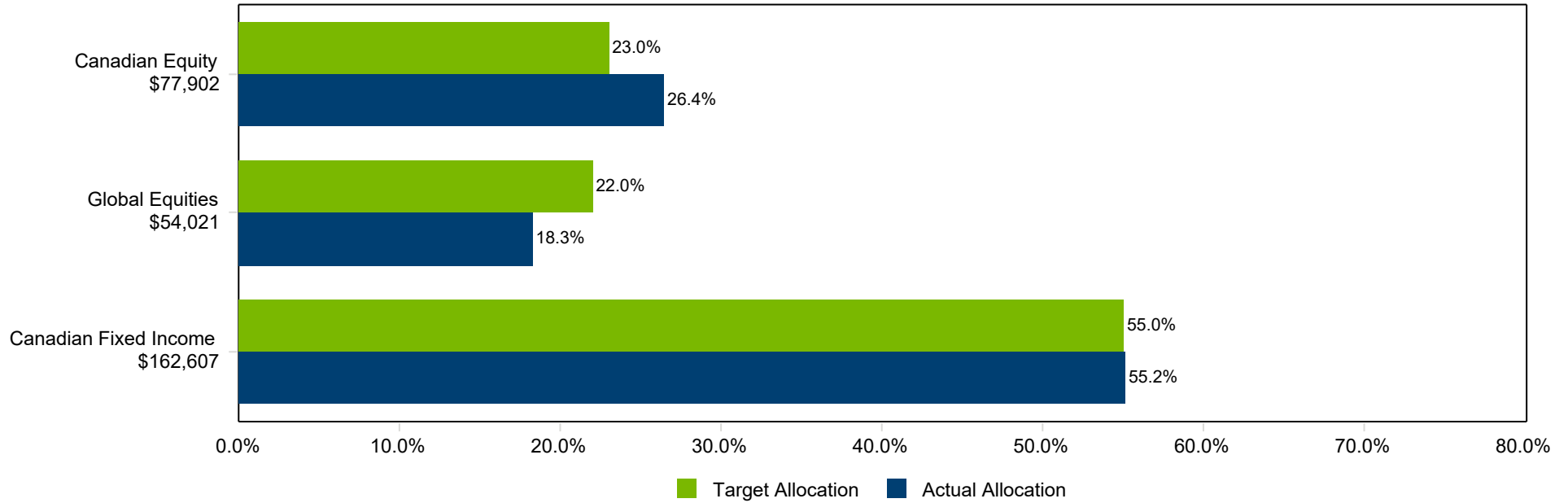
Summary of Cash Flows (\$000)

	1 Quarter	Year To Date	1 Year	4 Years
Total Fund				
Beginning Market Value	285,581	362,701	362,701	311,511
+/- Net Cash Flows	-5,304	-21,961	-21,961	-69,632
+/- Income	6,326	10,820	10,820	79,000
+/- Capital Gains / Losses	8,203	-56,753	-56,753	-26,073
= Ending Market Value	294,807	294,807	294,807	294,807

Total Fund

Asset Allocation Compliance

As of 31 December 2022 (\$000)

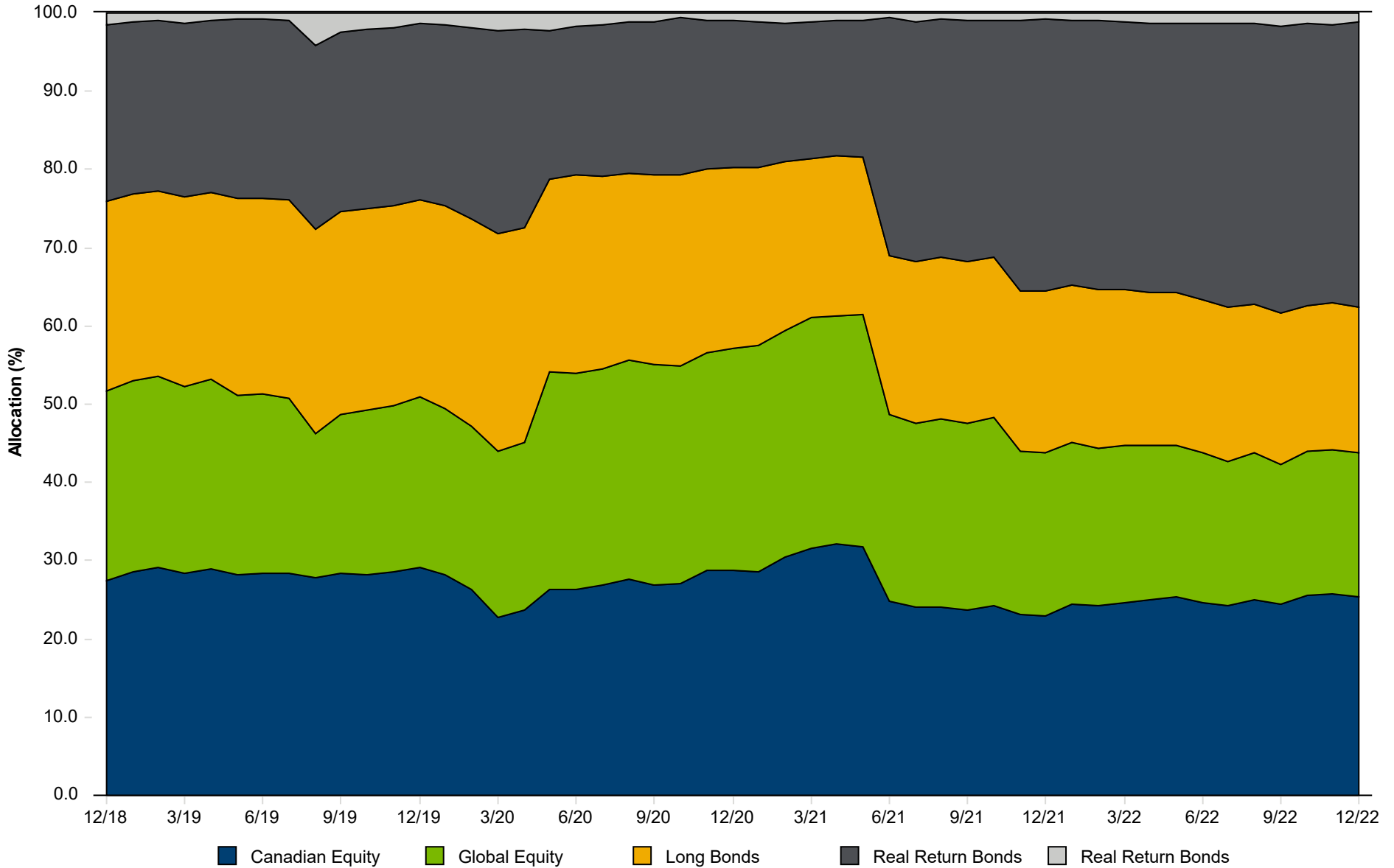


	Market Value (\$000)	Market Value (%)	Target Allocation (%)	Differences (%)	Minimum Allocation (%)	Maximum Allocation (%)	Within Range
Total Fund	294,807	100.0	100.0	0.0			
Canadian Equity	77,902	26.4	23.0	3.4	18.0	28.0	Yes
Global Equities	54,021	18.3	22.0	-3.7	17.0	27.0	Yes
Canadian Fixed Income	162,607	55.2	55.0	0.2	45.0	65.0	Yes

Total Fund

Historical Asset Allocation by Segment

4 Years Ending 31 December 2022
 Total Fund

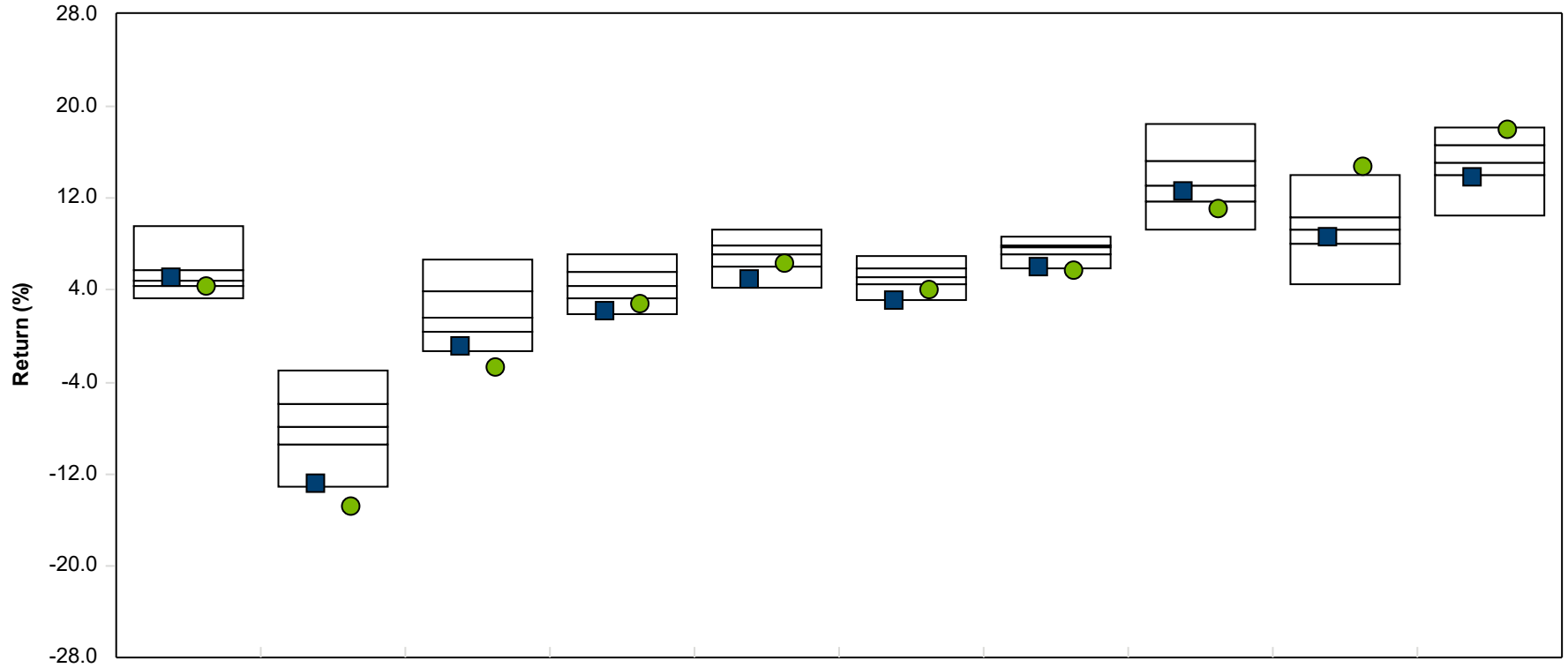


Total Fund

Peer Group Analysis

As of 31 December 2022

Balanced Funds



	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	1 Year Ending Dec-2021	1 Year Ending Dec-2020	1 Year Ending Dec-2019
■ Total Fund	5.1 (44)	-12.7 (93)	-0.9 (89)	2.2 (92)	5.0 (92)	3.1 (96)	6.1 (93)	12.6 (55)	8.7 (61)	13.8 (76)
● Benchmark	4.3 (78)	-14.8 (100)	-2.7 (100)	2.8 (84)	6.4 (72)	4.1 (88)	5.7 (97)	11.2 (81)	14.7 (5)	18.0 (6)
5th Percentile	9.6	-3.0	6.7	7.2	9.3	6.9	8.7	18.5	14.1	18.2
1st Quartile	5.7	-5.8	3.9	5.5	8.0	6.0	7.9	15.2	10.4	16.7
Median	4.9	-7.9	1.6	4.4	7.2	5.2	7.7	13.1	9.2	15.1
3rd Quartile	4.4	-9.4	0.4	3.3	6.1	4.5	7.1	11.7	8.1	14.0
95th Percentile	3.3	-13.0	-1.3	1.9	4.3	3.2	5.9	9.3	4.5	10.5
Population	49	49	49	49	49	49	49	50	51	52

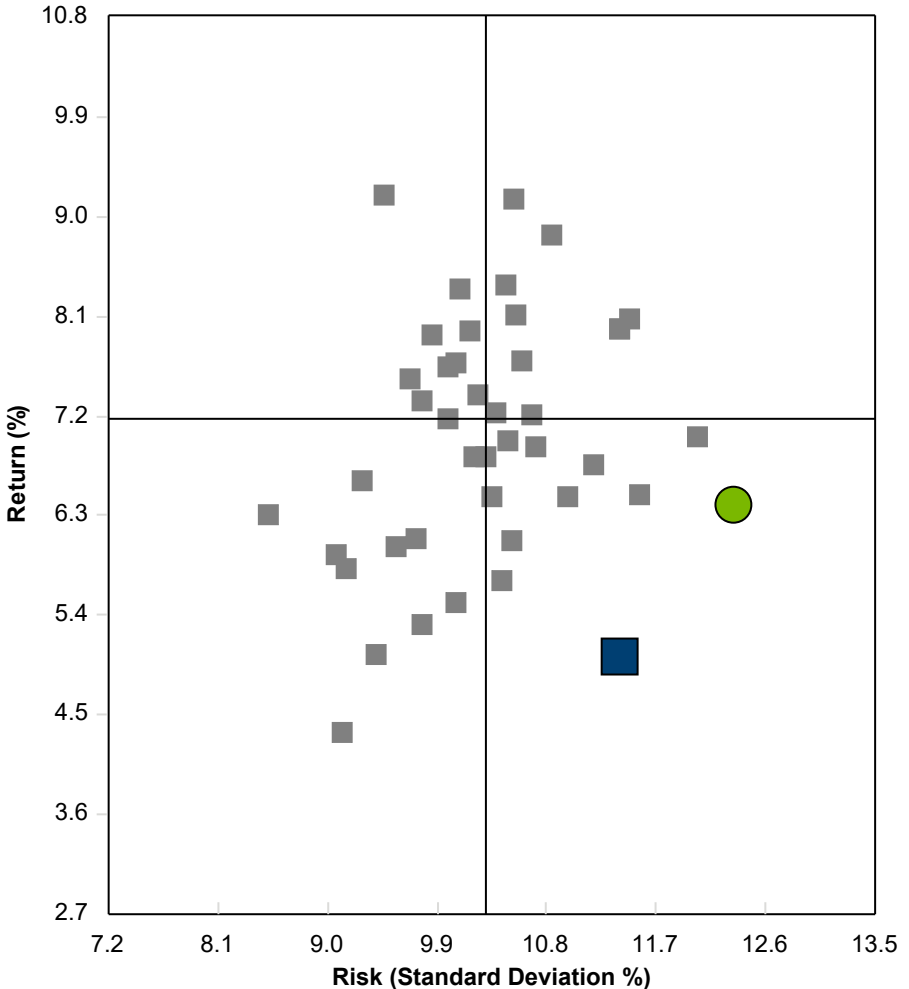
Parentheses contain percentile rankings.
Source: Aon Manager Universe

Total Fund

Peer Group Scattergram

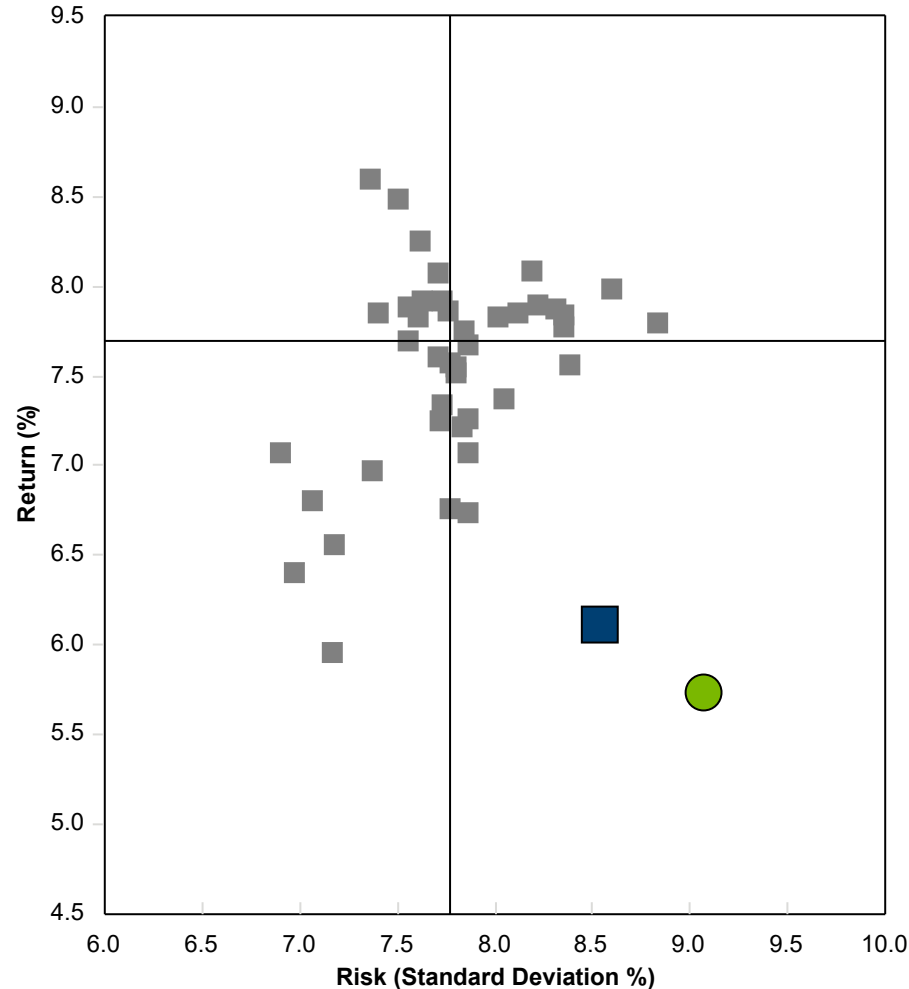
Periods Ending 31 December 2022
 Balanced Funds

4 Years



	Return	Standard Deviation
■ Total Fund	5.0	11.4
● Benchmark	6.4	12.3
— Median	7.2	10.3

10 Years



	Return	Standard Deviation
■ Total Fund	6.1	8.5
● Benchmark	5.7	9.1
— Median	7.7	7.8

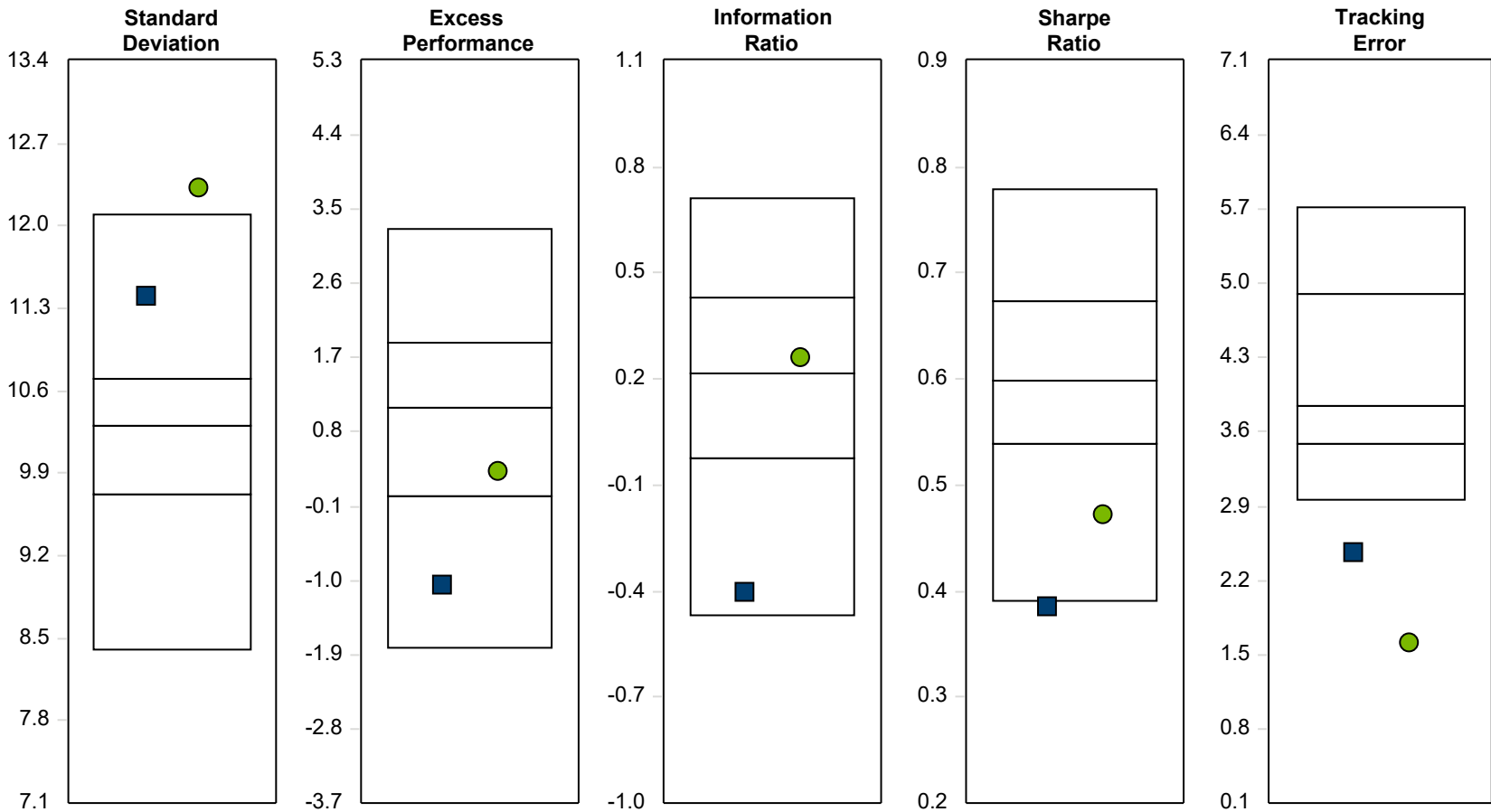
Source: Aon Manager Universe



Total Fund

Peer Group Analysis - Performance Statistics

As of 31 December 2022



	4 Years		4 Years		4 Years		4 Years		4 Years	
	Total Fund	Benchmark	Total Fund	Benchmark	Total Fund	Benchmark	Total Fund	Benchmark	Total Fund	Benchmark
Standard Deviation	11.4 (13)	12.3 (2)	-1.1 (92)	0.3 (72)	-0.4 (95)	0.3 (49)	0.4 (97)	0.5 (88)	2.5 (100)	1.6 (100)
Excess Performance										
Information Ratio										
Sharpe Ratio										
Tracking Error										
5th Percentile	12.1		3.3		0.7		0.8		5.7	
1st Quartile	10.7		1.9		0.4		0.7		4.9	
Median	10.3		1.1		0.2		0.6		3.9	
3rd Quartile	9.7		0.0		0.0		0.5		3.5	
95th Percentile	8.4		-1.8		-0.5		0.4		3.0	

Parentheses contain percentile rankings.
 Source: Aon Manager Universe



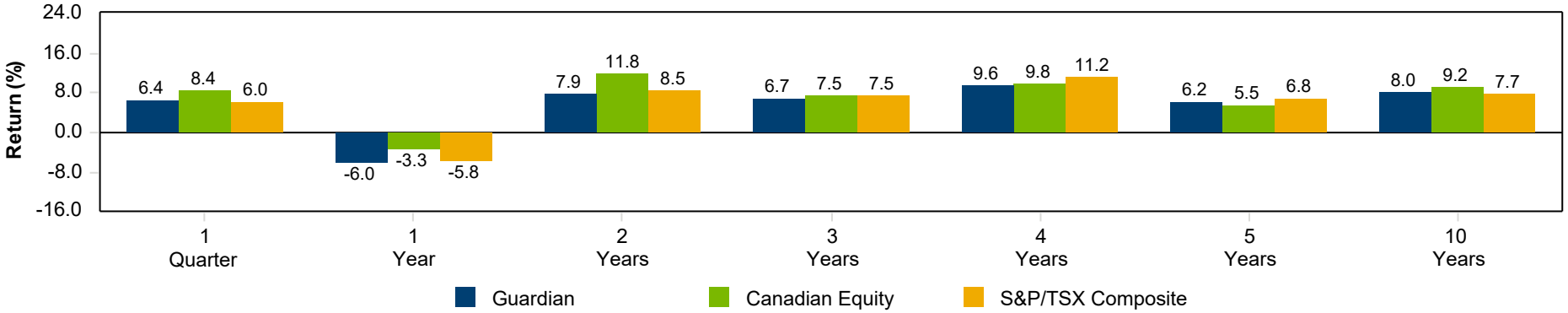
Asset Class Analysis

Canadian Equity

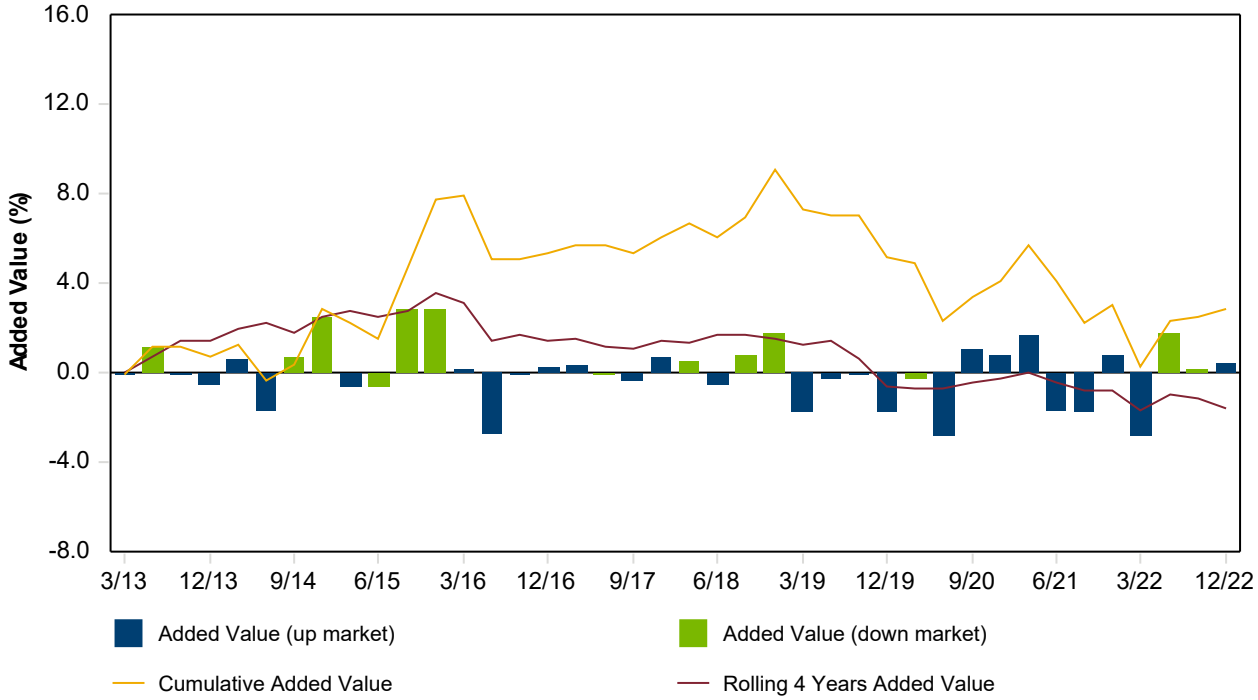
Guardian Performance Summary

As of 31 December 2022

Return Summary



Added Value History (%)



Performance Statistics

	Quarters	%
Market Capture		
Up Markets	27	91.8
Down Markets	13	79.5
Batting Average		
Up Markets	27	40.7
Down Markets	13	76.9
Overall	40	52.5



Canadian Equity

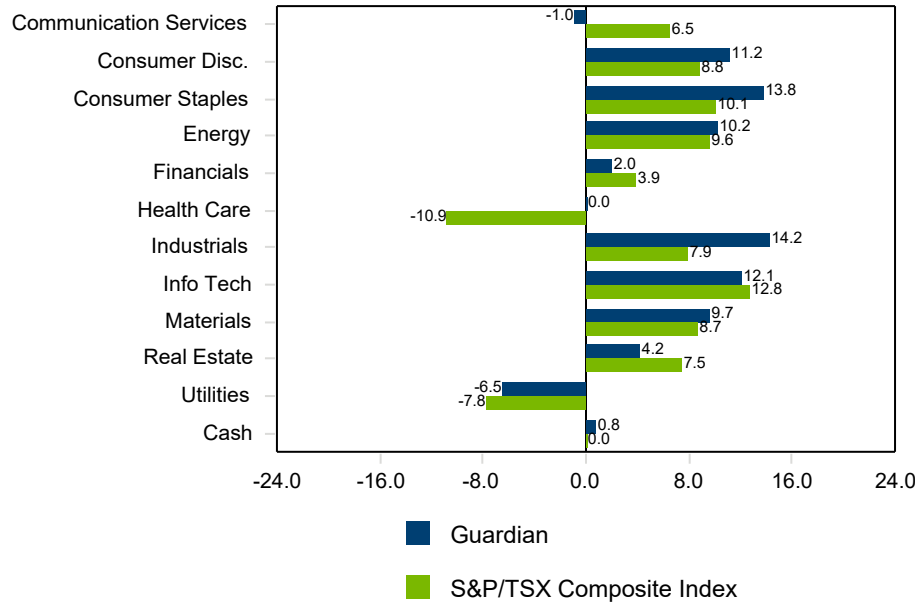
Guardian Portfolio Characteristics

As of 31 December 2022

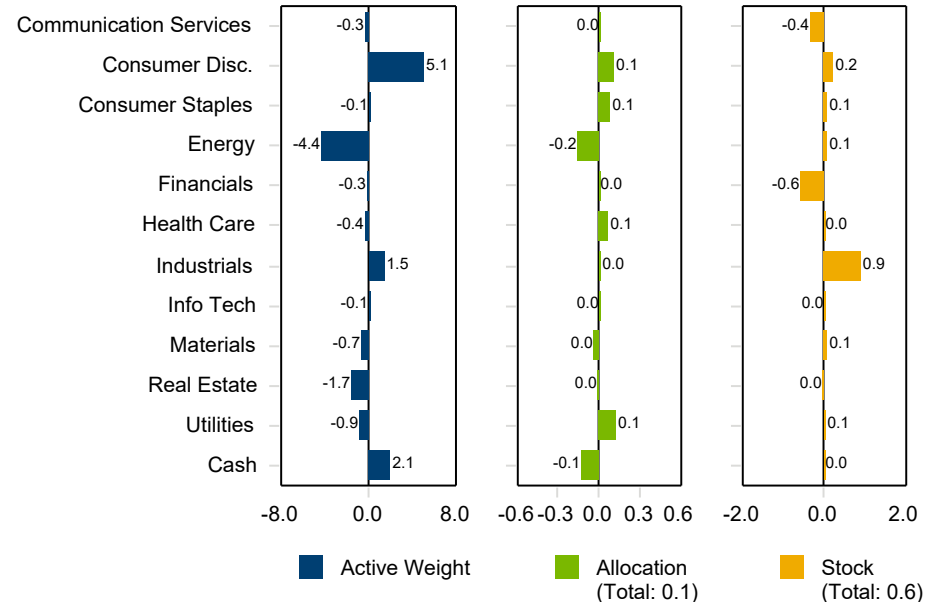
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	50,397	59,619
Median Mkt. Cap (\$M)	25,467	3,776
Price/Earnings ratio	12.6	11.5
Price/Book ratio	2.0	1.9
5 Yr. EPS Growth Rate (%)	14.4	14.7
Current Yield (%)	3.1	3.2
Return on Equity (%)	3.3	7.8
Debt to Equity (%)	149.7	231.3
Number of Holdings	41	236

Manager Top Ten Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Suncor Energy	6.73	2.06	4.67	11.74
Royal Bank of Canada	6.00	6.30	-0.30	3.41
Canadian Pacific Railway	4.93	3.34	1.59	9.68
Bank of Montreal	4.54	3.07	1.47	2.44
Canadian Natural Resources	4.35	2.96	1.39	18.27
CGI Group	3.99	0.88	3.11	12.23
TransCanada	3.34	1.94	1.40	-1.36
Restaurant Brands International	3.29	0.95	2.34	20.17
TELUS	3.18	1.33	1.85	-3.55
Intact Financial	3.09	1.21	1.88	0.21
% of Portfolio	43.44	24.04	19.40	

Sector Returns (%)



Sector Performance Attribution (%)

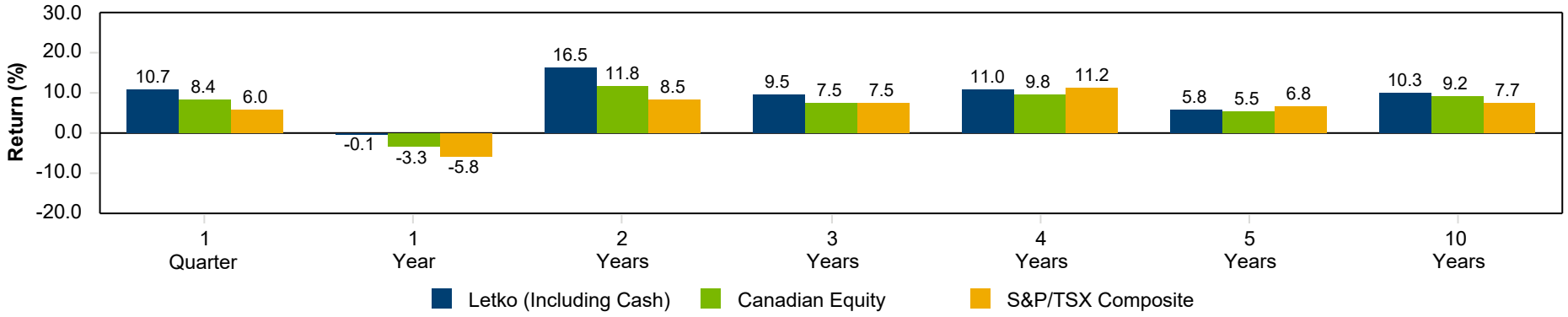


Canadian Equity

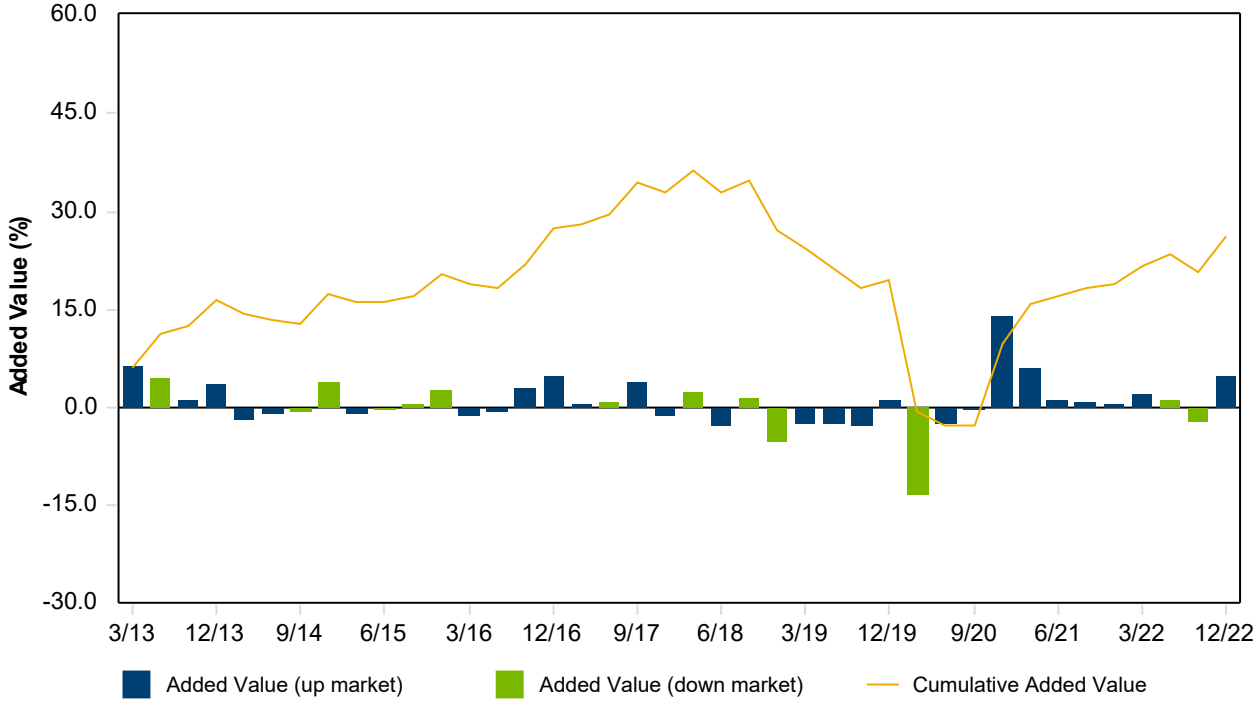
Letko Performance Summary

As of 31 December 2022

Return Summary



Added Value History (%)



Performance Statistics

	Quarters	%
Market Capture		
Up Markets	27	122.9
Down Markets	13	104.0
Batting Average		
Up Markets	27	55.6
Down Markets	13	61.5
Overall	40	57.5



Canadian Equity

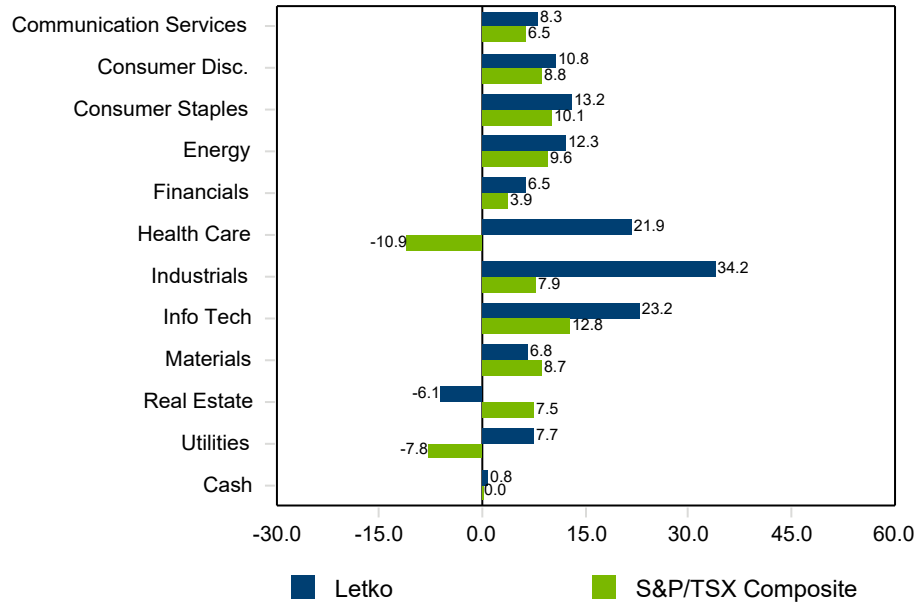
Letko Portfolio Characteristics

As of 31 December 2022

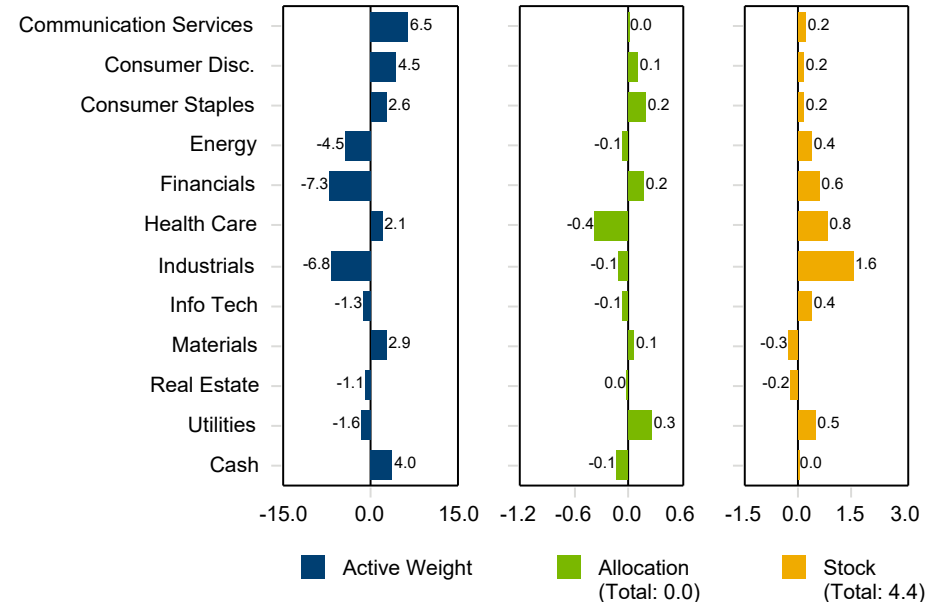
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	46,845	59,619
Median Mkt. Cap (\$M)	19,633	3,776
Price/Earnings ratio	7.9	11.5
Price/Book ratio	1.7	1.9
5 Yr. EPS Growth Rate (%)	12.4	14.7
Current Yield (%)	3.3	3.2
Return on Equity (%)	3.1	7.8
Debt to Equity (%)	105.9	231.3
Number of Holdings	95	236

Manager Top Ten Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Manulife Financial	3.32	1.62	1.70	12.97
George Weston	3.25	0.39	2.86	16.58
Toronto-Dominion Bank	2.94	5.66	-2.72	4.59
Bank of Montreal	2.79	3.07	-0.28	2.44
Rogers Communications	2.72	0.79	1.93	20.07
Bank of Nova Scotia	2.58	2.81	-0.23	2.56
Royal Bank of Canada	2.56	6.30	-3.74	3.41
BCE	2.35	1.93	0.42	4.24
Teck Resources	2.33	0.82	1.51	22.10
Linamar	2.32	0.09	2.23	14.27
% of Portfolio	27.16	23.48	3.68	

Sector Returns (%)



Sector Performance Attribution (%)

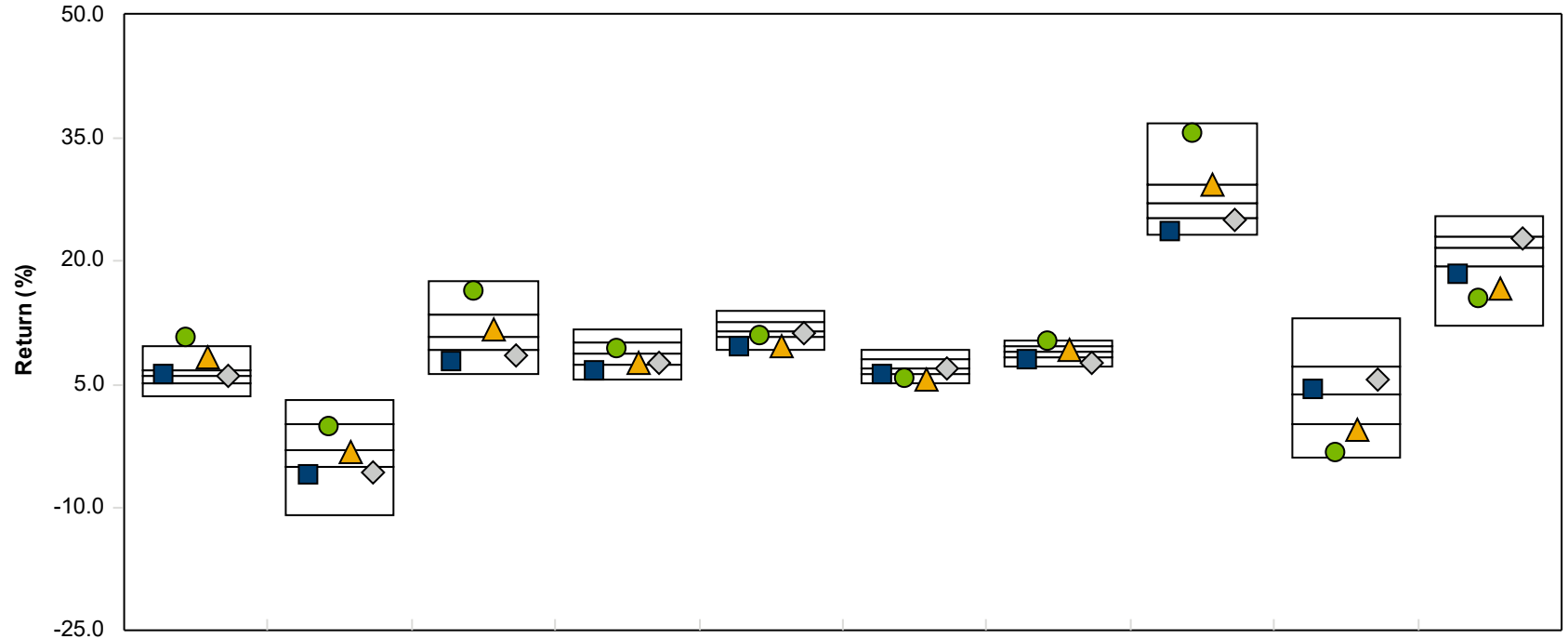


Canadian Equity

Peer Group Analysis

As of 31 December 2022

Canadian Equity



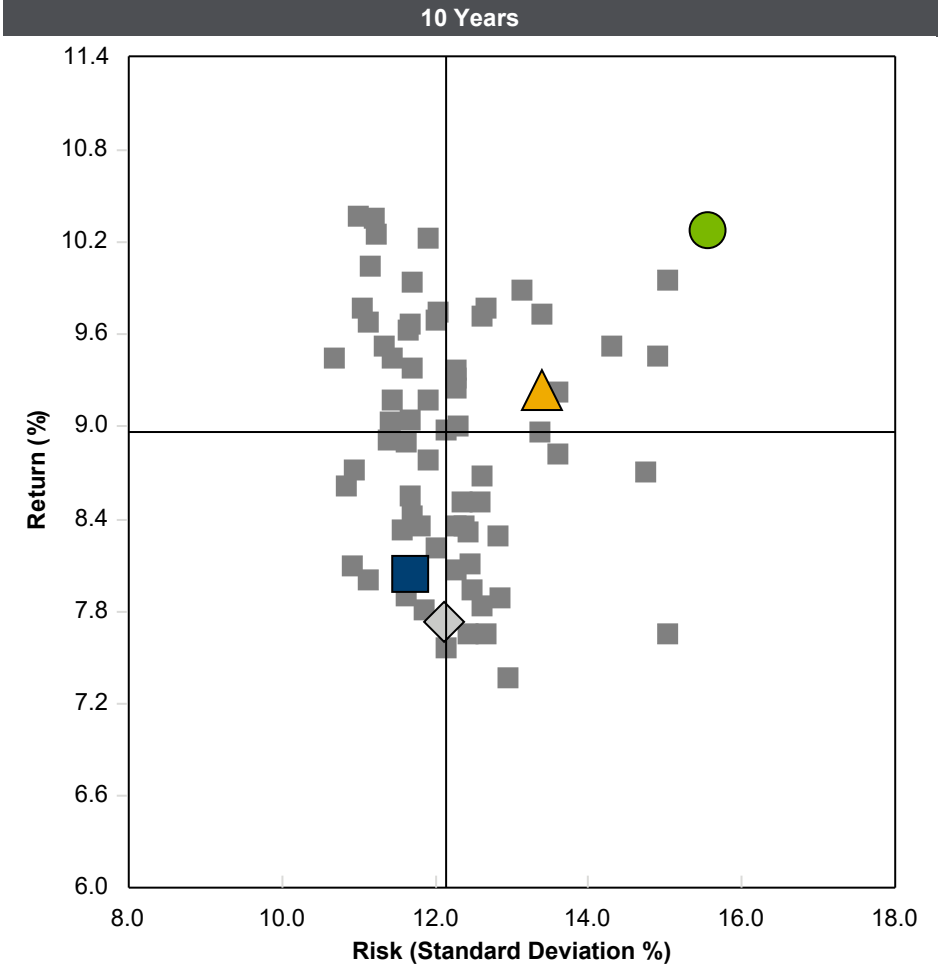
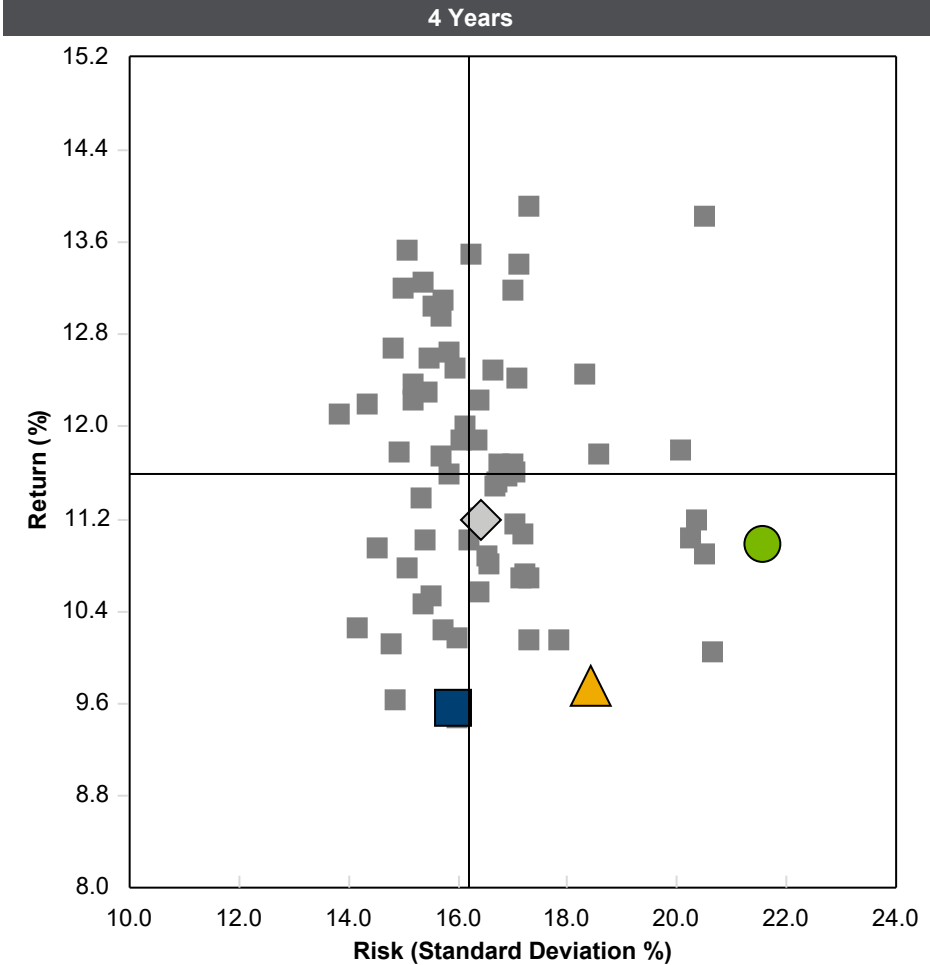
	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	1 Year Ending Dec-2021	1 Year Ending Dec-2020	1 Year Ending Dec-2019
■ Guardian	6.4 (36)	-6.0 (88)	7.9 (92)	6.7 (88)	9.6 (93)	6.2 (80)	8.0 (81)	23.8 (90)	4.5 (45)	18.5 (83)
● Letko	10.7 (2)	-0.1 (29)	16.5 (10)	9.5 (35)	11.0 (68)	5.8 (91)	10.3 (9)	35.8 (7)	-3.2 (95)	15.6 (91)
▲ Total Canadian Equities	8.4 (12)	-3.3 (53)	11.8 (38)	7.5 (73)	9.8 (92)	5.5 (94)	9.2 (40)	29.3 (28)	-0.5 (78)	16.7 (90)
◆ S&P/TSX Composite	6.0 (50)	-5.8 (86)	8.5 (87)	7.5 (73)	11.2 (61)	6.8 (59)	7.7 (89)	25.1 (76)	5.6 (37)	22.9 (30)
5th Percentile	9.7	3.0	17.5	11.6	14.0	9.2	10.4	36.8	13.0	25.6
1st Quartile	6.7	0.2	13.6	10.1	12.6	8.0	9.7	29.5	7.3	23.1
Median	5.9	-3.0	10.7	8.8	11.6	7.0	9.0	27.1	3.8	21.6
3rd Quartile	5.1	-5.1	9.1	7.5	10.7	6.3	8.3	25.2	0.1	19.3
95th Percentile	3.6	-11.1	6.3	5.5	9.3	5.2	7.2	23.2	-3.9	12.2
Population	85	85	85	85	85	85	85	85	88	97

Parentheses contain percentile rankings.
 Source: Aon Manager Universe

Canadian Equity

Peer Group Scattergram

Periods Ending 31 December 2022
 Canadian Equity



	Return	Standard Deviation
Guardian	9.6	15.9
Letko	11.0	21.6
Canadian Equity	9.8	18.4
S&P/TSX Composite	11.2	16.4
— Median	11.6	16.2

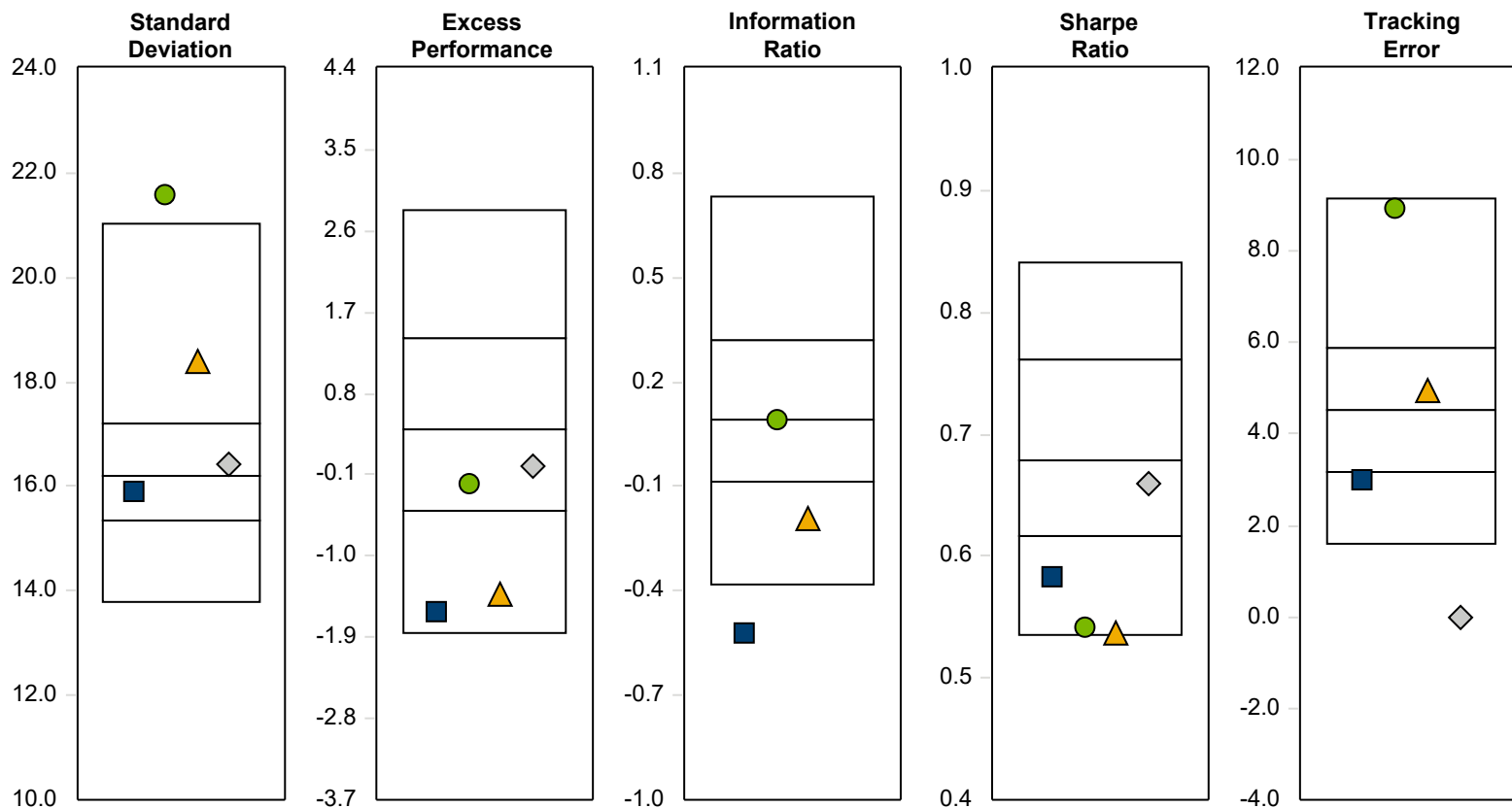
	Return	Standard Deviation
Guardian	8.0	11.7
Letko	10.3	15.5
Canadian Equity	9.2	13.4
S&P/TSX Composite	7.7	12.1
— Median	9.0	12.1

Source: Aon Manager Universe



Peer Group Analysis - Performance Statistics

As of 31 December 2022



	4 Years	4 Years	4 Years	4 Years	4 Years
■ Guardian	15.9 (57)	-1.6 (93)	-0.5 (98)	0.6 (85)	3.0 (78)
● Letko	21.6 (4)	-0.2 (68)	0.1 (50)	0.5 (95)	9.0 (6)
▲ Total Canadian Equities	18.4 (16)	-1.4 (92)	-0.2 (85)	0.5 (95)	5.0 (39)
◆ S&P/TSX Composite	16.4 (44)	0.0 (61)	N/A	0.7 (61)	0.0 (100)
5th Percentile	21.0	2.8	0.7	0.8	9.1
1st Quartile	17.2	1.4	0.3	0.8	5.9
Median	16.2	0.4	0.1	0.7	4.5
3rd Quartile	15.3	-0.5	-0.1	0.6	3.2
95th Percentile	13.8	-1.9	-0.4	0.5	1.6

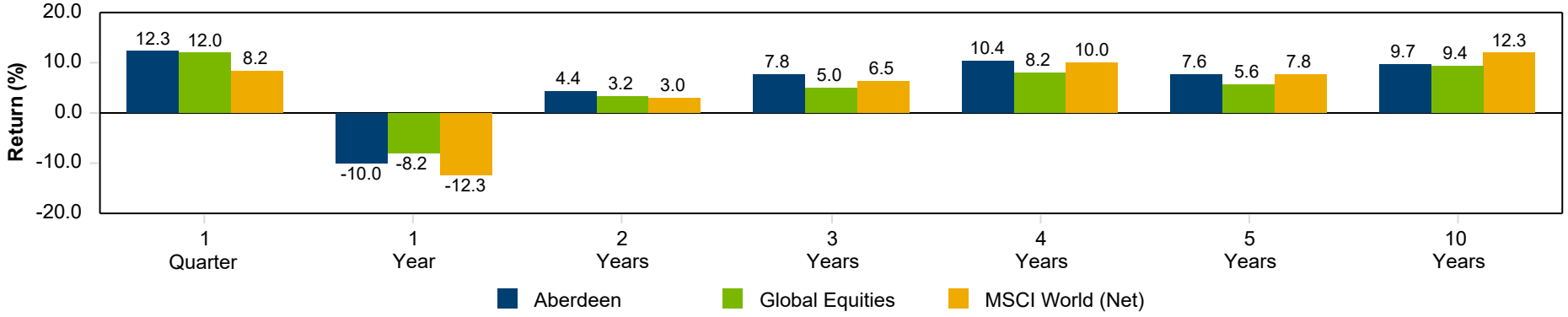
Parentheses contain percentile rankings.
 Source: Aon Manager Universe

Global Equity

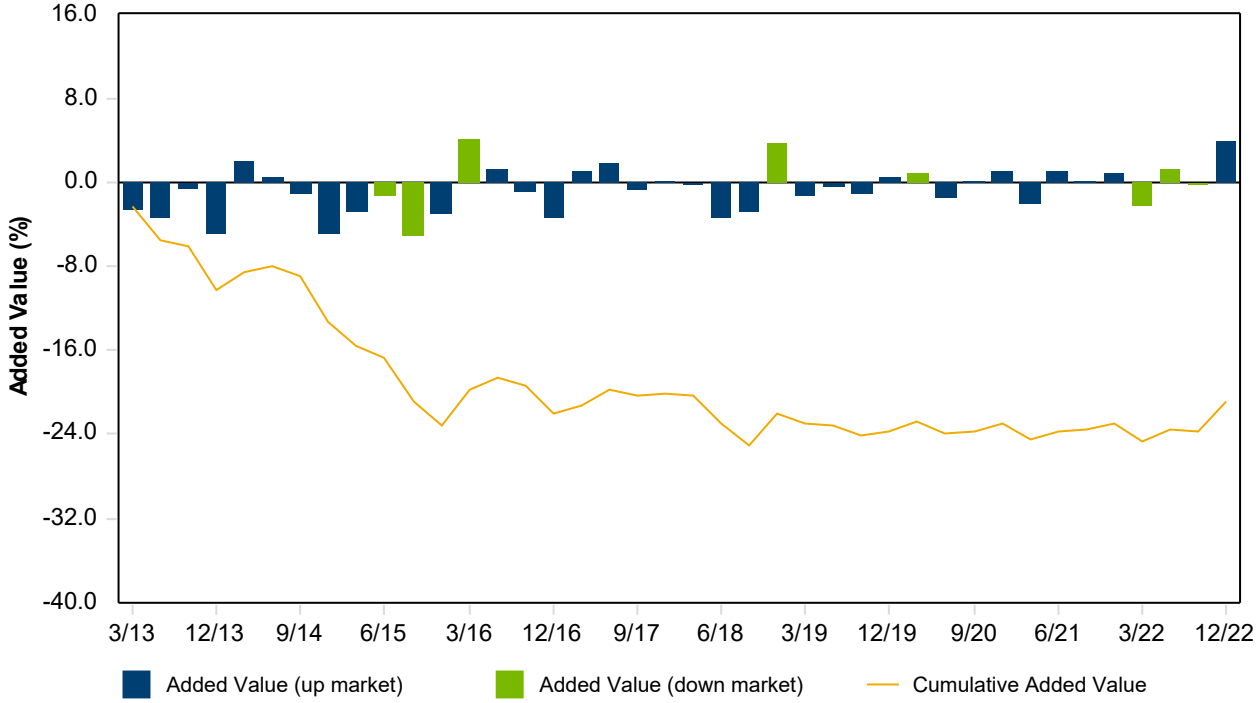
Aberdeen Performance Summary

As of 31 December 2022

Return Summary



Added Value History (%)



Performance Statistics

	Quarters	%
Market Capture		
Up Markets	32	85.3
Down Markets	8	97.4
Batting Average		
Up Markets	32	40.6
Down Markets	8	50.0
Overall	40	42.5



Global Equity

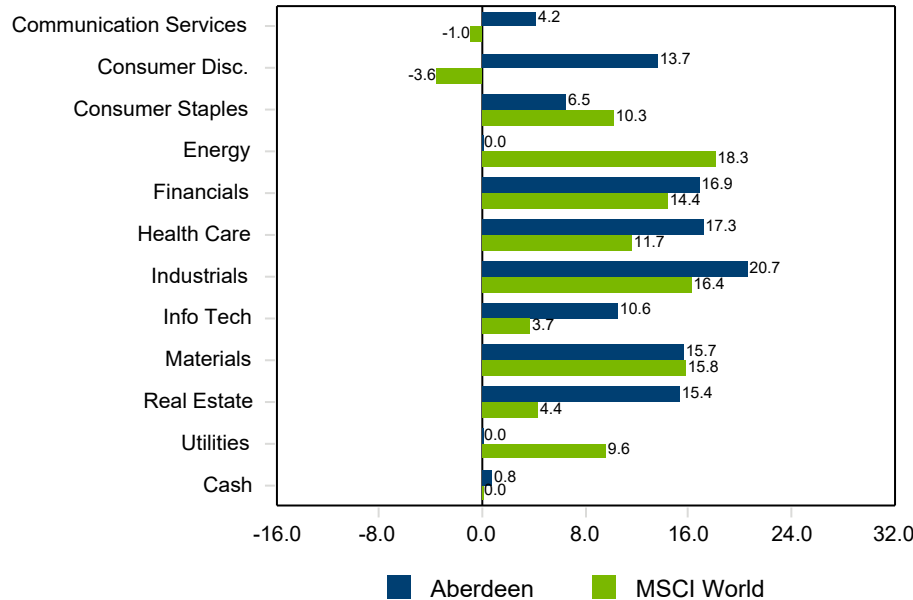
Aberdeen Portfolio Characteristics

As of 31 December 2022

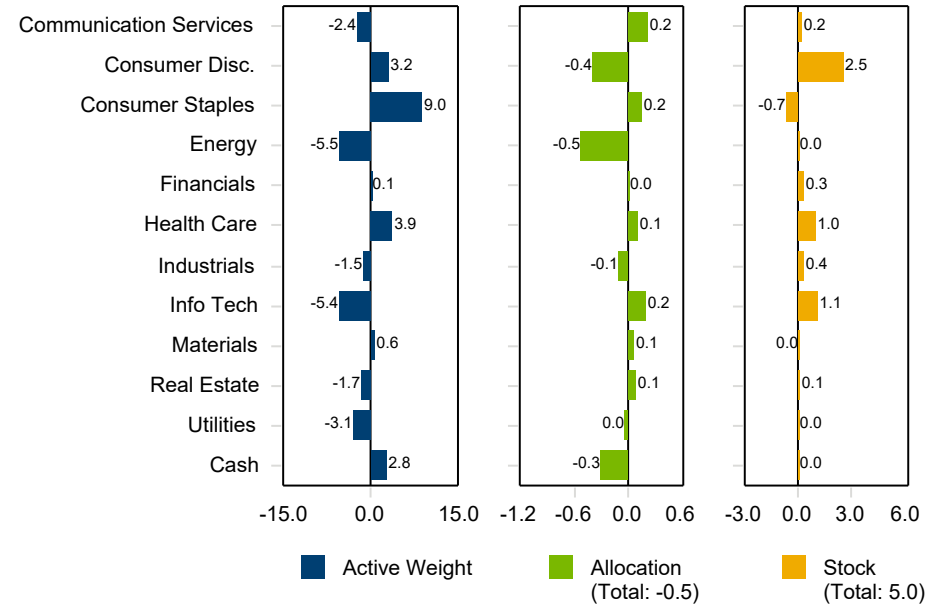
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	342,353	397,049
Median Mkt. Cap (\$M)	128,422	22,015
Price/Earnings ratio	25.5	16.5
Price/Book ratio	4.4	3.3
5 Yr. EPS Growth Rate (%)	13.2	15.8
Current Yield (%)	1.6	2.3
Return on Equity (%)	8.0	9.6
Debt to Equity (%)	88.2	114.1
Number of Holdings	46	1,508

Manager Top Ten Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Microsoft	4.47	3.41	1.06	1.82
TJX Companies	3.19	0.19	3.00	26.89
AIA Group	3.15	0.27	2.88	31.53
Novo Nordisk	3.12	0.45	2.67	32.33
AstraZeneca	2.99	0.42	2.57	19.87
LVMH	2.98	0.40	2.58	20.49
Nike	2.93	0.30	2.63	39.24
Schneider Electric	2.89	0.15	2.74	20.09
Nestle	2.88	0.64	2.24	4.96
Taiwan Semiconductor ADR	2.87	0.00	2.87	7.76
% of Portfolio	31.47	6.23	25.24	

Sector Returns (%)



Sector Performance Attribution (%)

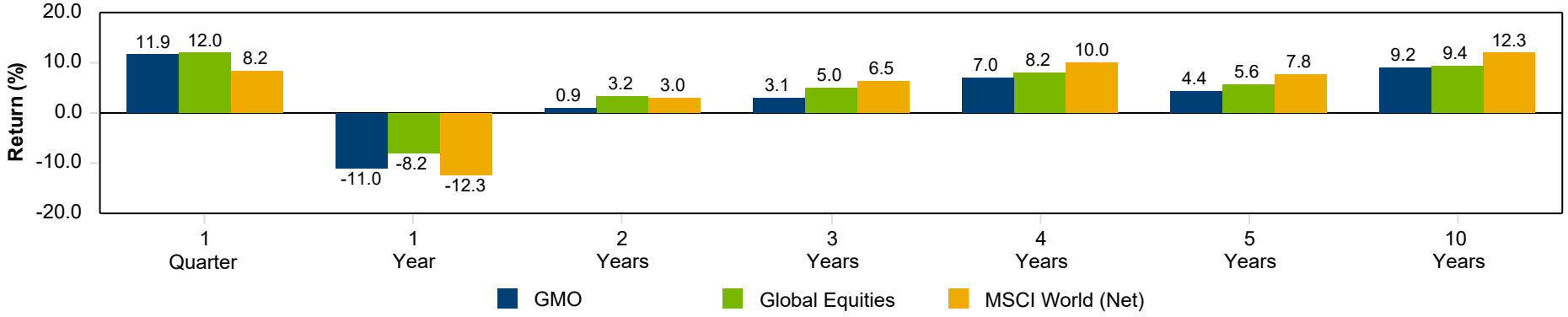


Global Equity

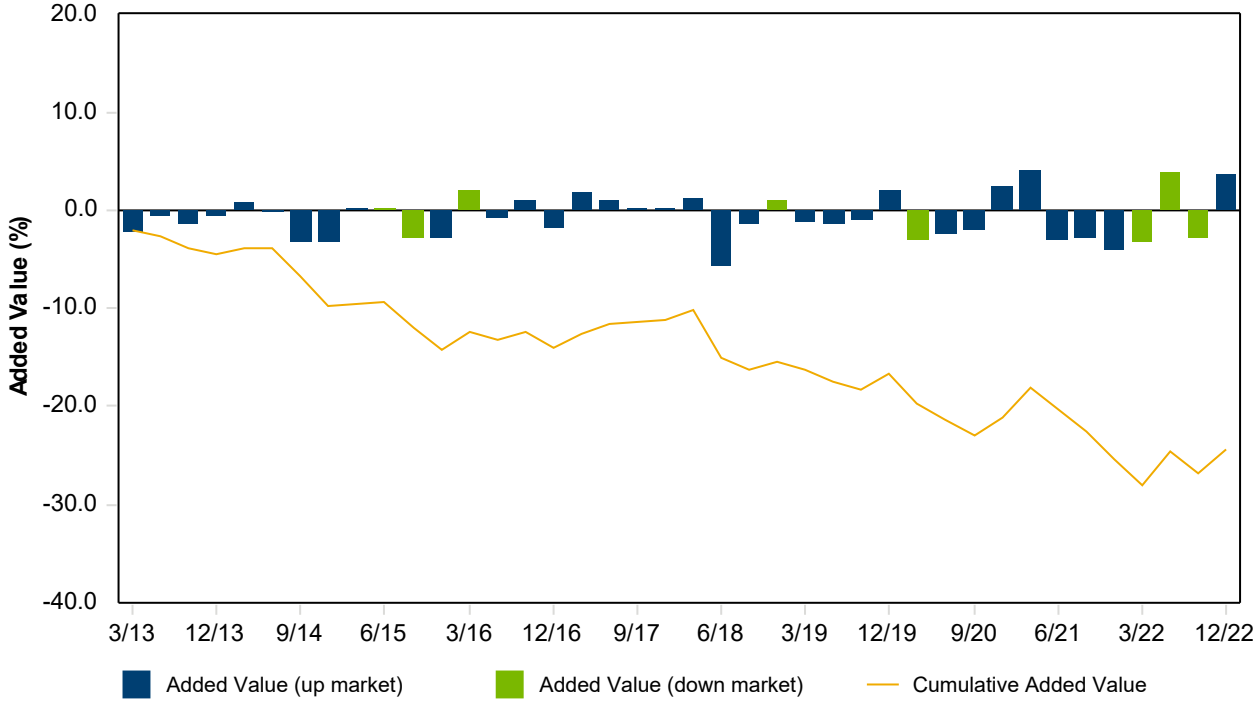
GMO Performance Summary

As of 31 December 2022

Return Summary



Added Value History (%)



Performance Statistics

	Quarters	%
Market Capture		
Up Markets	32	86.8
Down Markets	8	109.1
Batting Average		
Up Markets	32	37.5
Down Markets	8	50.0
Overall	40	40.0



Global Equity

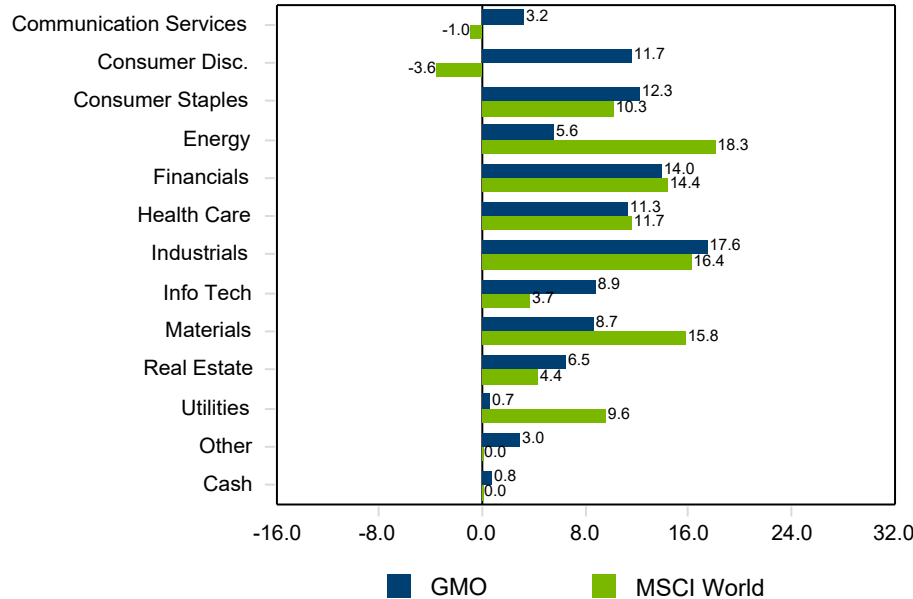
GMO Portfolio Characteristics

As of 31 December 2022

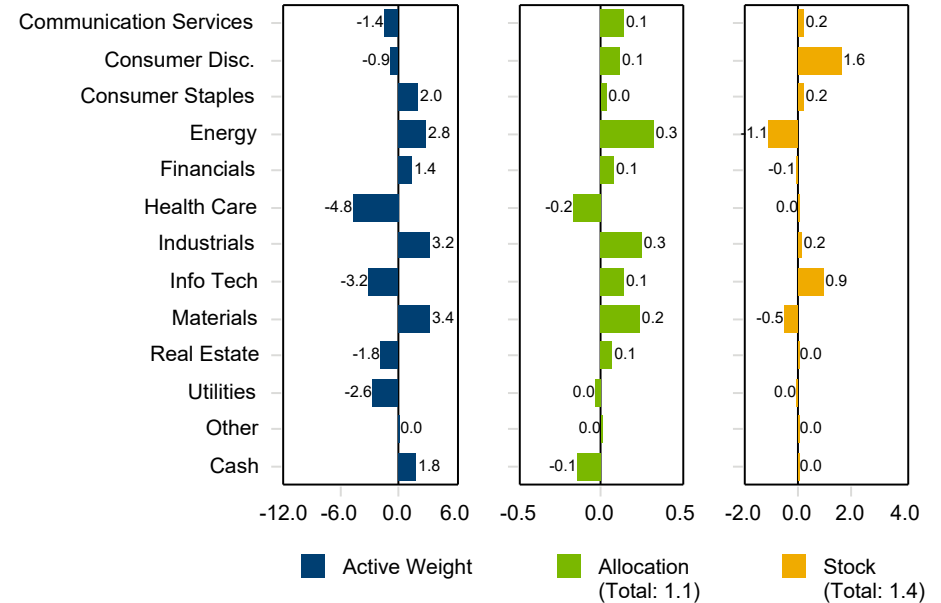
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	144,055	397,049
Median Mkt. Cap (\$M)	4,343	22,015
Price/Earnings ratio	8.9	16.5
Price/Book ratio	2.2	3.3
5 Yr. EPS Growth Rate (%)	16.4	15.8
Current Yield (%)	4.6	2.3
Return on Equity (%)	6.0	9.6
Debt to Equity (%)	75.2	114.1
Number of Holdings	1,340	1,508

Manager Top Ten Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Roche	1.30	0.44	0.86	-5.78
Samsung Electronics	0.99	0.00	0.99	16.19
Total	0.95	0.31	0.64	32.78
Sanofi	0.90	0.22	0.68	23.10
Microsoft	0.89	3.41	-2.52	1.82
Rio Tinto Group	0.88	0.06	0.82	29.65
British American Tobacco	0.87	0.17	0.70	9.84
Banco Bilbao Vizcaya Argentaria	0.86	0.07	0.79	34.39
KDDI	0.82	0.10	0.72	1.52
Itochu	0.81	0.07	0.74	28.11
% of Portfolio	9.27	4.85	4.42	

Sector Returns (%)



Sector Performance Attribution (%)

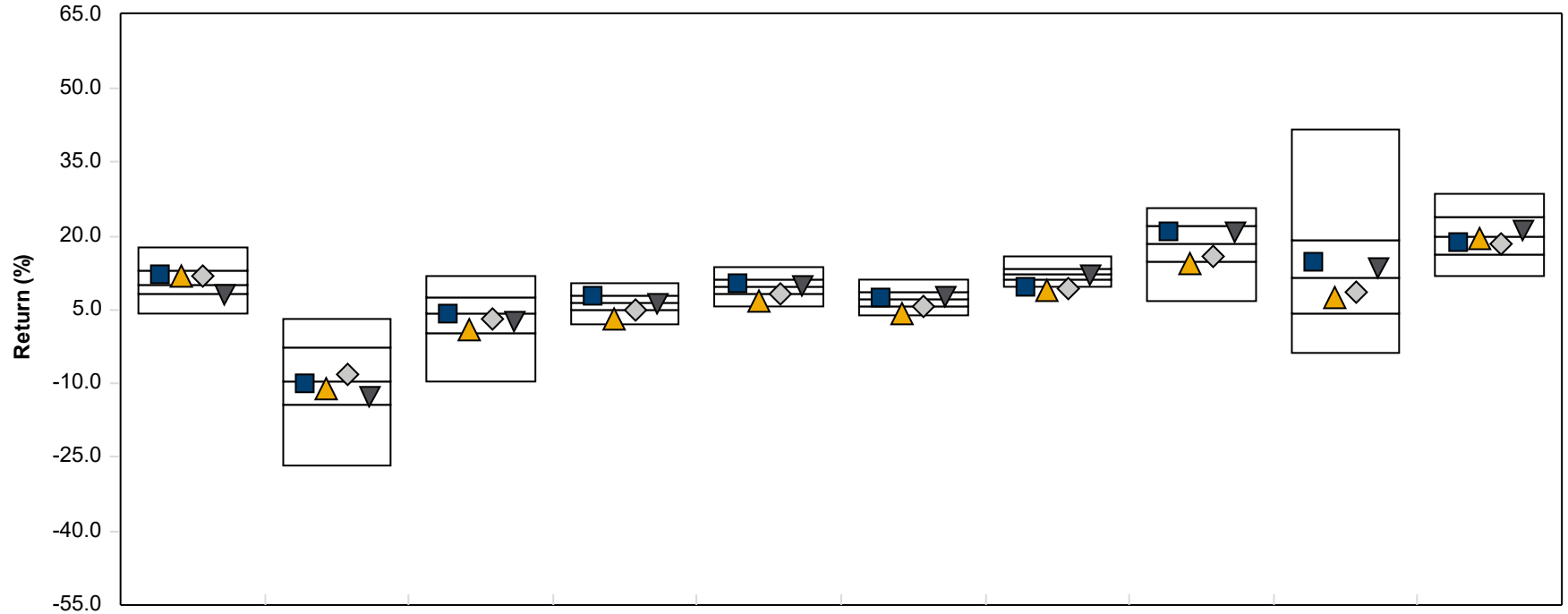


Global Equity

Peer Group Analysis

As of 31 December 2022

Global Equity



	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	1 Year Ending Dec-2021	1 Year Ending Dec-2020	1 Year Ending Dec-2019
■ Aberdeen	12.3 (31)	-10.0 (53)	4.4 (50)	7.8 (26)	10.4 (36)	7.6 (45)	9.7 (94)	21.1 (30)	14.9 (41)	18.7 (61)
▲ GMO	11.9 (35)	-11.0 (62)	0.9 (73)	3.1 (92)	7.0 (88)	4.4 (93)	9.2 (97)	14.5 (77)	7.7 (63)	19.5 (57)
◆ Global Equities	12.0 (34)	-8.2 (44)	3.2 (56)	5.0 (73)	8.2 (75)	5.6 (79)	9.4 (96)	16.1 (67)	8.6 (58)	18.3 (63)
▼ MSCI World (Net)	8.2 (76)	-12.3 (67)	3.0 (57)	6.5 (47)	10.0 (47)	7.8 (41)	12.3 (53)	21.0 (31)	13.9 (45)	21.4 (40)
5th Percentile	17.6	3.2	11.9	10.4	13.7	11.1	16.0	25.8	41.8	28.6
1st Quartile	12.9	-2.7	7.4	7.8	11.1	8.7	13.5	21.9	19.1	23.9
Median	10.2	-9.4	4.2	6.4	9.7	7.3	12.4	18.4	11.5	20.1
3rd Quartile	8.3	-14.4	0.4	4.8	8.2	5.9	11.3	14.9	4.4	16.2
95th Percentile	4.2	-26.5	-9.7	2.1	5.7	4.0	9.6	6.7	-3.6	11.8
Population	275	275	275	275	275	275	275	294	318	352

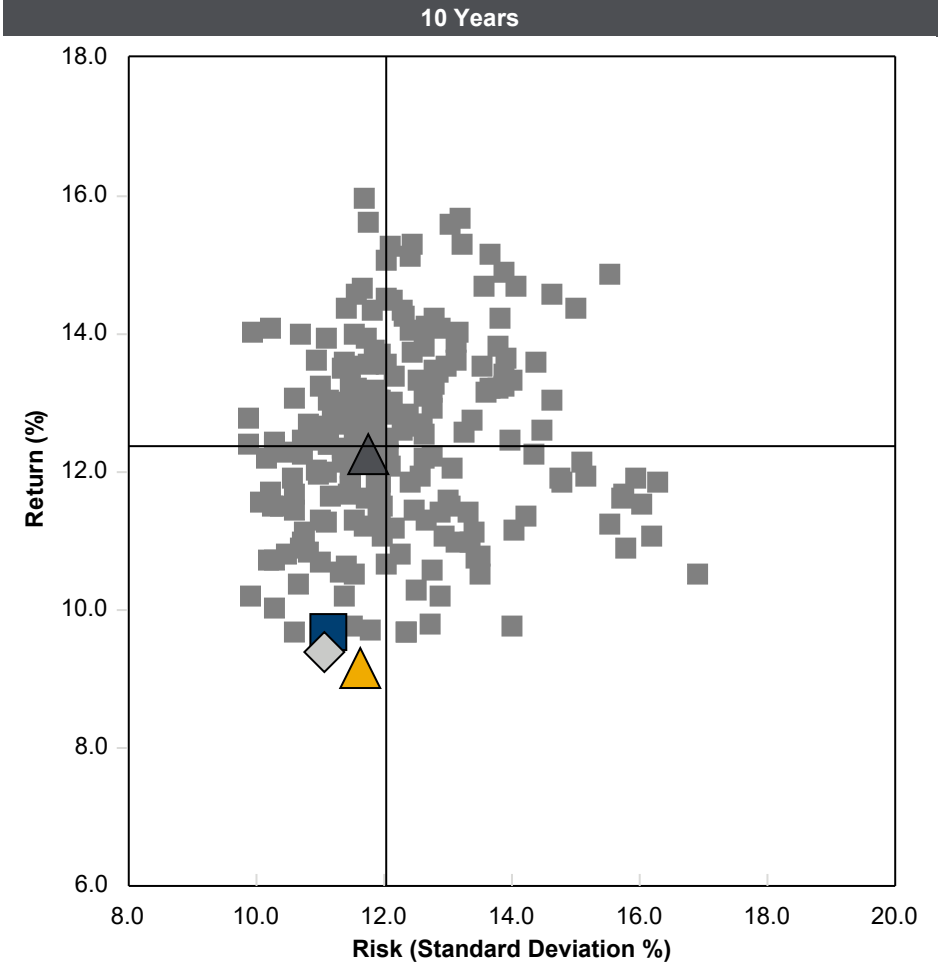
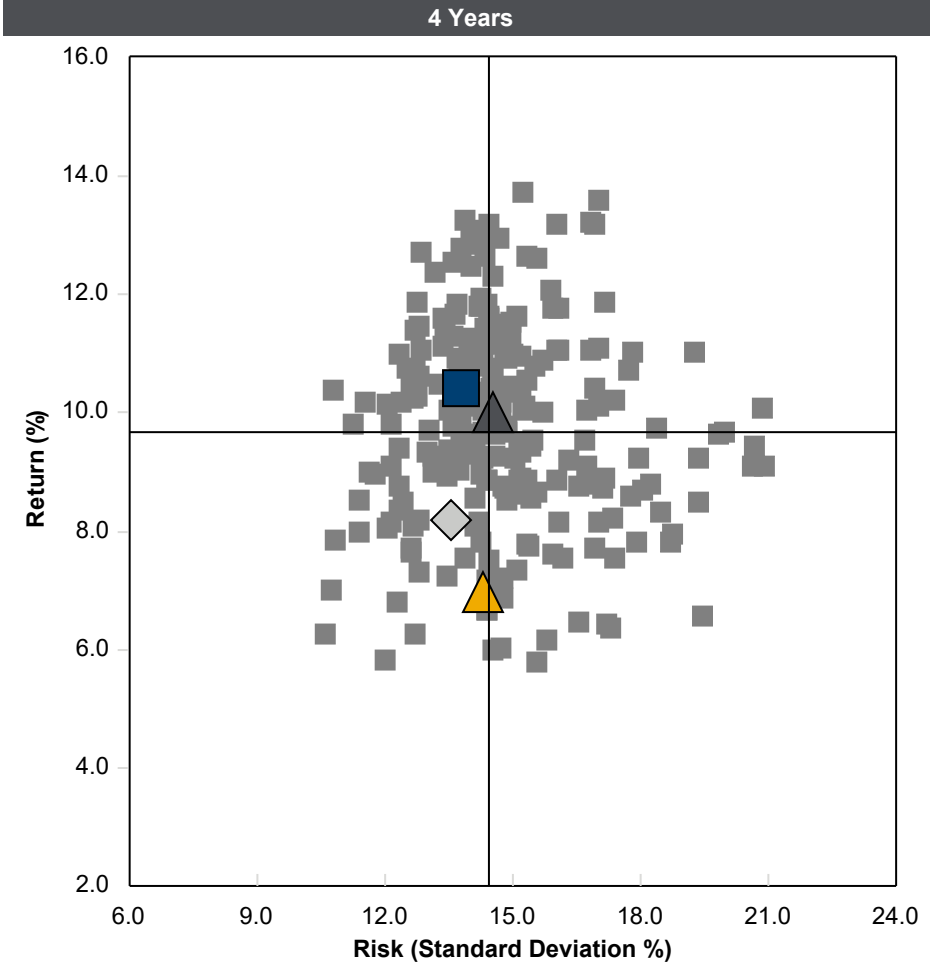
Parentheses contain percentile rankings.
 Source: Aon Manager Universe

Global Equity

Peer Group Scattergram

Periods Ending 31 December 2022

Global Equity



	Return	Standard Deviation
■ Aberdeen	10.4	13.8
▲ GMO	7.0	14.3
◇ Global Equities	8.2	13.5
▲ MSCI World (Net)	10.0	14.5
— Median	9.7	14.4

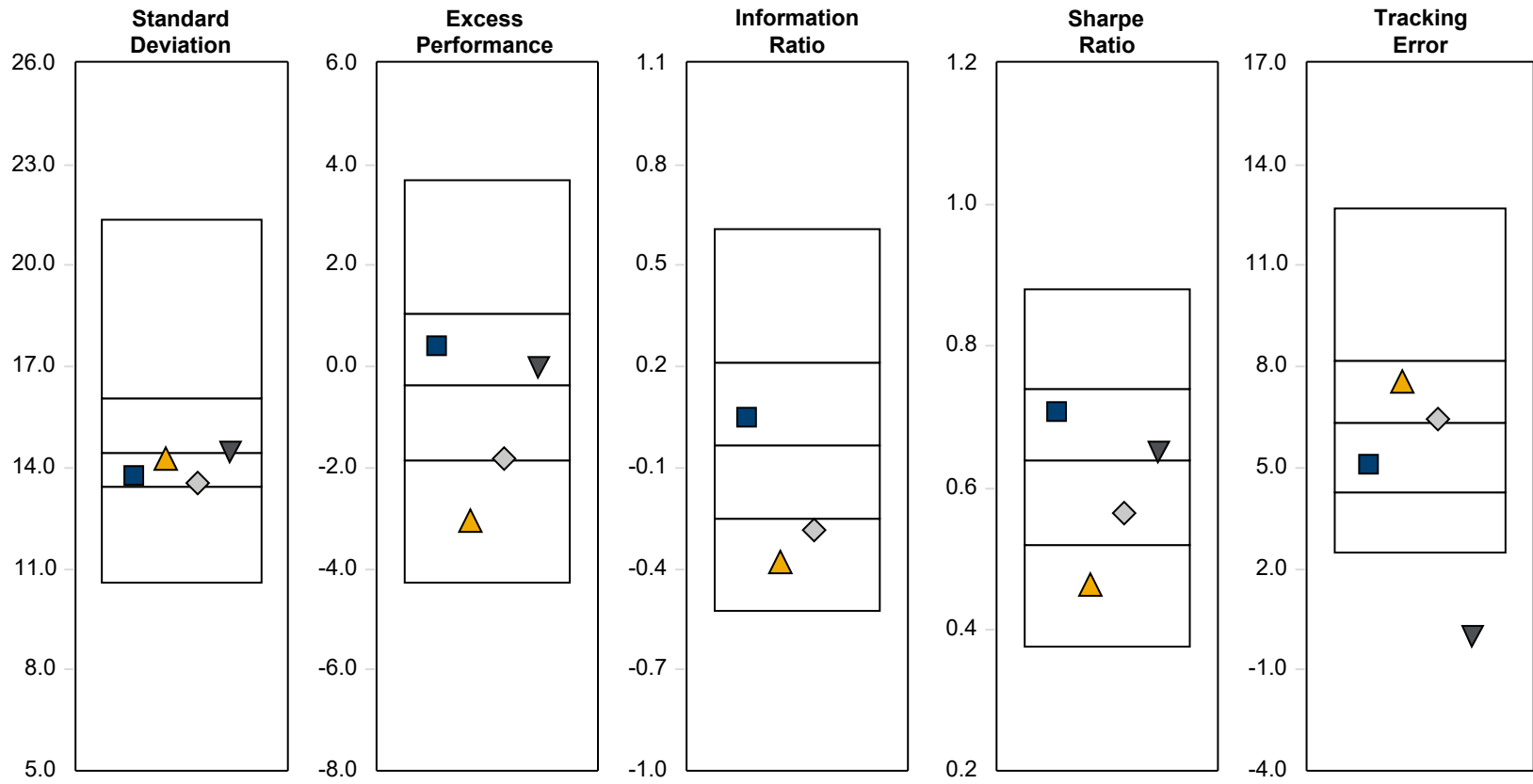
	Return	Standard Deviation
■ Aberdeen	9.7	11.1
▲ GMO	9.2	11.6
◇ Global Equities	9.4	11.1
▲ MSCI World (Net)	12.3	11.7
— Median	12.4	12.0

Source: Aon Manager Universe



Peer Group Analysis - Performance Statistics

As of 31 December 2022



	Standard Deviation		Excess Performance		Information Ratio		Sharpe Ratio		Tracking Error	
	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years
■ Aberdeen	13.8 (68)	0.4 (36)	0.1 (40)	0.7 (32)	5.1 (65)					
▲ GMO	14.3 (56)	-3.0 (88)	-0.4 (86)	0.5 (86)	7.5 (33)					
◇ Global Equities	13.5 (74)	-1.8 (75)	-0.3 (79)	0.6 (67)	6.4 (49)					
▼ MSCI World (Net)	14.5 (48)	0.0 (47)	N/A	0.7 (47)	0.0 (100)					
5th Percentile	21.4	3.7	0.6	0.9	12.7					
1st Quartile	16.0	1.1	0.2	0.7	8.2					
Median	14.4	-0.4	0.0	0.6	6.3					
3rd Quartile	13.4	-1.8	-0.3	0.5	4.3					
95th Percentile	10.6	-4.3	-0.5	0.4	2.5					

Parentheses contain percentile rankings.
 Source: Aon Manager Universe

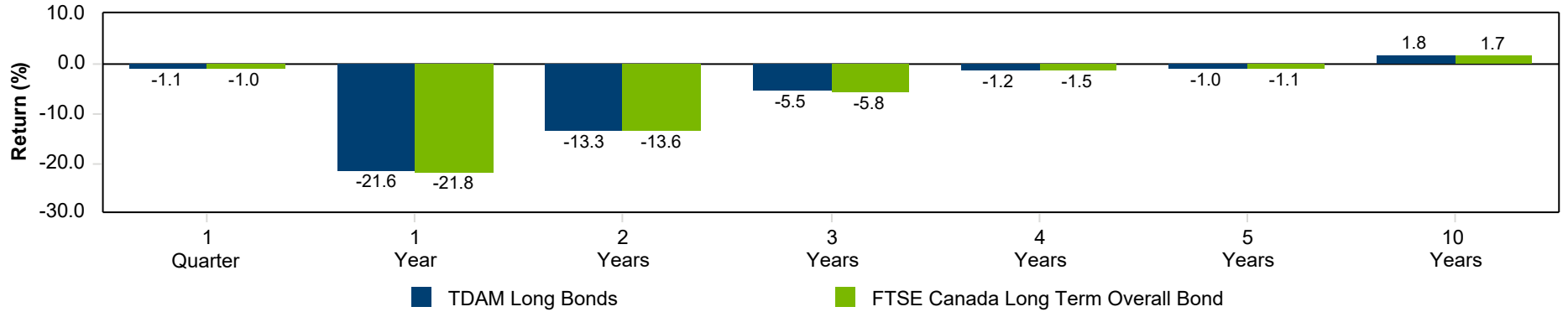


Bonds

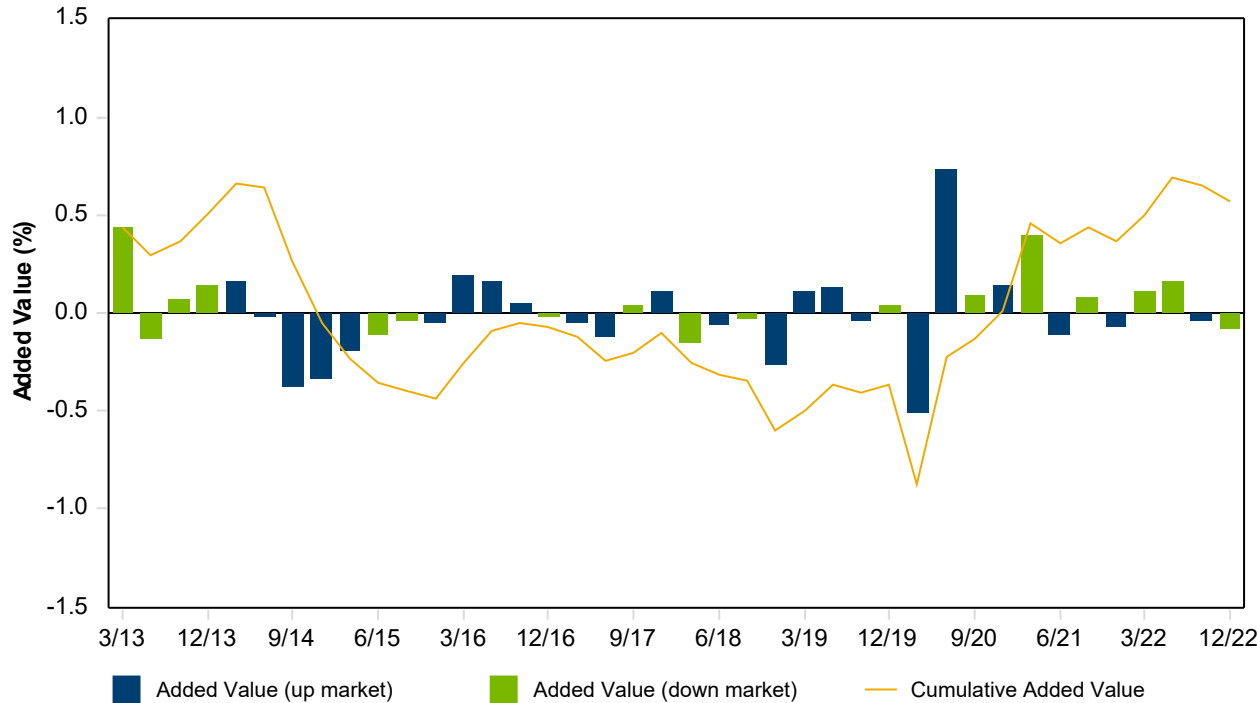
TDAM Long Bonds Performance Summary

As of 31 December 2022

Return Summary



Added Value History (%)



Performance Statistics

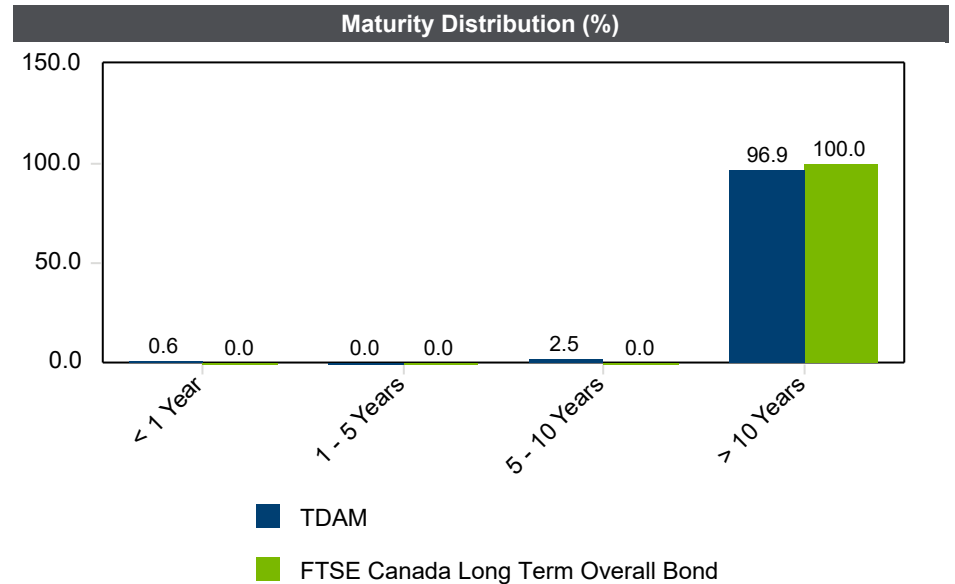
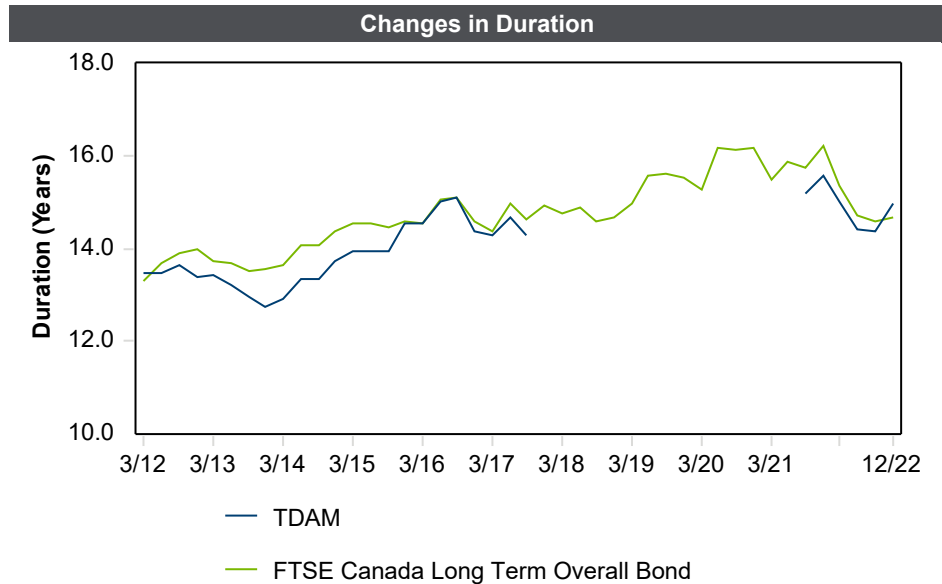
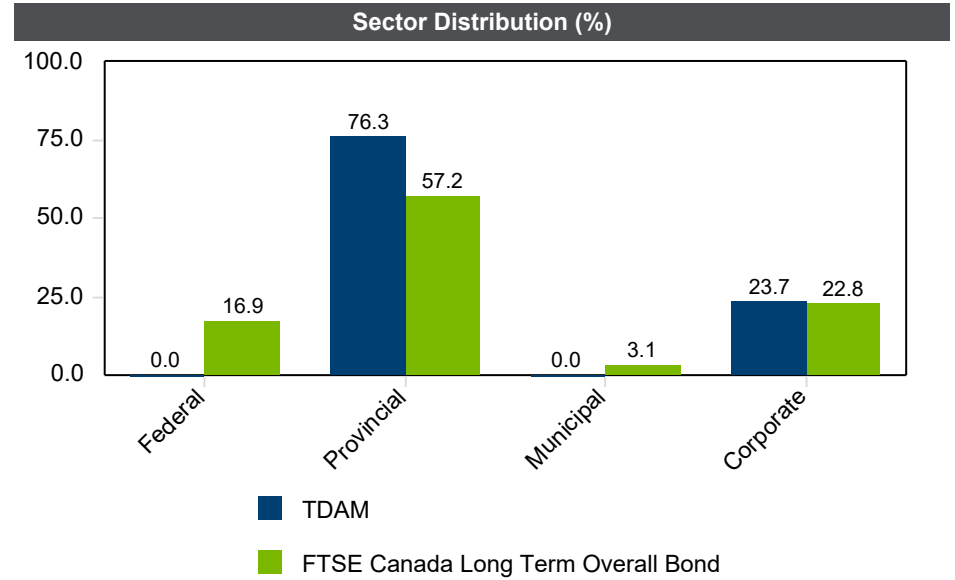
	Quarters	%
Market Capture		
Up Markets	23	99.5
Down Markets	17	98.4
Batting Average		
Up Markets	23	39.1
Down Markets	17	58.8
Overall	40	47.5

Bonds

TDAM Long Bond Fund Characteristics

As of 31 December 2022

Portfolio Characteristics		
	Portfolio	Benchmark
Modified Duration	15.0	14.7
Avg. Maturity	22.4	23.2
Avg. Quality	AA	AA
Yield To Maturity (%)	4.4	4.4

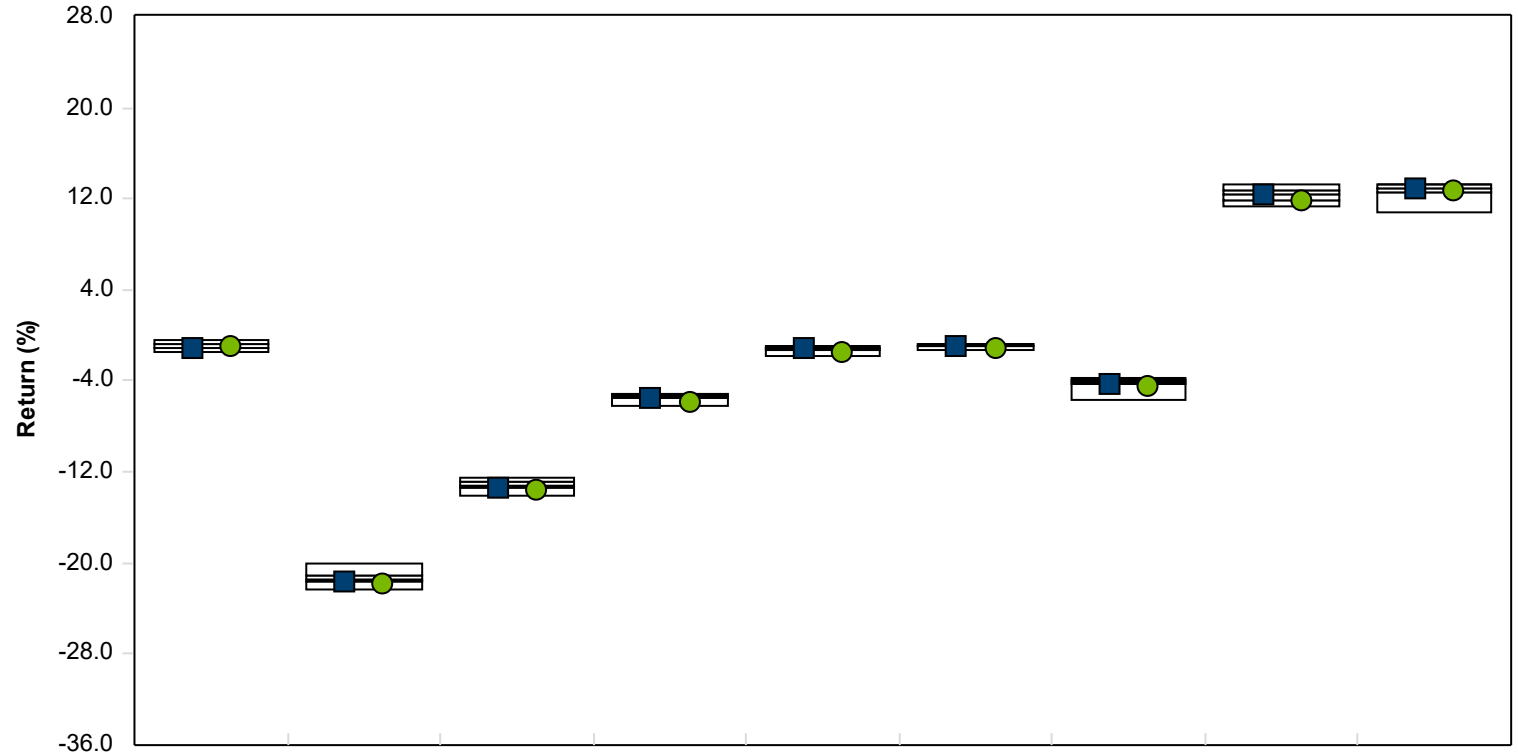


Bonds

Peer Group Analysis

As of 31 December 2022

Canadian Long Bond



	1 Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	1 Year Ending Dec-2021	1 Year Ending Dec-2020	1 Year Ending Dec-2019
■ TDAM Long Bonds	-1.1 (91)	-21.6 (61)	-13.3 (73)	-5.5 (73)	-1.2 (58)	-1.0 (75)	-4.2 (74)	12.3 (54)	13.0 (45)
● FTSE Canada Long Term Overall Bond	-1.0 (71)	-21.8 (78)	-13.6 (88)	-5.8 (90)	-1.5 (94)	-1.1 (92)	-4.5 (86)	11.9 (72)	12.7 (65)
5th Percentile	-0.3	-20.1	-12.6	-5.2	-0.8	-0.7	-3.7	13.2	13.3
1st Quartile	-0.7	-21.2	-12.9	-5.3	-1.0	-0.8	-3.9	12.7	13.2
Median	-0.8	-21.5	-13.2	-5.4	-1.1	-0.9	-4.0	12.4	12.9
3rd Quartile	-1.0	-21.7	-13.4	-5.5	-1.2	-1.0	-4.2	11.9	12.7
95th Percentile	-1.4	-22.4	-14.2	-6.1	-1.8	-1.3	-5.6	11.4	10.8
Population	18	18	18	18	18	18	20	20	21

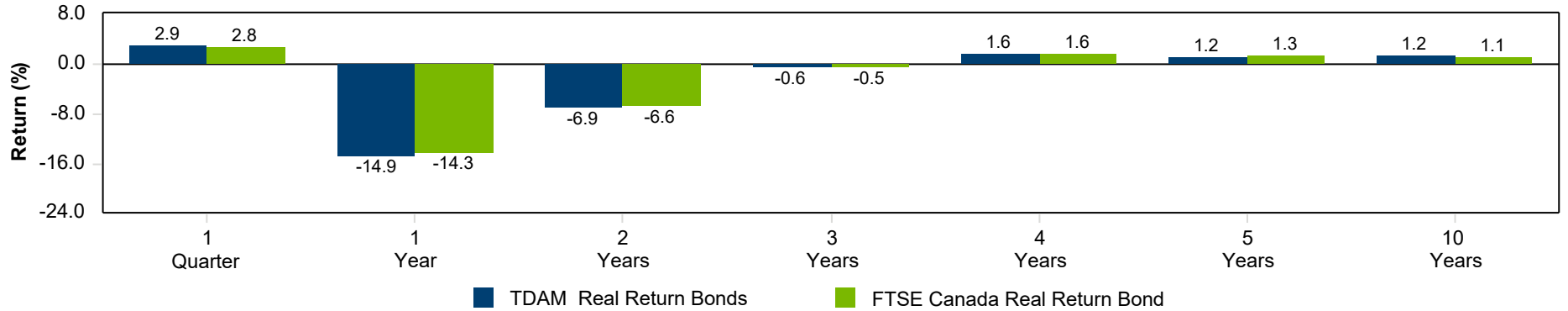
Parentheses contain percentile rankings.
 Source: Aon Manager Universe

Bonds

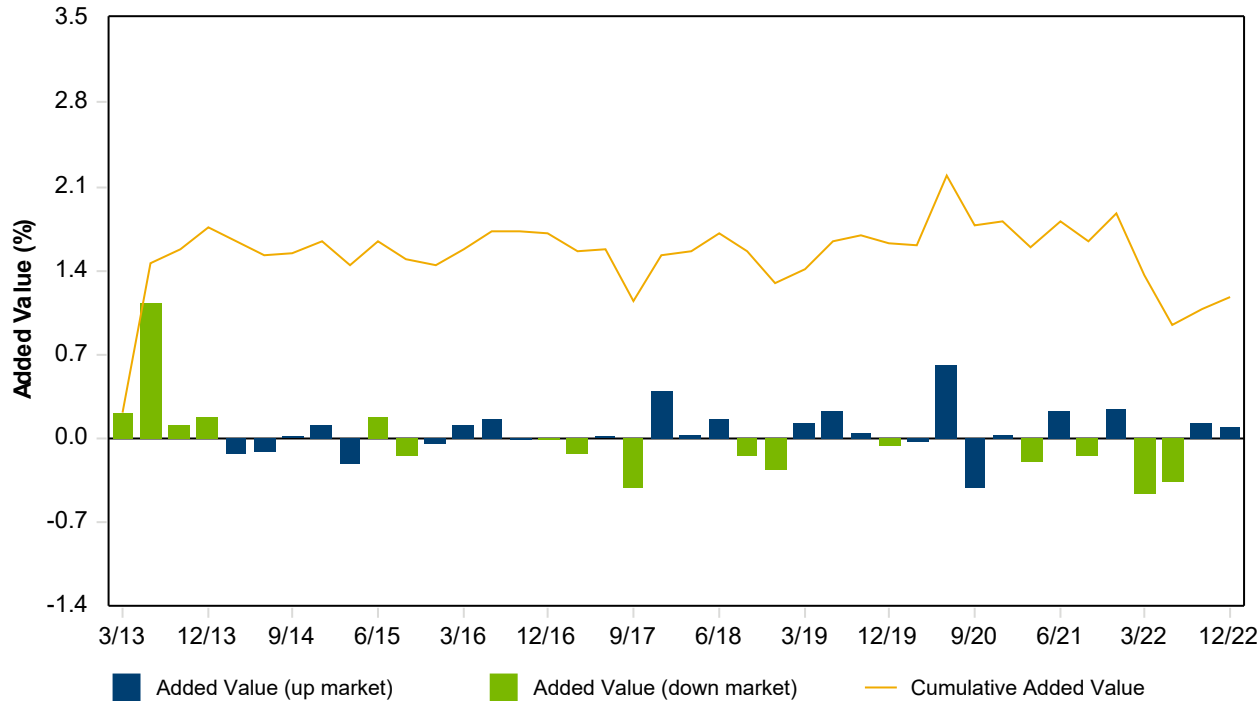
TDAM Real Return Bonds Performance Summary

As of 31 December 2022

Return Summary



Added Value History (%)



Performance Statistics

	Quarters	%
Market Capture		
Up Markets	24	102.5
Down Markets	16	101.0
Batting Average		
Up Markets	24	70.8
Down Markets	16	31.3
Overall	40	55.0

Appendix A - Plan Information

Plan Information

Summary of Investment Objective

The investment policy contains specific performance objectives for the fund and the investment managers.

All investment rates of return are measured over moving four-year periods. Return objectives are net of fees and include realized and unrealized capital gains or losses plus income from all sources.

Returns will be calculated on a time-weighted basis and compared to the objectives described below.

The objective of the total fund is to outperform a benchmark portfolio that is comprised of the following weightings:

	1 April 2022 to 31 December 2022	1 October 2021 to 31 March 2022	1 July 2021 to 30 September 2021	1 April 2021 to 30 June 2021	1 January 2021 to 30 March 2021	1 July 2020 to 31 December 2020	1 April 2020 to 30 June 2020	1 January 2020 to 31 March 2020	1 April 2019 to 31 December 2019	1 January 2019 to 31 March 2019	1 October 2018 to 31 December 2018
S&P/TSX Composite	23%	20%	21%	23%	27%	28%	30%	24%	26%	27%	28%
MSCI World (C\$)	22%	19%	21%	22%	27%	28%	30%	25%	25%	26%	28%
FTSE Canada Long Bond	20%	18%	19%	20%	23%	23%	25%	21%	21%	22%	23%
FTSE Canada Real Return Bond	35%	43%	39%	35%	23%	21%	15%	31%	28%	25%	21%
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

		1 April 2018 to 30 September 2018	1 January 2018 to 31 March 2018	1 October 2017 to 31 December 2017	1 July 2014 to 30 September 2017	1 April 2012 to 30 June 2014	1 July 2011 to 31 March 2012	1 January 2008 to 30 June 2011	1 July 2006 to 31 December 2007	Up to 30 June 2006
S&P/TSX Composite		27%	27%	27%	28%	30%	30%	30%	30%	25%
MSCI World (C\$)		26%	27%	26%	28%	30%	30%	0%	0%	0%
MSCI World ex. Cda (C\$)		22%	23%	0%	0%	0%	0%	15%	15%	18%
S&P 500 - hedged to C\$		25%	23%	0%	0%	0%	0%	5%	8%	9%
MSCI EAFE - hedged to C\$		100%	100%	0%	0%	0%	0%	5%	8%	9%
FTSE Canada Universe Bond				0%	0%	0%	40%	45%	40%	40%
FTSE Canada Long Bond				22%	22%	25%	0%	0%	0%	0%
FTSE Canada Real Return Bond				25%	22%	15%	0%	0%	0%	0%
				100%	100%	100%	100%	100%	100%	100%

Appendix B - Manager Updates

Manager Updates

Manager Updates

As of 31 December 2022

Aberdeen Standard Investments

Q3 2022

Business

There were no significant events during the quarter.

Staff

In January 2022, Sarah Moody, joined Aberdeen and the Executive Leadership Team as Chief Corporate Affairs and Investor Relations Officer following the retirement Stephen Whitehead.

GMO

Q4 2022

Business

In September 2022, GMO launched the Small Cap Quality Strategy which seeks to generate total return by investing primarily in equities of U.S. small cap companies that they believe to be high quality. In October 2022, the Emerging Markets Small Select Equity Strategy was launched which was formerly known as Emerging Markets Domestic Opportunities Strategy. This strategy uses deep fundamental analysis and continued emphasis on top-down country and sector allocation. In December 2022, GMO launched the US Opportunistic Value Strategy which seeks to profit from their Asset Allocation Team's insights on the dislocation of deep value stocks in the U.S.

Staff

There were no significant updates.

Manager Updates

Manager Updates

As of 31 December 2022

Guardian Capital

Q4 2022

Business

During Q4, Desjardins entered into an agreement to acquire Guardian's life insurance, mutual fund and investment networks. Desjardins will specifically acquire Worldsource Insurance Network (IDC), Worldsource Financial Management (WFM), and Worldsource Securities Inc (WSI).

Staff

Departures:

Peter Hargrove, Managing Director Fixed Income Investments - Retired

Gary Chapman, Managing Director Canadian Equities - Retired

Letko, Brosseau & Associates Inc. ("Letko, Brosseau")

Q4 2022

Business

There were no significant events.

Staff

Kevin Lee Hon Song, Portfolio Manager, left LBA in Q4

Russell Braive, Senior Investment Counsellor, left LBA in Q4

Manager Updates

Manager Updates

As of 31 December 2022

TD Asset Management ("TDAM")

Q4 2022

Business

There were no significant events.

Staff

Hires

Ravi Kabra, Vice President, Quantitative & Passive Equity Strategy

Joanna Roberts, Vice President, Passive Fixed Income

Elvin Kim, Vice President, Passive Fixed Income

Departures

Robert Vanderhooft, Vice Chair, Executive

Robert Pemberton, Managing Director, Head of Fixed Income 27 October 2022

Promotions

Michael Augustine, Managing Director, promoted to Head of Fixed Income and Asset Liability Management 27 October 2022

Flash Report

Grantham, Mayo, Van Otterloo & Co. LLC ("GMO") Global All Country Equity Allocation and Global Developed Equity Allocation moved from Buy to Qualified

Recommendation

After completing our formal review of Grantham, Mayo, Van Otterloo & Co. LLC's Global Equity Allocation capabilities, we have downgraded GMO's Global All Country Equity Allocation and Global Developed Equity Allocation strategies to Qualified. Our review led us to reassess the sub-component ratings which resulted in downgrades to the Process, Risk Management and Performance ratings (all from '3' to '2').

We have concluded that the translation of the top-down insights into an equity portfolio is likely to be suboptimal for most of our clients. We believe the success of the portfolio is almost entirely reliant on the effectiveness of limited top-down levers that are long term in nature and value focused. Consequently, the funds are susceptible to long periods of disappointing benchmark relative performance.

Although still rated Qualified, we recommend clients consider moving to a higher conviction idea.

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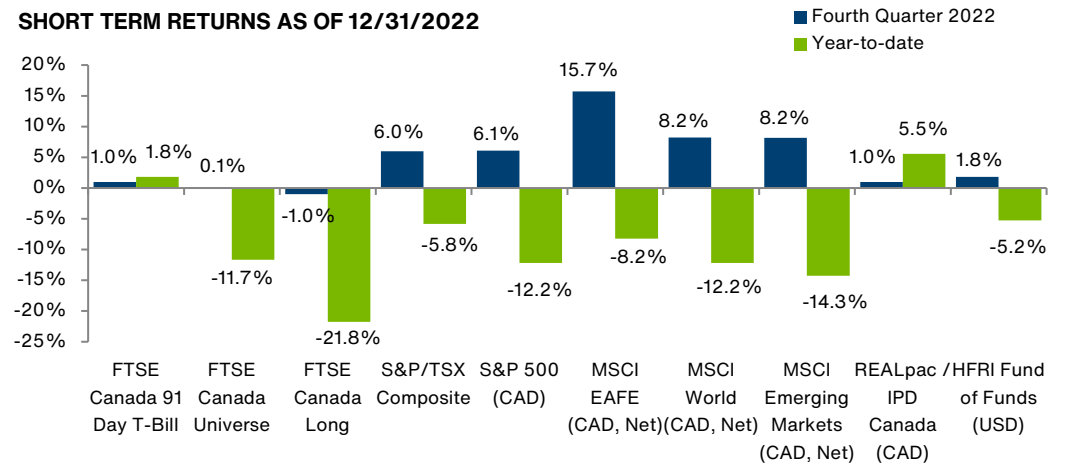
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Appendix C - Capital Market Environment

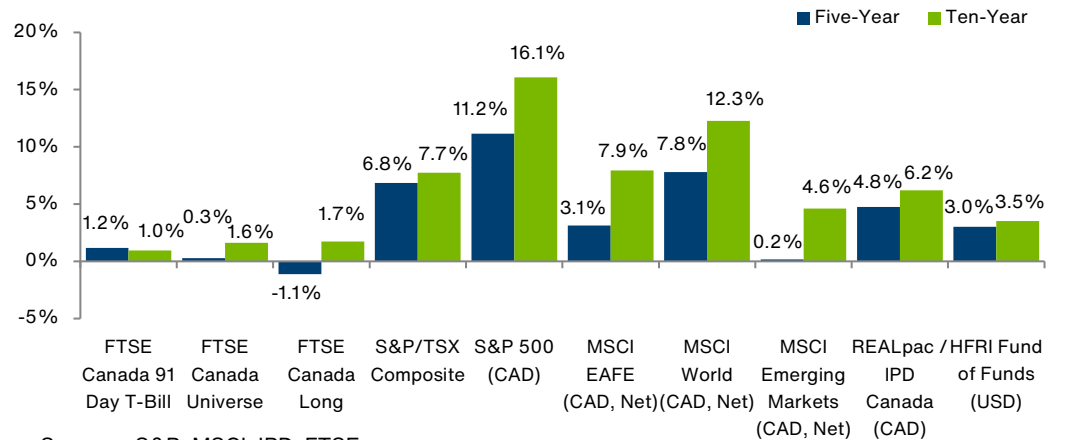
- The future path of inflation and resulting central bank policies continued as a dominant theme in capital markets throughout the fourth quarter. Short-term rates continued along an upward trajectory as central banks maintained efforts to dampen inflation, fuelling the persistence of market volatility. Geopolitical tensions remained elevated as Russia's war in Ukraine continued. The MSCI World Index rose 7.5% in local currency terms and 8.2% in Canadian dollar (CAD) terms.
- The Bank of Canada (BoC) increased its benchmark overnight rate by 100 bps to 4.25%. Meanwhile, the Canadian economy expanded at an annualized rate of 2.9% in Q3 2022, almost double than the BoC's forecast of 1.5%.
- The US Federal Reserve (Fed) increased its benchmark policy rate by 125 bps over the quarter to a range of 4.25%-4.50%. According to minutes from the Fed's November meeting, a "substantial majority" of officials supported easing the pace of interest rate hikes in future meetings. The median estimate on the Fed's December dot plot shows that officials expect the policy rate to reach 5.1% by the end of 2023, up from the 4.6% forecasted in September. The central bank downgraded its US GDP growth forecast for 2023 from 1.2% to 0.5% and expects the Personal Consumption Expenditures Price Index (PCE), the Fed's preferred inflation measure, to fall from the current 5.5% to 3.1% in the final quarter of next year.
- The Bank of England (BoE) raised its benchmark interest rate by 125 bps to 3.50% over the quarter, its highest level since 2008. Meanwhile, the BoE became the first major central bank to actively start unwinding quantitative easing measures as it sold £750mn of government bonds in November. Elsewhere, the European Central Bank (ECB) raised its deposit rates by 125 bps to 2.00% over the quarter, its highest level in 14 years. The ECB president, Christine Lagarde, indicated further 0.50% rate increases in the next two meetings of the Governing Council. Meanwhile, the ECB announced plans to start shrinking the €5tn of bonds it purchased over the last eight years from March 2023.

SHORT TERM RETURNS AS OF 12/31/2022



Sources: S&P, MSCI, IPD, FTSE. Unless otherwise stated, gross CAD returns are shown in this report.

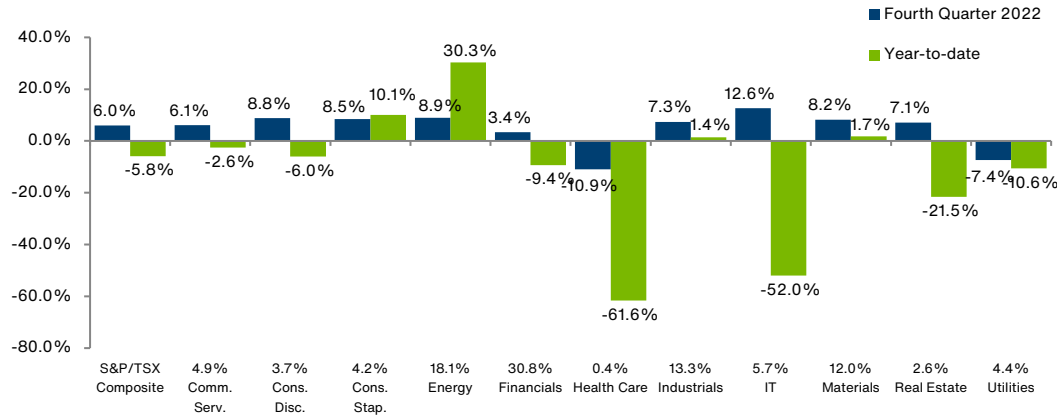
LONG TERM ANNUALIZED RETURNS AS OF 12/31/2022



Sources: S&P, MSCI, IPD, FTSE

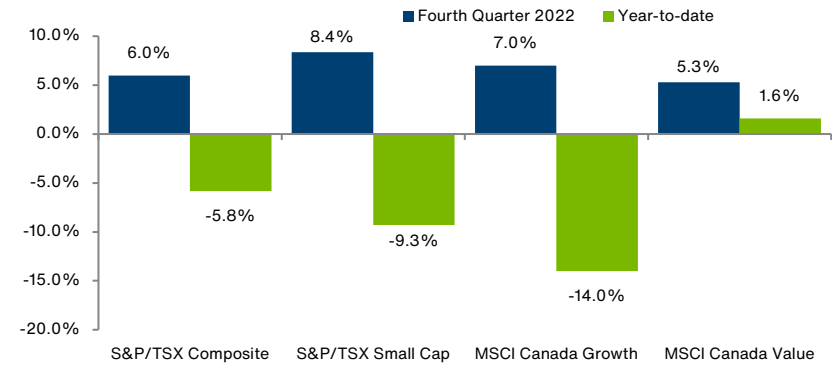
Canadian Equity Markets

S&P/TSX COMPOSITE SECTOR RETURNS (CAD) AS OF 12/31/2022



Source: S&P

CANADIAN EQUITY STYLE/SIZE RETURNS (CAD) AS OF 12/31/2022

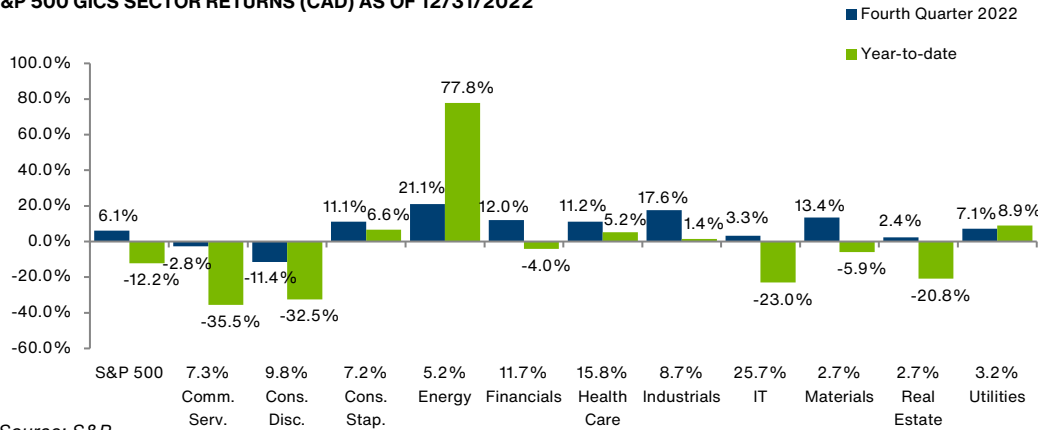


Source: S&P, MSCI

- The S&P/TSX Composite Index rose 6.0% during the quarter but fell 5.8% on a year-to-date basis.
- Sector performance was generally positive over the quarter. Information Technology (+12.6%) and Energy (+8.9%) were the best performers during the quarter, while Health Care (-10.9%) and Utilities (-7.4%) were the worst performers. The Energy sector remains the best performing sector on a year-to-date period with a +30.3% return.
- Growth outperformed value over the quarter (+7.0% growth vs. +5.3% value) but underperformed on a year-to-date basis (-14.0% growth vs. +1.6% value).
- Small cap equity (+8.4%) outperformed the index (+6.0%) over the fourth quarter but underperformed on a year-to-date basis (-9.3% small cap vs. -5.8% index).

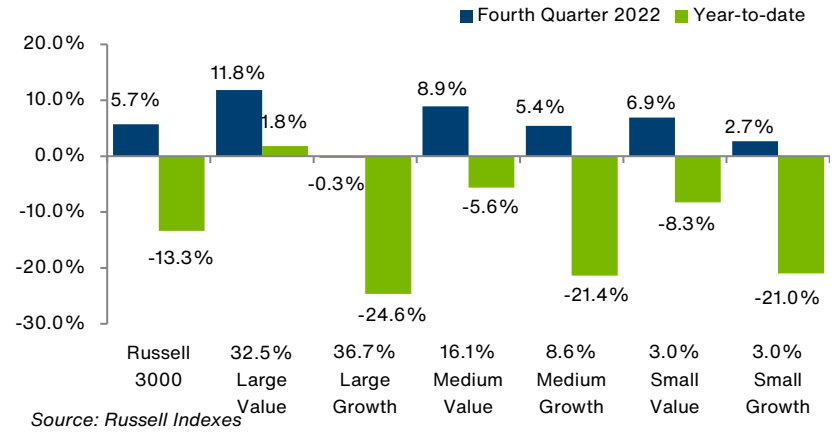
U.S. Equity Markets

S&P 500 GICS SECTOR RETURNS (CAD) AS OF 12/31/2022



Source: S&P

RUSSELL STYLE RETURNS (CAD) AS OF 12/31/2022

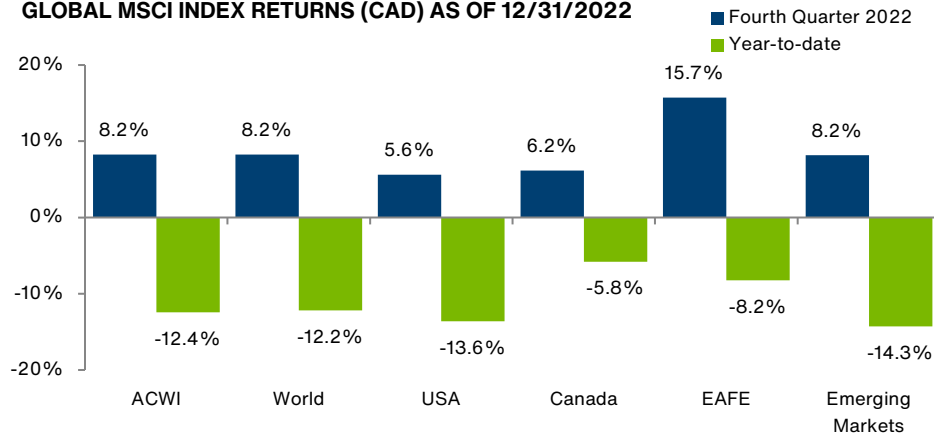


Source: Russell Indexes

- U.S. equities had a strong quarter with the S&P 500 index rising by 7.6% in local currency terms. The appreciation of the Canadian dollar against the U.S. dollar limited the S&P 500 index gain to 6.1% in CAD terms. The Russell 3000 Index rose 5.7% during the fourth quarter but was down 13.3% on a year-to-date basis. Excluding Consumer Discretionary (-11.4%) and Communication Services (-2.8%), all sectors generated positive returns over the quarter. Energy (+21.1%) and Industrials (+17.6%) were the best performers.
- Large-cap stocks outperformed in value and Medium-cap stocks outperformed in growth. On a style basis, value outperformed growth across market capitalizations over the quarter and on a year-to-date basis.
- Inflation slowed down, driven by a fall in energy prices. The U.S. Consumer Price Index (CPI) rose 7.1% year-over-year in November, down from the 7.7% recorded in October and less than economists' expectations of 7.3%.

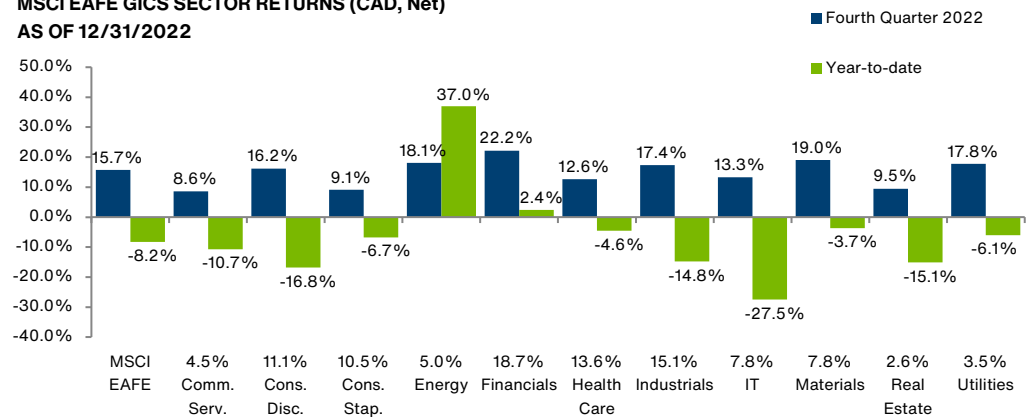
Global Equity Markets

GLOBAL MSCI INDEX RETURNS (CAD) AS OF 12/31/2022



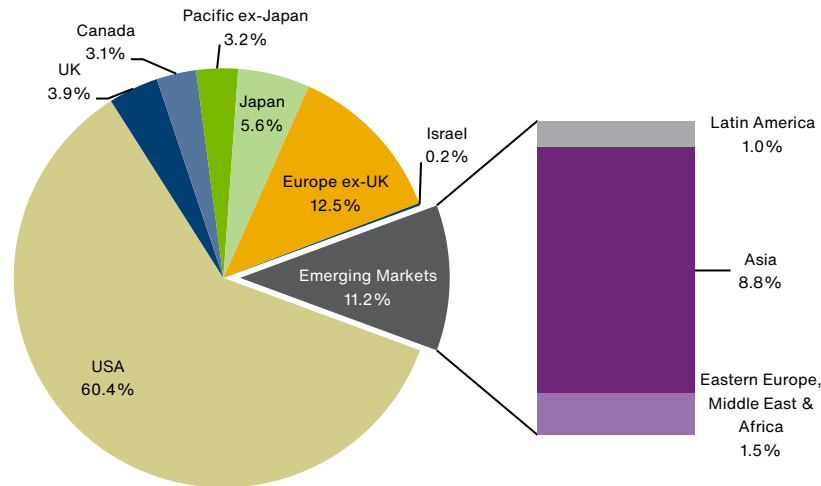
Source: MSCI. Gross returns shown for the MSCI Canada and USA indices, whilst net returns are shown for the other indices.

MSCI EAFE GICS SECTOR RETURNS (CAD, Net) AS OF 12/31/2022



Source: MSCI

MSCI ALL COUNTRY WORLD INDEX GEOGRAPHIC ALLOCATION AS OF 12/31/2022

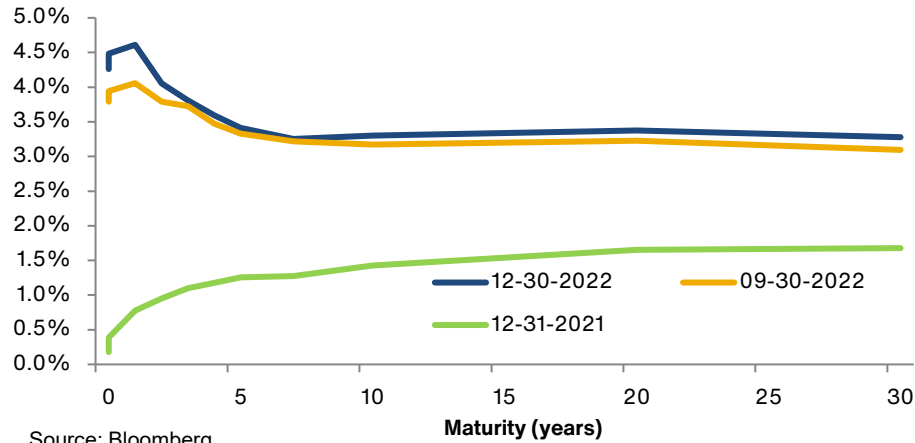


Source: MSCI

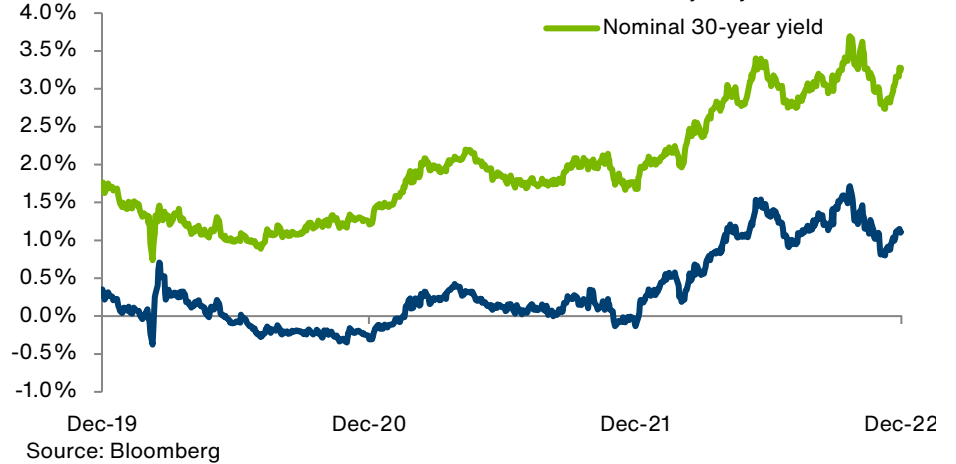
- Global equities ended the quarter higher, with the MSCI All Country World Index rising by 8.2% in CAD terms.
- The MSCI EAFE Index rose by 8.7% in local currency terms and 15.7% in CAD terms over the quarter. The UK, European and Japanese equities rose over the quarter. Among these regions, European equities posted the strongest return in Q4 as economically sensitive sectors including energy, financials, industrials, and consumer discretionary outperformed.
- Emerging markets (EM) performed well over the quarter as a weaker dollar, hopes for a dovish Fed and news of China's economic reopening helped EM equities return 6.6% in local currency terms. However, US-China trade tensions intensified after the Biden administration imposed restrictions on the export of semiconductors made using US technology. The measure restricts Chinese companies' ability to develop cutting-edge technologies, including those used in military applications. US-China relations also remained strained due to the dispute over Taiwan.
- Among the sectors within the MSCI EAFE Index, all finished with positive returns in CAD terms. Financials (+22.2%) and Materials (+19.0%) were the best performers over the quarter.

Canada Fixed Income Markets

CANADIAN FEDERAL YIELD CURVE

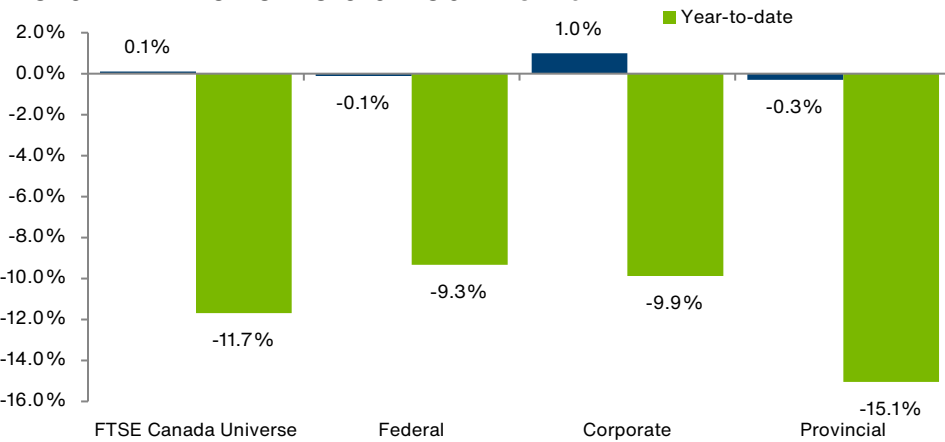


CANADIAN 30-YEAR FEDERAL YIELDS

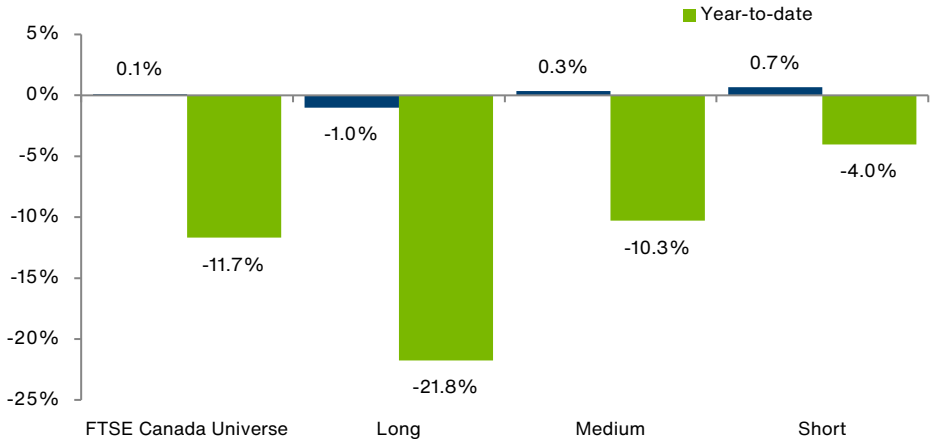


- Canadian treasury yields rose across maturities with yields rising more sharply at shorter maturities compared to the medium and longer end of the curve. The 1-year yield had the largest move over the quarter, rising 55 bps, followed by the 6-month yield up 54 bps. The longer end of the curve also rose, but at a slower pace, with the 10-year note yield up 13 bps to 3.30%, and the 30-year yield up 18 bps to 3.28% over the quarter.
- Real yields fell, with the real 30-year yield decreasing 30 bps to 1.11%. Meanwhile, Canada's annual inflation eased from the previous month's 6.8% after the Consumer Price Index (CPI) rose by 6.3% year-over-year to December, as growth in gasoline prices slowed. The inflation reading continued to be well above the Bank of Canada's control range of 1-3%.

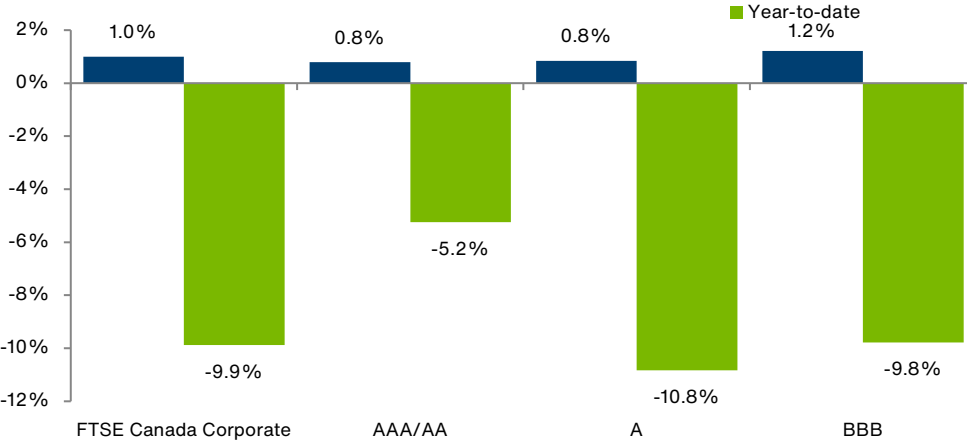
FTSE CANADA RETURNS BY SECTOR AS OF 12/31/2022



FTSE CANADA RETURNS BY MATURITY AS OF 12/31/2022



FTSE CANADA RETURNS BY CREDIT QUALITY AS OF 12/31/2022



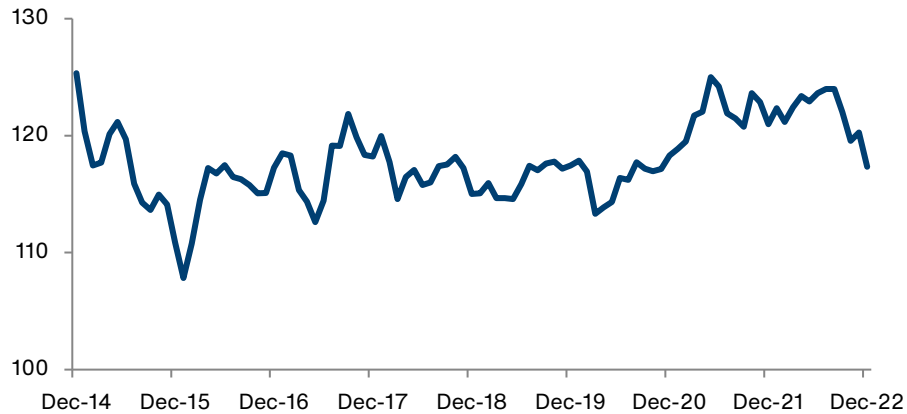
- Canadian bond market performance was mixed over the quarter. Canadian Corporate bonds outperformed all credit segments, including Federal and Provincial issues.
- Within credit, investment grade 'BBB' rated issues outperformed 'A' and 'AAA/AA' issues.
- Short maturity bonds outperformed both medium and long maturity bonds over the quarter.

Source: FTSE



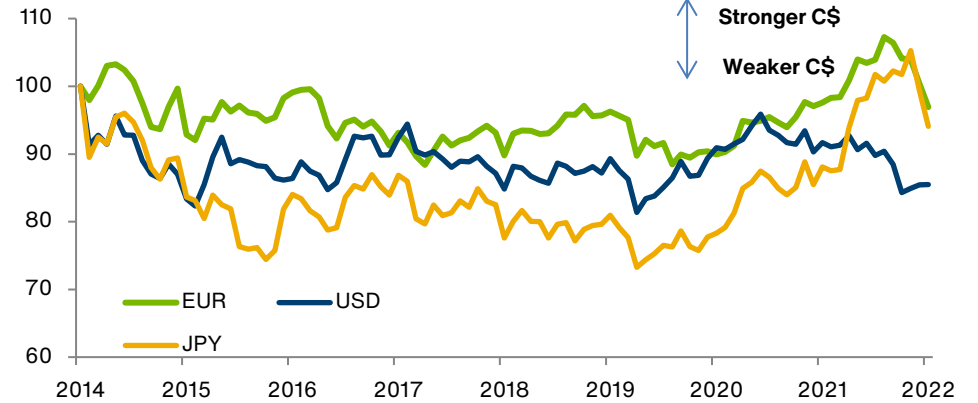
Currency

TRADE WEIGHTED CANADIAN DOLLAR INDEX (1999 = 100)



Source: Bank of Canada

**CANADIAN DOLLAR RELATIVE TO EUR, USD AND JPY
 REBASED TO 100 AT 31/12/2014**

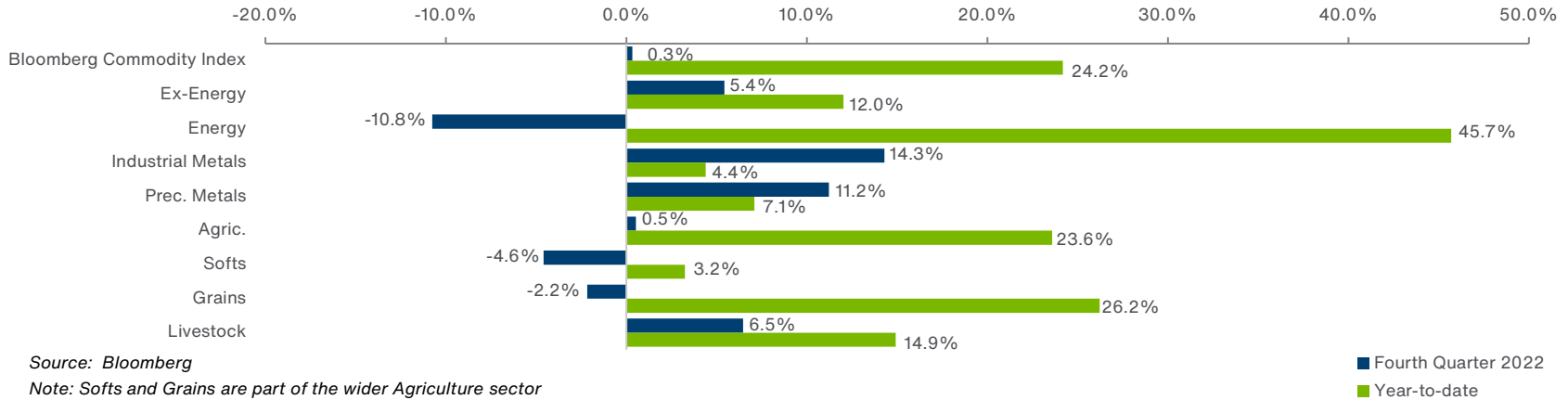


Source: Factset

- As measured by the broad trade-weighted Canadian dollar (CAD) index, the CAD fell 3.8% during the fourth quarter, depreciating against all the major currencies, except for the U.S. dollar.
- On a trade-weighted basis, the U.S. dollar depreciated by 4.8% and fell by 1.4% against the CAD over the quarter. Additionally, the CAD depreciated by 6.9% against the euro and 7.6% against the yen.
- The U.S. dollar depreciated by 8.8% against the yen. The Bank of Japan (BoJ) unexpectedly changed its yield curve control policy by increasing the acceptable band of its 10-year government bond yields from plus or minus 0.25% to 0.50% around its target rate of zero. The BoJ made a series of government bond purchases to maintain the target band as yields rose across the curve following the announcement.

Commodities

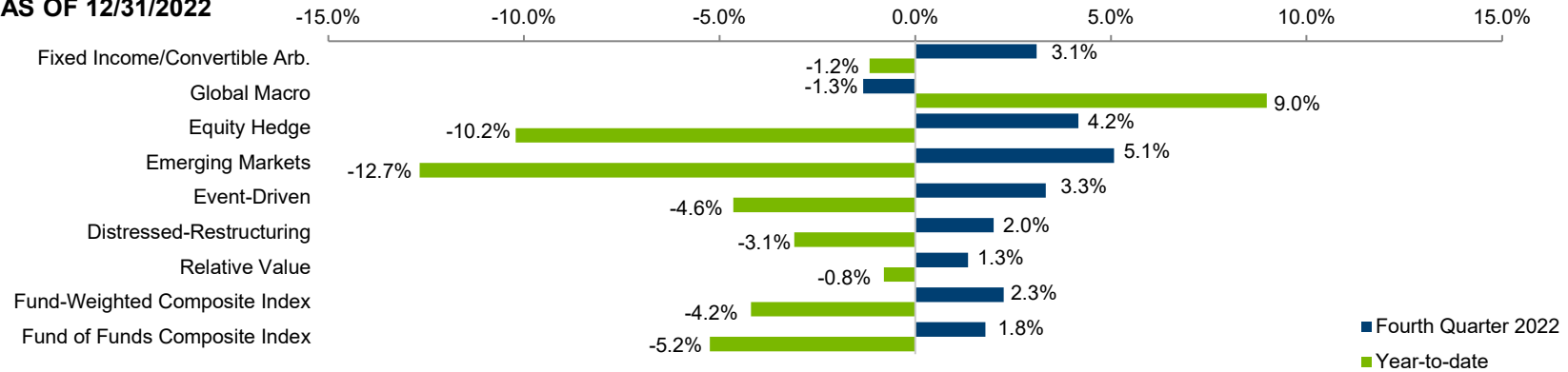
COMMODITY RETURNS (CAD) AS OF 12/31/2022



- Commodity prices rose over the quarter with the Bloomberg Commodity Index rising by 0.3% over the quarter.
- Energy fell 10.8% over the quarter but has risen by 45.7% on a year-to-date basis. The price of WTI crude oil was up by 1.0% to U.S.\$80/BBL.
- Industrial Metals rose the most over the quarter at 14.3%.
- Meanwhile, in October, OPEC+ agreed to cut 2m barrels a day in oil production in an attempt to keep oil prices from falling due to weaker global demand. In their December meeting, the group refrained from cutting production further, even as gas prices fell.

Hedge Fund Markets Overview

HEDGE FUND PERFORMANCE (USD) AS OF 12/31/2022



Note: Latest 5 months of HFR data are estimated by HFR and may change in the future.
 Source: HFR

- Hedge fund performance was generally positive over the quarter.
- The HFRI Fund-Weighted Composite and HFRI Fund of Funds Composite Index produced returns of 2.3% and 1.8% over the quarter, respectively.
- Over the quarter, Emerging Markets was the best performer with a return of 5.1% in USD terms.
- Global Macro was the worst performer and the only strategy with a negative return (-1.3%) over the quarter.
- On a year-to-date basis, Global Macro (+9.0%) has outperformed all other strategies whilst Emerging Markets (-12.7%) has performed the worst.

Appendix D - Description of Market Indices and Statistics

Description of Market Indices and Statistics

Index Definitions

As of 31 December 2022

S&P/TSX Composite

S&P/TSX Composite Index comprises approximately 70 percent of market capitalization for Canadian-based, Toronto Stock Exchange listed companies. It is calculated on a float market capitalization and is the broadest Canadian equity index available. The index also serves as the premier benchmark for Canadian pension funds and mutual market funds.

S&P 500

Standard and Poor's 500 Composite Stock Index consists of 500 large companies in the United States chosen for market size, liquidity and industry group representation. It is a market-value weighted index, with each stock's weight in the index proportionate to its market value. For the purposes of this report, the S&P 500 Index returns are converted from U.S. dollars into Canadian dollars, and therefore reflect currency gains or losses.

MSCI EAFE

The MSCI Europe, Australasia and Far East (EAFE) Index is a widely recognized benchmark of non-North American stock markets. It is an unmanaged index composed of a sample of companies representative of the market structure of 21 European and Pacific Basin Countries and includes reinvestment of all dividends. This index aims to capture 85% of the free float adjusted market capitalization in each industry group in each country.

MSCI World

MSCI World Index consists of more than 1,600 stocks in 23 of the world's largest industrialized countries globally and represents approximately 85% of the total market capitalization in those countries. The index is computed on a float-based capitalization.

FTSE Canada Universe Bond

The FTSE Canada Universe Bond Index covers all marketable Canadian bonds with term to maturity of more than one year. The Index contains approximately one thousand marketable Canadian bonds with an average term of approximately 10.2 years. The purpose of the Index is to reflect the performance of the broad "Canadian Bond Market" in a similar manner to the S&P/TSX Capped Composite Index in the Canadian Equity Market.

FTSE Canada Long Term Overall Bond

The FTSE Canada Long Term Overall Bond Index is a capitalization-weighted index containing bonds with a term to maturity of greater than 10 years. It includes approximately 300 marketable Canadian bonds. The average term is approximately 23.1 years and the average duration is approximately 15.5 years.

FTSE Canada Real Return Bond

The FTSE Canada Real Return Bond Index measures the daily performance of Canadian real return bonds. It currently contains the outstanding real return bonds in the market.

CPI

Consumer Price Index is used to gauge Canada's inflation rate. The series used is the all items, not seasonally adjusted, 2002 base, widely known as the headline inflation.

Description of Market Indices and Statistics**Statistic Definitions**

As of 31 December 2022

Active Return

Arithmetic difference between the portfolio return and the benchmark return over a specified time period.

Active Weight

The difference between the portfolio weight and the benchmark weight, where the weight is based on the beginning of period weights for the sector/region/asset class for a certain periodicity (monthly or quarterly, depending upon the reporting frequency), adjusted by the relative return for the sector/region/asset class.

Annualized Value Added

A portfolio's excess return over a benchmark, annualized as it is recorded.

Asset Allocation

The value added or subtracted by under or over weighting sectors/regions/asset classes versus the benchmark weights. Asset allocation measures the impact on performance attributed only to the sector/region/asset class weighting decisions by the manager. It assumes that the manager holds the same securities in each sector/region/asset class and in the same proportion as in the benchmark. Any differences in return can be attributed to differences in sector weights between the manager's fund and the benchmark.

Batting Average

The frequency, expressed in percentage terms, of the portfolio's return equaling or exceeding the benchmark's return.

Beta

A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.

Correlation

Also called coefficient of correlation, it is a measure of the co-movements of two sets of returns. Indicates the degree in which two sets of returns move in tandem.

Cumulative Added Value

The geometrically linked excess return of a portfolio over a benchmark.

Down Market Capture

The portfolio's average return as a percentage of the benchmark return, during periods of negative benchmark return. Lower values indicate better portfolio performance.

Downside Risk

A measure similar to standard deviation, but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. The higher the factor, the riskier the portfolio.

Statistic Definitions

As of 31 December 2022

Duration

A measure of a bond portfolio's sensitivity to movements in interest rates.

EPS

Earnings Per Share

Excess Return

Arithmetic difference between the managers return and the risk-free return over a specified time period.

Excess Risk

A measure of the standard deviation of a portfolio's performance relative to the risk free return.

Information Ratio

Measured by dividing the active rate of return by the tracking error. The higher the Information Ratio, the more value-added contribution by the manager.

Return

Compounded rate of return for the period.

R-Squared

The percentage of a portfolio's performance explained by the behaviour of the appropriate benchmark. High R-Square means a higher correlation of the portfolio's performance to the appropriate benchmark.

Security Selection

The value added or subtracted by holding securities at weights which differ from those in the benchmark, including securities not in the benchmark or a zero weight. The security selection return assumes the manager weights for each sector/region/asset class in the portfolio are in the same proportion as in the overall benchmark, and excess returns are due to security selection. That is, differences in returns between the manager's fund and the benchmark are attributed to the securities the manager has chosen.

Sharpe Ratio

Represents the excess rate of return over the risk free return divided by the standard deviation of the return. The result is the absolute rate of return per unit of risk. The higher the value, the better the portfolio's historical risk-adjusted performance.

Simple Alpha

The difference between the portfolio's return and the benchmark's return.

Statistic Definitions

As of 31 December 2022

Sortino Ratio

Represents the excess return over the risk-free rate divided by the downside deviation (i.e. the standard deviation of negative asset returns). Therefore, the Sortino Ratio differentiates harmful volatility from general volatility. A large Sortino Ratio indicates there is a low probability of a large loss.

Standard Deviation

A statistical measure of the range of a portfolio's performance, the variability of a return around its average return over a specified time period.

Tracking Error

A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate benchmark.

Treynor Ratio

Similar to Sharpe ratio, but focuses on beta rather than excess risk (standard deviation). Represents the excess rate of return over the risk free rate divided by the beta. The result is the absolute rate of return per unit of risk. The higher the value, the better the portfolio's historical risk-adjusted performance.

Up Market Capture

The portfolio's average return as a percentage of the benchmark return, during periods of positive benchmark return. Higher values indicate better portfolio performance.

Appendix E - Fee Analysis



Appendix F - Disclosure

Disclosure

Statement of Disclosure

As of 31 December 2022

Aon Solutions Canada Inc. reconciles the rates of return with each investment manager quarterly. Aon Solutions Canada Inc. calculates returns from the custodian/trustee statements while the managers use different data sources. Occasionally discrepancies occur because of differences in computational procedures, security prices, "trade date" versus "settlement date" accounting, etc. We monitor these discrepancies closely and find that they generally do not tend to persist over time. However, if a material discrepancy arises or persists, we will bring the matter to your attention after discussion with your money manager.

This report may contain slight discrepancies due to rounding in some of the calculations. All data presented is in Canadian dollars unless otherwise stated.

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This report does not constitute accounting, legal or tax advice and should not be relied upon for any such business decisions. This report contains information that is proprietary to Aon and may not be distributed, reproduced, copied, or amended without Aon's prior written consent.

Canadian DB pension plans return -10.3% in 2022

Français



NEWS PROVIDED BY

RBC Investor & Treasury Services →

Jan 31, 2023, 09:01 ET

TORONTO, Jan. 31, 2023 /CNW/ - Canadian defined benefit (DB) pension plans posted hard-hitting losses in 2022 despite a positive final quarter, according to the latest survey from RBC Investor & Treasury Services (I&TS).

Within the I&TS All Plan universe, pension assets returned 3.8% over the last three months of the year, bringing the annual median return to -10.3%, the lowest observed since the 2008 financial crisis, which saw an annual median return of -15.9%.

"Pensions gained traction toward the end of 2022 despite the ongoing volatility caused by embedded inflation and subsequent higher interest rates imposed by central banks," said Niki Zaphiratos, Managing Director, Asset Owners, for RBC Investor & Treasury Services. "However, this was not enough to offset the first two quarters of heavy losses."

Foreign equities, the top-performing asset class in Q4, returned 9.7% in the quarter, bringing full-year results to -11.3% – ahead of the MSCI World Index, which returned -12.2%. Over the quarter, a majority of developed markets generated healthy local currency returns. In addition, currency gains outside of the US market further boosted returns for unhedged portfolios (MSCI EAFE Index CAD 15.7% versus MSCI EAFE Local 8.7%). Value stocks outperformed growth stocks in the quarter and finished the year well ahead of their growth counterparts (MSCI World Value 0.3% versus MSCI World Growth -24.1%).

Canadian equities trailed their global counterparts over the quarter and returned 6.3%, versus 5.9% for the TSX Composite Index. Over the year, domestic stocks represented the top performing asset class (returning -3.6% in the All Plan Universe versus -5.8% for the TSX Composite Index), attributable to a large exposure to commodity stocks.

Canadian pensions had their largest annual fixed income decline in more than 30 years, losing 16.8% over the 12-month period, compared to the -11.7% return for the FTSE Canada Bond Index. As central banks enacted restrictive monetary policy to tame surging inflation, yields rapidly rose across the spectrum. The weakness spread across the market, but inflation-sensitive, longer-duration bonds were the most affected. The FTSE Canada Long Overall Bond Index declined 21.8%, while FTSE Canada Short Overall Bonds were down 4.0%.

"It was a challenging year for pension asset managers," noted Zaphiratos. "Both equities and fixed income asset classes, which typically offset each other, experienced losses. However, the rapid rise in bond yields resulted in the lowering of pension liabilities – and most pensions ended the quarter in a better position."

Zaphiratos continued: "In the next few months, plan sponsors will need to be attentive to risk factors such as the economic impact of the central banks' actions, ongoing geopolitical tensions and ongoing efforts to contain the COVID virus outbreak in certain emerging market."

Historic performance

<i>Period</i>	<i>Median return (%)</i>	<i>Period</i>	<i>Median return (%)</i>
Q4 2022	3.8	Q3 2020	3.0
Q3 2022	0.5	Q2 2020	9.6
Q2 2022	-8.6	Q1 2020	-7.1
Q1 2022	-5.5	Q4 2019	2.0
Q4 2021	4.5	Q3 2019	1.7
Q3 2021	0.6	Q2 2019	2.7
Q2 2021	4.4	Q1 2019	7.2
Q1 2021	-0.2	Q4 2018	-3.5
Q4 2020	5.4	Q3 2018	0.1

About the RBC Investor & Treasury Services All Plan Universe

RBC Investor & Treasury Services has managed one of the industry's largest and most comprehensive universes of Canadian pension plans for more than 30 years. The All Plan Universe, a widely recognized performance benchmark indicator, tracks the performance and asset allocation of a cross-section of assets across Canadian defined benefit pension plans. The All Plan Universe is produced by RBC Investor & Treasury Services' Risk & Investment Analytics service, which delivers independent and cost effective solutions that help institutional investors monitor investment decisions, optimize performance, reduce costs, mitigate risk and enhance governance.

About RBC

Royal Bank of Canada is a global financial institution with a purpose-driven, principles-led approach to delivering leading performance. Our success comes from the 95,000+ employees who leverage their imaginations and insights to bring our vision, values and strategy to life so we can help our clients thrive and communities prosper. As Canada's biggest bank and one of the largest in the world, based on market capitalization, we have a diversified business model with a focus on innovation and providing exceptional experiences to our 17 million clients in Canada, the U.S. and 27 other countries. Learn more at rbc.com.

We are proud to support a broad range of community initiatives through donations, community investments and employee volunteer activities. See how at rbc.com/community-social-impact.

About RBC Investor & Treasury Services


RBC Investor & Treasury Services (RBC I&TS) provides asset, payment and treasury services to financial institutions and asset owners worldwide. We are a leader in Canadian cash management and transaction banking services. Trusted with nearly 4 trillion in assets under administration, our focus is on safeguarding client assets and supporting our clients' growth.

SOURCE RBC Investor & Treasury Services

For further information: Ylana Kurtz, ylana.kurtz@rbc.com, 1 416 348 2330



CITY OF HAMILTON
CORPORATE SERVICES DEPARTMENT
Financial Planning, Administration and Policy Division

TO:	Chair and Members HMRF / HWRF Pension Administration Sub-Committee
COMMITTEE DATE:	March 30, 2023
SUBJECT/REPORT NO:	2022 Master Trust Pension Statement of Investment Policies and Procedures (FCS23009) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Rosaria Morelli (905) 546-2424 Ext. 1390
SUBMITTED BY:	Mike Zegarac General Manager, Finance and Corporate Services Corporate Services Department
SIGNATURE:	

RECOMMENDATION(S)

- (a) That Appendix "A" to Report FCS23009, respecting the 2022 City of Hamilton Defined Benefit Pension Plans Master Trust Statement of Investment Policies and Procedures, be approved and replace the previous 2021 City of Hamilton Defined Benefit Pension Plans Master Trust Statement of Investment Policies and Procedures contained in Report FCS21095 and approved by Council on December 15, 2021;
- (b) That Appendix "A" to Report FCS23009, respecting the 2022 City of Hamilton Defined Benefit Pension Plans Master Trust Statement of Investment Policies and Procedures, be forwarded to the Hamilton Street Railway Pension Advisory Committee for their information.

EXECUTIVE SUMMARY

The Statement of Investment Policies and Procedures for the City of Hamilton Defined Benefit Pension Plans Master Trust (the "Master Trust SIPP") has been updated as a result of the annual formal review required under the Master Trust SIPP. The updated Master Trust SIPP is attached as Appendix "A" to Report FCS23009.

The Master Trust SIPP comprises the investment policies of the Hamilton Municipal Retirement Fund (HMRF), the Hamilton Street Railway Company Pension Plan, 1994 (HSR) and the Hamilton-Wentworth Retirement Fund (HWRF) pension plans.

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OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

SUBJECT: 2022 Master Trust Pension Statement of Investment Policies and Procedures (FCS23009) (City Wide) – Page 2 of 6

The following data was updated and incorporated into the Master Trust SIPP:

- Data pertaining to the Provision for Adverse Deviations (PfAD); and
- Data related to the liabilities of the HMRF and HWRF pension plans.

The PfAD is a reserve that pension plans are required to establish and fund on a going-concern basis and which is part of the pension funding regime for Ontario defined benefit pension plans effective as of May 1, 2018. Amendments pertaining to the PfAD were first made to the Master Trust SIPP in Report FCS18090 respecting the 2018 Master Trust Pension Statement of Investment Policies and Procedures (City Wide), in order to comply with regulatory disclosure requirements.

For this annual formal review, there were no changes in the applicable pension legislation affecting the Master Trust SIPP since the preceding review that was undertaken and described in Report FCS21095 respecting the 2021 City of Hamilton Defined Benefit Pension Plans Master Trust Statement of Investment Policies and Procedures.

Alternatives for Consideration – Not Applicable

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: Not Applicable

Staffing: Not Applicable

Legal: Not Applicable

HISTORICAL BACKGROUND

The Master Trust SIPP provides the framework for the investment of the assets of the City of Hamilton's three non-OMERS defined-benefit pension plans: HMRF, HSR and HWRF. Assets for the three pension plans (the "Plans") have been aggregated for investment purposes in a private pooling vehicle structure or master trust structure (the "Master Trust") which was approved and adopted by Council on May 18, 1999. Each of the pension plans participates in the Master Trust.

Appendices "A", "B" and "C" to the Master Trust SIPP contain details of the individual statement of investment policies and procedures for the HMRF, HSR and HWRF pension plans, respectively.

Since 2006, a policy review of the Master Trust SIPP has been completed annually except for fiscal years 2010 and 2013. For each review, the applicable Master Trust SIPP was replaced with the amended version adopted and approved by Council.

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SUBJECT: 2022 Master Trust Pension Statement of Investment Policies and Procedures (FCS23009) (City Wide) – Page 3 of 6

Details of each review can be found in the following staff reports: Report FCS07096; Report FCS08111; Report FCS09093; Report FCS11033; Report FCS12084; Report FCS14080; Report FCS15083; Report FCS16081; Report FCS17079; Report FCS18090; Report FCS19073; Report FCS20074 and Report FCS21095.

The review for the year of 2010 was constrained because of the City's decision to implement the Dynamic Investment Policy (Report FCS09112) which was approved by Council on February 10, 2010. Similarly, in 2013, unplanned pressures resulted in the deferral of the annual review.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

Ontario Regulation 909 (the "Regulation") made under the *Pension Benefits Act* (PBA) requires that the administrator of a provincially regulated pension plan establish a written statement of investment policies and procedures that complies with requirements of the federal investment regulations as modified in Sections 47.8 and 79 of the Regulation.

RELEVANT CONSULTATION

The City's investment consultant, Aon, undertook a review of the Master Trust SIPP from a compliance and governance perspective. Aon took account of all applicable regulatory guidance and addressed any relevant changes where appropriate in the Master Trust SIPP.

ANALYSIS AND RATIONALE FOR RECOMMENDATION(S)

The following data was updated and incorporated into the Master Trust SIPP:

- Data pertaining to the Provision for Adverse Deviations (PfAD); and
- Data related to the liabilities of the HMRF and HWRF pension plans.

The PfAD is a reserve that pension plans are required to establish and fund on a going-concern basis and which is part of the pension funding regime for Ontario defined benefit pension plans effective as of May 1, 2018. Amendments pertaining to the PfAD were first made to the Master Trust SIPP in the Report FCS18090 respecting the 2018 Master Trust Pension Statement of Investment Policies and Procedures (City Wide), in order to comply with regulatory disclosure requirements.

Data Pertaining to the Provision for Adverse Deviations (PfAD)

The calculation of the PfAD is based in part on a pension plan's asset allocation (as defined by the Regulation) generally summarized in a pension plan's PfAD Table.

SUBJECT: 2022 Master Trust Pension Statement of Investment Policies and Procedures (FCS23009) (City Wide) – Page 4 of 6

As of May 1, 2018, the SIPPs of Ontario defined benefit pension plans must disclose the percentage values of a pension plan's target asset allocation for each investment category listed in subsection 76(12) in the Regulation.

In this year's formal annual review, the Plans' PfAD Table on page 5 in Section 2.03 of the Master Trust SIPP has been updated with the most current available percentage values, as of June 30, 2022, for the Target Asset Allocations. Table 1 shows the Plans' PfAD Table:

**Table 1
Target Asset Allocations for Investment Categories (PfAD Table)**

Investment Category under subsection 76(12) of Regulation 909	Target Asset Allocation ¹	Accessed Through Mutual or Pooled or Segregated Funds
1. Insured contracts	0.0%	-
2. Mutual or pooled funds or segregated funds	N/A	-
3. Demand deposits and cash on hand	0.0%	-
4. Short-term notes and treasury bills	0.0%	-
5. Term deposits and guaranteed investment certificates	0.0%	-
6. Mortgage loans	0.0%	-
7. Real estate	0.0%	-
8. Real estate debentures	0.0%	-
9. Resource properties	0.0%	-
10. Venture capital	0.0%	-
11. Corporations referred to in subsection 11(2) of Schedule III to the federal investment regs	0.0%	-
12. Employer issued securities	0.0%	-
13. Canadian stocks other than investments referred to in 1 to 12 above	23.0%	Yes
14. Non-Canadian stocks other than investments referred to in 1 to 12 above	22.0%	Yes
15. Canadian bonds and debentures other than investments referred to in 1 to 12 above	55.0%	Yes
16. Non-Canadian bonds and debentures other than investments referred to in 1 to 12 above	0.0%	-
17. Investments other than investments referred to in 1 to 16 above	0.0%	-

¹ The target asset allocation indicated in the PfAD table is based on the glidepath positioning as of June 30, 2022.

SUBJECT: 2022 Master Trust Pension Statement of Investment Policies and Procedures (FCS23009) (City Wide) – Page 5 of 6

The percentage values for the Target Asset Allocation in the PfAD Table were derived from the Plans' actual target asset mix as of June 30, 2022.

Under the Plans' dynamic investment strategy, the Plans' actual target asset mix as of June 30, 2022 is determined from the glidepath set out on pages 6 and 7 in Section 2.03 of the Master Trust SIPP using the value for the Plans' funded status (80.3% as of June 30, 2022, as reported in Report FCS23044 respecting the Master Trust Pension Investment Performance Report as at June 30, 2022 (City Wide)).

Hence, the Plans' actual target asset mix as of June 30, 2022 is as follows in Table 2.

Table 2
Plans' Actual Target Asset Mix
As of June 30, 2022

Canadian Equity:	23%
Global Equity:	22%
Fixed Income:	55%
(Funded Status:	80.3%)

Thus, in the PfAD Table, the investment categories 13 and 14 are allocated percentage values of 23% and 22%, respectively, and investment category 15 is allocated a percentage value of 55%.

Previously in the PfAD Table, the percentage values for investment categories 13, 14 and 15 were equal to 28%, 28% and 44%, respectively, reflecting the Plans' actual target asset mix (28% Canadian equity; 28% global equity; 44% fixed income) as at June 30, 2020. The implicit understanding was that the percentage values in the PfAD Table would need to be updated as the Plans' funded status (and therefore the actual target asset mix) changed over time.

Data Related to the Liabilities of the HMRF and HWRF Pension Plans

Liability information on the HMRF pension plan has been updated in Section 1.03 Plan Profile, Subsection (c) Liabilities of Appendix "A" of the Master Trust SIPP (Statement of Investment Policies and Procedures Hamilton Municipal Retirement Fund) found on pages 25 and 26 of the Master Trust SIPP, as a result of the most recent actuarial valuation completed for December 31, 2021.

Liability information on the HWRF pension plan has been updated in Section 1.03 Plan Profile, Subsection (c) Liabilities of Appendix "C" of the Master Trust SIPP (Statement of Investment Policies and Procedures Hamilton-Wentworth Retirement Fund) found on page 31 of the Master Trust SIPP, as a result of the most recent actuarial valuation completed for December 31, 2021.

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SUBJECT: 2022 Master Trust Pension Statement of Investment Policies and Procedures (FCS23009) (City Wide) – Page 6 of 6

For this annual formal review, there were no changes in the applicable pension legislation affecting the Master Trust SIPP since the preceding review that was undertaken and described in Report FCS21095 respecting the 2021 City of Hamilton Defined Benefit Pension Plans Master Trust Statement of Investment Policies and Procedures.

ALTERNATIVES FOR CONSIDERATION

Not Applicable

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN**Our People and Performance**

Hamiltonians have a high level of trust and confidence in their City government.

APPENDICES AND SCHEDULES ATTACHED

Appendix “A” to Report FCS23009 – Statement of Investment Policies and Procedures – City of Hamilton Defined Benefit Pension Plans Master Trust, December 2022

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Statement of Investment Policies and Procedures

City of Hamilton Defined Benefit Pension Plans Master Trust

December 2022

APPROVED on this day of _____, 2023

Contents

Section 1—Overview	3
1.01 Purpose of Statement	3
1.02 Background of the Master Trust	3
1.03 Objective of the Plan	3
1.04 Investment and Risk Philosophy	3
1.05 Administration	3
Section 2—Asset Mix and Diversification Policy	4
2.01 Master Trust Return Expectations	4
2.02 Expected Volatility	4
2.03 Asset Mix	4
2.04 Management Structure	8
2.05 Environmental, Social and Governance (ESG) Issues	8
Section 3—Permitted and Prohibited Investments	9
3.01 General Guidelines	9
3.02 Permitted Investments	9
3.03 Minimum Quality Requirements	11
3.04 Maximum Quantity Restrictions	13
3.05 Prior Permission Required	14
3.06 Prohibited Investments	14
3.07 Securities Lending	15
3.08 Borrowing	15
3.09 Conflicts between the Policy and Pooled Fund Investment Policies	15
Section 4—Monitoring and Control	16
4.01 Delegation of Responsibilities	16
4.02 Performance Measurement	18
4.03 Compliance Reporting by Investment Manager	19
4.04 Standard of Professional Conduct	19
Section 5—Administration	20
5.01 Conflicts of Interest	20
5.02 Related Party Transactions	21
5.03 Selecting Investment Managers	22
5.04 Directed Brokerage Commissions	22
5.05 Monitoring of Asset Mix	22
5.06 Monitoring of Investment Managers	23
5.07 Dismissal of an Investment Manager	23
5.08 Voting Rights	23
5.09 Valuation of Investments Not Regularly Traded	23
5.10 Policy Review	24
Appendix A - Statement of Investment Policies & Procedures Hamilton Municipal Retirement Fund	25
Appendix B - Statement of Investment Policies & Procedures Hamilton Street Railway Pension Plan (1994)	27
Appendix C - Statement of Investment Policies & Procedures The Hamilton-Wentworth Retirement Fund	30
Appendix D – Compliance Reports	32

Section 1—Overview

1.01 Purpose of Statement

This Statement of Investment Policies and Procedures (the “Policy” or “Master Trust SIPP”) provides the framework for the investment of the assets of the City of Hamilton Defined Benefit Pension Plans Master Trust (the “Master Trust”).

This Policy is based on the “prudent person portfolio approach” to ensure the prudent investment and administration of the assets of the Master Trust are within the parameters set out in the *Pension Benefits Act*, (Ontario) and the Regulations thereunder.

1.02 Background of the Master Trust

The inception date of the Master Trust is November 1, 1999, when three defined benefit pension plans, the “Plans”, (the Hamilton Municipal Retirement Fund (Registration number 0275123), the Hamilton Street Railway Pension Plan (1994) (Registration number 0253344), and the Hamilton Wentworth Retirement Fund (Registration number 1073352)) invested in units of the Master Trust. The portfolio of assets in the Master Trust is referred to as “the Fund”. These Plans hold units of the Master Trust and share, on a pro-rata basis, in all income, expenses and capital gains and losses of the Master Trust.

For reference purposes, the details of the Statement of Investment Policies and Procedures for each of the above mentioned Plans participating in the Master Trust have been attached to Appendix A of this Policy.

1.03 Objective of the Plan

The objective of the Plans is to provide members of the Plans with retirement benefits prescribed under the terms thereof.

1.04 Investment and Risk Philosophy

The primary investment objective is to provide an economic return on assets sufficient to fund Plan liabilities over the long-term, while adhering to prudent investment practices.

The investment philosophies and strategies must take into account both return and risk objectives of the Plans and the City of Hamilton (the “City”).

In recognition of the risk and return objectives of the Plans and the City, an initial asset allocation policy was developed by the Investment Consultant in consultation with both the Chief Investments Officer and the Treasurer of the City (the “Treasurer”) based on the Plans’ current (at that time) funded status and the characteristics of the Plans and City. It is recognized, however, that the Plans’ return requirements and risk tolerance will change over time, and the intent is to reallocate the portfolio to lower risk allocations dynamically as the Plans’ funded statuses improve.

1.05 Administration

The General Manager of Finance and Corporate Services for the City (“General Manager of Finance and Corporate Services”) is the designated contact person at the City for administrative purposes.

Section 2—Asset Mix and Diversification Policy

2.01 Master Trust Return Expectations

Each of the investment managers appointed to invest the assets of the Master Trust (the “Investment Managers”) is directed to achieve a satisfactory long-term real rate of return through a diversified portfolio, consistent with acceptable risks, performance objectives and prudent management.

In order to achieve their long-term investment goals, the Plans must invest in assets that have uncertain returns, such as Canadian equities, foreign equities and bonds. However, the City attempts to reduce the overall level of risk by diversifying the asset classes and further diversifying within each individual asset class. Based on historical data and reasonable expectations for future returns, the City believes that a diversified portfolio of Canadian equities, nominal bonds, real return bonds and foreign equities will likely outperform over the long term.

The overall goal of this Policy is to maximize the return of the Fund while bearing a reasonable level of risk relative to the liabilities in order to ensure the solvency of the Fund over time. The assets of the Plans are sufficiently liquid to make payments which may become due from the Plans. The weights applied to each of the asset classes are based on the targets in the initial asset allocation outlined in Section 2.03 and adjusted based on the target allocation in the Dynamic Investment Policy Schedule in Section 2.03.

2.02 Expected Volatility

The volatility of the Master Trust is directly related to its asset mix, specifically, the balance between Canadian bonds, Canadian equities and foreign equities. Since the Investment Managers do not have the authority to make any type of leveraged investment on behalf of the Master Trust, the volatility of the Master Trust should be similar to the volatility of the Benchmark Portfolio set out in Section 4.02 (Performance Measurement).

2.03 Asset Mix

(a) In order to achieve the long-term objective within the risk/return considerations described in Section 1.04, the following asset mix policy (Benchmark Portfolio) and ranges were selected for the initial asset allocation:

Assets	Minimum %	Initial Target Weight %	Maximum %	Asset Category
Canadian Equity	25	30	35	Return-Seeking
Global Equity	25	30	35	Return-Seeking
Total Equities	50	60	70	Return-Seeking
Fixed Income	30	40	50	Liability-Hedging

Appendix “A” to Report FCS23009
Page 5 of 36

For purpose of the total asset mix described above, the Investment Managers’ asset class pooled funds are deemed to be 100% invested, even though these funds may contain a portion held in cash and cash equivalent instruments.

The Plan’s target asset allocation¹ for each investment category listed in subsection 76(12) of the Regulation 909 to the Pension Benefits Act (Ontario) is as follows:

PfAD Table

Investment Category under subsection 76(12) of Regulation 909	Target Asset Allocation*	Accessed through mutual or pooled or segregated funds
1. Insured Contracts	0.0%	-
2. Mutual or pooled funds or segregated funds	N/A	-
3. Demand deposits and cash on hand	0.0%	-
4. Short-term notes and treasury bills	0.0%	-
5. Mortgage Loans	0.0%	-
6. Mortgage Loans	0.0%	-
7. Real Estate	0.0%	-
8. Real Estate Debentures	0.0%	-
9. Resource properties	0.0%	-
10. Venture Capital	0.0%	-
11. Corporations referred to in subsection 11(2) of Schedule III to the federal investment regs	0.0%	-
12. Employer issued securities	0.0%	-
13. Canadian stocks other than investments referred to in 1 to 12 above	23.0%	Yes
14. Non-Canadian stocks other than investments referred to in 1 to 12 above	22.0%	Yes
15. Canadian bonds and debentures other than investments referred to in 1 to 12 above	55.0%	Yes
16. Non-Canadian bonds and debentures other than investments referred to in 1 to 12 above	0.0%	-
17. Investments other than investments referred to in 1 to 16 above	0.0%	-

For inclusion within a fixed income investment category in the above table, the minimum ratings for target asset allocations of fixed income assets are outlined below. This framework is used to inform whether the target asset allocation to an investment category qualifies as fixed income for purposes of calculating the Provision for Adverse Deviations (PfAD) as defined under Regulation 909.

Credit Rating Agency	Rating – Bond Market Securities	Rating – Money Market Securities
DBRS	BBB	R-2 (middle)
Fitch Ratings	BBB-	F-3
Moody’s Investors Services	Baa3	P-3
Standard & Poor’s	BBB-	A-3

- (b) **Return-Seeking Assets:** These assets generally will consist of all non-fixed income investments, such as equities and alternatives, with a main focus on price appreciation with generally higher expected long-term returns.
- (c) **Liability-Hedging Assets:** These assets generally will be fixed-income investments, such as bonds, with similar duration characteristics as the pension liabilities (i.e., these assets generally behave like pension liabilities). Since these assets focus mainly on current income, their expected long-term returns will generally be lower than return-seeking assets.
- (d) **Sub-Allocations and Rebalancing Ranges:** The sub-allocations and rebalancing ranges within the return-seeking portfolio will be reviewed from time to time as the total return-seeking allocation changes due to the Dynamic Investment Policy Schedule below. The rebalancing ranges for the total return-seeking assets and liability-hedging

* The target asset allocation indicated in the PfAD table is based on the glidepath positioning as of June 30, 2022.

Appendix “A” to Report FCS23009
Page 6 of 36

assets (fixed income) are also determined by the Dynamic Investment Policy Schedule below.

- (e) In recognition of the risk and return objectives of the Plans and the City, an initial asset allocation policy was developed by the Investment Consultant in consultation with both the Chief Investments Officer and the Treasurer based on the Plans’ current (at that time) funded status and the characteristics of the Plans and City. It is recognized, however, that the Plans’ return requirements and risk tolerance will change over time, and the intent is to reallocate the portfolio to lower risk allocations dynamically as the Plans’ funded statuses improve.

Based on an assessment of the Plans’ long-term goals and desired risk levels, the HMRF/HWRF Pension Administration Sub-Committee (following advice from the Investment Consultant) recommended to City Council a “Dynamic Investment Policy” which was subsequently approved by City Council. The Dynamic Investment Policy was developed by the Investment Consultant in consultation with the Chief Investments Officer and the Treasurer, and is based on the 2010 Dynamic Investment Policy Study which was conducted by the Investment Consultant.

The Dynamic Investment Policy dynamically adjusts the allocation to return-seeking assets and liability-hedging assets as the Plans’ funded statuses improve. Funded status may change due to any combination of investment returns, contributions, benefit payments, fund expenses, and changes to liabilities (including discount rate changes).

This Policy is based on the results of the 2010 Dynamic Investment Policy Study and the Dynamic Investment Policy Schedule is as follows:

Funded Ratio ^{1 2}	Return -Seeking Allocation		
	Minimum	Target	Maximum
<65%	50%	60%	70%
65%	50%	60%	70%
66%	50%	60%	70%
67%	50%	60%	70%
68%	50%	60%	70%
69%	50%	60%	70%
70%	50%	60%	70%
71%	49%	59%	69%
72%	47%	57%	67%
73%	46%	56%	66%
74%	44%	54%	64%
75%	43%	53%	63%
76%	41%	51%	61%
77%	40%	50%	60%
78%	38%	48%	58%
79%	37%	47%	57%
80%	35%	45%	55%
81%	34%	44%	54%
82%	32%	42%	52%
83%	31%	41%	51%

Appendix “A” to Report FCS23009
Page 7 of 36

Return -Seeking Allocation			
Funded Ratio ^{1 2}	Minimum	Target	Maximum
84%	29%	39%	49%
85%	28%	38%	48%
86%	26%	36%	46%
87%	25%	35%	45%
88%	23%	33%	43%
89%	22%	32%	42%
90%	20%	30%	40%
91%	19%	29%	39%
92%	17%	27%	37%
93%	16%	26%	36%
94%	14%	24%	34%
95%	13%	23%	33%
96%	11%	21%	31%
97%	10%	20%	30%
98%	8%	18%	28%
99%	7%	17%	27%
100%	5%	15%	25%
>100%	5%	15%	25%

¹ Funded ratio defined on a Wind-up basis.

² Funded ratio will change based on any combination of investment returns, contributions, benefits payments, expenses and changes in liabilities.

Sub-Allocations: The sub-allocations within the liability hedging and return seeking categories will be drawn down approximately based on the table below. However, allocations to illiquid assets may be adjusted at a slower rate. Sub-allocations should be within 5% of their targets. The sub-allocations will be adjusted proportionately when the return-seeking allocation is between the levels listed in the table below.

	Return Seeking		Liability Hedging	
	Canadian Equity	Global Equity	Long-Term Bonds	Real Return Bonds
15% return seeking	8%	7%	11%	74%
20% return seeking	10%	10%	12%	68%
25% return seeking	13%	12%	14%	61%
30% return seeking	15%	15%	15%	55%
35% return seeking	18%	17%	17%	48%
40% return seeking	20%	20%	18%	42%
45% return seeking	23%	22%	20%	35%
50% return seeking	25%	25%	21%	29%
55% return seeking	28%	27%	23%	22%
60% return seeking	30%	30%	25%	15%

Duration Strategy: Based on the Dynamic Investment Policy Study completed in 2010, the portfolio interest rate dollar duration will increase as the funded status improves and the allocation to liability hedging assets increases. Interest rate derivatives may be used on either a strategic or opportunistic basis to mitigate risk by increasing the hedge ratio up to 100%. This will be at the discretion of the Administrator and based on the duration of the Plan's liabilities.

**Appendix “A” to Report FCS23009
Page 8 of 36**

Rebalancing and Monitoring: A systematic rebalancing procedure will be utilized to ensure that the asset allocation of the Fund stays within the ranges defined above. As the return-seeking asset allocation changes, the sub-category allocations will be kept approximately proportional to the Initial allocation specified above. However, the allocations to illiquid investments may be adjusted more slowly. The funded ratio and asset allocation of the Fund will be reviewed regularly or when significant cash flows occur, and will be monitored and reported on at least an annual basis, or upon such more frequent basis as may be requested by City Council or its delegates from time to time. The Fund will be rebalanced as necessary, making use of benefit payments and contributions to the extent possible and considering the transaction costs involved in the rebalancing.

2.04 Management Structure

The Master Trust may employ a mix of active and passive management styles. Active management provides the opportunity to outperform specific investment benchmarks and it can provide lower absolute volatility of returns. Passive, or index, management minimizes the risk of underperformance relative to a benchmark index and is generally less expensive than active management. This approach also diversifies the manager risk, making the Master Trust less reliant on the skills of a single Investment Manager.

Because holding large amounts of foreign assets can expose the Master Trust to fluctuations in the level of the Canadian dollar, a portion of the foreign assets may be hedged back into Canadian dollars.

2.05 Environmental, Social and Governance (ESG) Issues

The Administrator’s primary responsibility is to make decisions in the best interest of the Plan beneficiaries. This responsibility requires that there be an appropriate balance between the need to seek long-term investment returns to help build better pensions for all members of the Plans and the needs for those returns to be delivered in as stable a manner as possible (given the behaviour of the investment markets).

The Administrator neither favours nor avoids managers and investments based on ESG integration. In keeping with the foregoing, and having regard to the size of the Plans and the pension fund, the Administrator does not take ESG factors into account when making investment decisions. As previously noted, the Administrator has delegated the search for investment managers to its Investment Consultant. On the direction of the Administrator, the Investment Consultant is directed to search and select the best investment managers for investing the assets of the Plans considering factors such as business, staff, historical performance and investment process, since the Administrator believes that these factors will contribute to higher investment returns in the long run and manage risk. Investment Managers are not prohibited from considering ESG factors if they believe that it will have a positive impact on the Plans’ investment returns.

Section 3—Permitted and Prohibited Investments

3.01 General Guidelines

The investments of the Master Trust must comply with the requirements and restrictions set out in the *Income Tax Act* (Canada) and the *Pension Benefits Act* (Ontario), and their respective Regulations.

3.02 Permitted Investments

In general, and subject to the restrictions in this Section 3, the Investment Managers may invest in any of the following asset classes and in any of the investment instruments listed below:

- (a) **Canadian and Foreign Equities**
 - (i) Common and convertible preferred stock the shares of which are (a) listed on a prescribed stock exchange in Canada; or (b) listed on a prescribed stock exchange outside Canada;
 - (ii) Debentures convertible into common or convertible preferred stock, provided such instruments are traded on a recognized public exchange or through established investment dealers;
 - (iii) Rights, warrants and special warrants for common or convertible preferred stock the shares of which are (a) listed on a prescribed stock exchange in Canada; or (b) listed on a prescribed stock exchange outside Canada;
 - (iv) Private placement equities, where the security will be eligible for trading on a recognized public exchange within a reasonable and defined time frame;
 - (v) Instalment receipts, American Depository Receipts, Global Depository Receipts and similar exchange traded instruments;
 - (vi) Units of real estate investment trusts (REITs);
 - (vii) Exchange traded index-participation units (e.g., iUnits; SPDRs);
 - (viii) Income trusts registered as reporting issuers under the Securities Act, domiciled in a Canadian jurisdiction that provides limited liability protection to unit holders; and
 - (ix) Units of limited partnerships which are listed on the TSX exchange.

Appendix “A” to Report FCS23009
Page 10 of 36

- (b) **Canadian and Foreign Fixed Income**
- (i) Bonds, debentures, notes, non-convertible preferred stock and other evidence of indebtedness of Canadian or developed market foreign issuers whether denominated and payable in Canadian dollars or a foreign currency, provided such instruments are traded on a recognized public exchange or through established investment dealers, subject to Section 3.04 below;
 - (ii) Real return bonds, subject to Section 3.04 below;
 - (iii) Mortgages secured against Canadian real estate subject to Section 3.05 below;
 - (iv) Mortgage-backed securities, guaranteed under the *National Housing Act*;
 - (v) Term deposits and guaranteed investment certificates;
 - (vi) Private placements of bonds subject to Section 3.03 below; and,
 - (vii) Investment in bond and debenture issues of the City and affiliated bodies is neither encouraged nor discouraged. The decision by the Investment Manager(s) to invest in such issues is entirely their responsibility and they should be governed by the same degree of due diligence and prudence that they would apply when assessing any other investment in respect of a registered pension plan.
- (c) **Cash and Short Term Investments**
- (i) Cash on hand and demand deposits;
 - (ii) Canadian and U.S. Treasury bills and bonds (with remaining maturities not exceeding 365 days) issued by the federal (Canada & U.S., as applicable) and provincial governments and their agencies;
 - (iii) Sovereign short-term debt instruments of developed countries, with maturities not exceeding 365 days;
 - (iv) Obligations of trust companies and Canadian and foreign banks chartered to operate in Canada, including bankers' acceptances;
 - (v) Commercial paper and term deposits; and
 - (vi) Other money market instruments (maturity not exceeding 365 days).
- (d) **Derivatives**
- Assets are not invested in derivative instruments and the trust will not invest in derivatives directly (including options and futures). In the event that a pooled fund invests in derivatives, prior to investing in such pooled fund, appropriate risk management processes and procedures will be in place in order to help mitigate any risks associated with derivatives. Specifically, all derivative investments will

Appendix “A” to Report FCS23009
Page 11 of 36

be made in accordance with applicable legislation and regulatory policies relating to the investment of pension plan assets in derivatives. The following uses of non-leveraged derivative instruments are permitted:

- (i) Covered put and/or call options with respect to publicly traded securities that are held in the portfolio;
 - (ii) The Investment Manager of an index portfolio may utilize fully backed, i.e. non-leveraged, derivative strategies designed to replicate the performance of specific market indices, i.e.- exchange-traded equity index futures contracts;
 - (iii) Investment Managers may use currency futures contracts and forward contracts to hedge foreign currency exposure; and
 - (iv) Interest rate derivatives can be used to hedge the interest rate risk in the liabilities.
- (e) **Other Investments**
- (i) Investments in open-ended or closed-ended pooled funds provided that the assets of such funds are permissible investments under this Policy, and
 - (ii) Deposit accounts of the Custodian can be used to invest surplus cash holdings.
- (f) **Index Mandates**
- (i) For managers of index mandates, permitted investment vehicles may include all instruments that may form part of the respective index.

3.03 Minimum Quality Requirements

- (a) **Quality Standards**
- Within the investment restrictions for individual portfolios, all portfolios should hold a prudently diversified exposure to the intended market.
- (i) The minimum quality standard for individual bonds and debentures is ‘BBB-’ or equivalent as rated by a Recognized Bond Rating Agency, at the time of purchase.
 - (ii) The minimum quality standard for individual short term investments is ‘R-1’ low or equivalent as rated by a Recognized Bond Rating Agency, at the time of purchase.
 - (iii) The minimum quality standard for individual preferred shares is ‘P-1’ or equivalent as rated by a Recognized Bond Rating Agency, at the time of purchase.
 - (iv) All investments shall be reasonably liquid (i.e. in normal circumstances they should be capable of liquidation within 1 month).

Appendix “A” to Report FCS23009
Page 12 of 36

(b) Split Ratings

In cases where the Recognized Bond Rating Agencies do not agree on the credit rating, the bond will be classified according to the following methodology:

- (i) If two agencies rate a security, use the lower of the two ratings;
- (ii) If three agencies rate a security, use the most common; and if four agencies rate a security, use the lowest most common; and
- (iii) If three agencies rate a security and all three agencies disagree, use the middle rating; if four agencies rate a security and all four agencies disagree, use the lowest middle rating.

(c) Downgrades in Credit Quality

Each Investment Manager will take the following steps in the event of a downgrade in the credit rating of a portfolio asset by a Recognized Rating Agency to below the purchase standards set out in Section 3.03 (a) Quality Standards:

- (i) The Chief Investments Officer will be notified of the downgrade by telephone at the earliest possible opportunity;
- (ii) Within ten business days of the downgrade, the Investment Manager will advise the Chief Investments Officer in writing of the course of action taken or to be taken by the Investment Manager, and its rationale; and
- (iii) Immediately upon downgrade, the Investment Manager will place the asset on a Watch List subject to monthly review by the Investment Manager with the Chief Investments Officer until such time as the security matures, is sold or until it is upgraded to a level consistent with the purchase quality standards as expressed in the above guidelines.

(d) Rating Agencies

For the purposes of this Policy, the following rating agencies shall be considered to be ‘Recognized Bond Rating Agencies’:

- (i) Dominion Bond Rating Service Limited;
- (ii) Standard and Poor’s;
- (iii) Moody’s Investors Services Inc.; and
- (iv) Fitch Ratings

(e) Private Placement Bonds

Private placement bonds are permitted subject to **all** of the following conditions:

- (i) The issues acquired must be ‘A’ or equivalent rated;
- (ii) The total investment in such issues must **not** exceed 10% of the market value of the Investment Manager(s) bond portfolio;

Appendix “A” to Report FCS23009
Page 13 of 36

- (iii) The Investment Manager’s portfolio may **not** hold more than 5% of the market value of any one private placement;
- (iv) The Investment Manager(s) must be satisfied that there is sufficient liquidity to ensure sale at a reasonable price; and
- (v) The minimum issue size for any single security must be at least \$150 million.

3.04 Maximum Quantity Restrictions

(a) Total Fund Level

No one equity holding shall represent more than 10% of the total market value of the Master Trust’s assets.

(b) Individual Investment Manager Level

The Investment Manager(s) shall adhere to the following restrictions:

(i) Equities

- (A) No one equity holding shall represent more than 10% of the market value of any one Investment Manager’s equity portfolio.
- (B) No one equity holding shall represent more than 10% of the voting shares of a corporation.
- (C) No one equity holding shall represent more than 10% of the available public float of such equity security.
- (D) Income Trusts shall not comprise more than 15% of any Investment Manager’s Canadian equity portfolio.

(ii) Bonds and Short Term

- (A) Except for federal and provincial bonds (including government guaranteed bonds), no more than 10% of an Investment Manager’s bond portfolio may be invested in the bonds of a single issuer and its related companies.
- (B) Except for federal and provincial bonds, no one bond holding shall represent more than 10% of the market value of the total outstanding for that bond issue.
- (C) No more than 8% of the market value of an Investment Manager’s bond portfolio shall be invested in bonds rated BBB (this includes all of BBB’s: BBB+, BBB, and BBB-) or equivalent.
- (D) This Policy will permit the continued holding of instruments whose ratings are downgraded below BBB- after purchase, provided that such instruments are disposed of in an orderly fashion.

Appendix “A” to Report FCS23009
Page 14 of 36

- (E) No more than 10% of the market value of an Investment Manager’s bond portfolio shall be invested in bonds denominated in a currency other than Canadian dollars.
- (F) Except for the dedicated real return bond mandate, no more than 10% of the market value of the bond portfolio may be held in real return bonds.

(iii) Other

The use of derivative securities shall be supported at all times by the explicit allocation of sufficient assets to back the intended derivative strategy. For greater certainty, Investment Managers are not permitted to leverage the assets of the Master Trust. The use of derivative securities is only permitted for the uses described in this Policy. Purchase or sale of any of these instruments for speculative purposes is prohibited.

Notwithstanding the limits described in this Section, the single security limits do not apply to an Investment Manager’s index mandate.

3.05 Prior Permission Required

The following investments are permitted **provided that** prior permission for such investments has been obtained from the Administrator:

- (a) Investments in private placement equities (except for the foreign equity investment managers investing in pooled funds where the pooled fund policy permits private placement equities).
- (b) Direct investments in mortgages.
- (c) Direct investments in any one parcel of real property that has a book value less than or equal to 5% of the book value of the Master Trust’s assets. The aggregate book value of all investments in real property and Canadian resource properties shall not exceed 25% of the book value of the Master Trust’s assets. (Previously, the overall 25% limit in respect of real and resource properties was a requirement under the *Pension Benefits Act* (Ontario).)
- (d) Direct investments in venture capital financing or private equity partnerships; and
- (e) Derivatives other than those described in 3.02(d).

3.06 Prohibited Investments

The Investment Managers shall not:

- (a) Invest in companies for the purpose of managing them;
- (b) Invest in securities that would result in the imposition of a tax on the Fund under the *Income Tax Act* (Canada) unless they provide a prior written acknowledgement that such investments will result in a tax and receive prior written permission for such investments from the Administrator or;
- (c) Make any investments not specifically permitted by this Policy.

3.07 Securities Lending

The investments of the Master Trust may be loaned, for the purpose of generating revenue for the Fund, subject to the provisions of the *Pension Benefits Act* (Ontario) and the *Income Tax Act* (Canada), and applicable regulations.

For securities held in segregated accounts, such loans must be secured by cash and/or readily marketable government bonds, treasury bills and/or letters of credit, discount notes and bankers' acceptances of chartered banks. For loaned securities, the security held or collateral must have an aggregate market value which shall never be less than the percentage of the aggregate market value of the loaned securities which is the highest of: (i) the minimum percentage required by any applicable legislation, regulatory authority or prevailing market practice; or (ii) 105%. The aggregate market value of the loaned securities and of the collateral shall be monitored and calculated by the Custodian daily.

The terms and conditions of any securities lending program will be set out in a contract with the custodian. The custodian shall, at all times, ensure that the Chief Investments Officer has a current list of those institutions that are approved to borrow the Fund's investments.

Lending of the portion of the Master Trust's assets held in a pooled fund is governed by the terms of the conditions set out in the pooled fund Statement of Investment Policies and Procedures or similar document.

3.08 Borrowing

The Master Trust shall not borrow money, except to cover short-term contingency and the borrowing is for a period that does not exceed ninety days, subject to the *Pension Benefits Act* (Ontario), the *Income Tax Act* (Canada) and the written permission of the General Manager of Finance and Corporate Services.

3.09 Conflicts between the Policy and Pooled Fund Investment Policies

While the guidelines in this Policy are intended to guide the management of the Master Trust, it is recognized that, due to the use of pooled funds, there may be instances where there is a conflict between the Policy and the investment policy of a pooled fund. In that case, the Investment Manager is expected to notify Chief Investments Officer upon the initial review of the Policy and whenever a change in the pooled fund policy creates a conflict. However, it is understood that any ambiguity will be interpreted in favour of the pooled fund policy, provided such interpretation complies with all applicable laws.

Section 4—Monitoring and Control

4.01 Delegation of Responsibilities

The General Manager of Finance and Corporate Services is the designated contact person for administrative matters. However, City Council has delegated certain administrative duties and responsibilities to internal and external agents, including to the HMRF/HWRF Pension Administration Sub-committee, the Chief Investments Officer and the General Manager of Finance and Corporate Services. Overall responsibility for the Master Trust ultimately rests with City Council, and the City (acting through Council) is the pension plan administrator of the Plans (for each Plan, the "Administrator").

(a) Chief Investments Officer

The Chief Investments Officer has been delegated the following responsibilities:

- (i) monitoring the Master Trust asset mix and rebalancing as required, including executing asset mix changes required per the Dynamic Policy Schedules outlined in section 2.03;
- (ii) day-to-day liaison including contract management with external Investment Managers, the Investment Consultant, and the Custodian/Trustee;
- (iii) monitoring and budgeting for cash flow within the pension fund;
- (iv) researching, recommending and implementing improvements to asset management of the Master Trust;
- (v) directing and implementing strategy for self-managed portfolios, if any; and
- (vi) preparing and presenting to City Council and the HMRF/HWRF Pension Administration Sub-Committee a report on the Plan's investment performance and asset mix, and such other information as City Council may require and/or other such information as the Chief Investments Officer considers appropriate to include in the report, on at least an annual basis, or upon such more frequent basis as may be requested by City Council or its delegates from time to time.

(b) Investment Managers

The Investment Managers have been delegated the following responsibilities:

- (i) invest the assets of the Master Trust in accordance with this Policy;
- (ii) meet with the Chief Investments Officer as required and provide written reports regarding the Investment Manager's past performance, their future strategies and other issues as requested;

Appendix “A” to Report FCS23009
Page 17 of 36

- (iii) notify the Chief Investments Officer, in writing of any significant changes in the Investment Manager’s philosophies and policies, personnel or organization and procedures;
- (iv) will provide periodically, but no less than on an annual basis, or upon such more frequent basis as may be requested by City Council or its delegates from time to time, lists of assets and such other information as may be requested by the Chief Investments Officer; and,
- (v) file, on at least an annual basis, or upon such more frequent basis as may be requested by City Council or its delegates from time to time compliance reports (see Section 4.03).

(c) Custodian/Trustee

The custodian/trustee will:

- (i) Fulfil the regular duties of a Custodian/Trustee as required by law;
- (ii) maintain safe custody over the assets of the Master Trust Plans;
- (iii) execute the instructions of the Chief Investments Officer and the Investment Managers; and
- (iv) record income and provide financial statements to the Chief Investments Officer on at least an annual basis, or upon such more frequent basis as may be requested by City Council or its delegates from time to time, or as otherwise required.

(d) Investment Consultant

The investment consultant has been delegated the following responsibilities:

- (i) assist the Chief Investments Officer in developing a prudent long-term asset mix, and specific investment objectives and policies;
- (ii) monitor, analyse and report on the Master Trust’s investment performance and to support the Chief Investments Officer on any investment related matters;
- (iii) monitor and report the funded status of the Plans to the Chief Investments Officer on at least an annual basis, or upon such more frequent basis as may be requested by City Council or its delegates from time to time;
- (iv) assist with the selection of Investment Managers, custodians and other suppliers; and
- (v) meet with the Chief Investments Officer as required.

(e) Actuary

The actuary has been delegated the following responsibilities:

Appendix “A” to Report FCS23009
Page 18 of 36

- (i) perform actuarial valuations of the Plan as required; and
- (ii) advise the Chief Investments Officer and the Investment Consultant on any matters relating to Plan design, membership and contributions, and actuarial valuations.

4.02 Performance Measurement

For the purpose of evaluating the performance of the Master Trust and the Investment Managers, all rates of returns are measured over moving four-year periods. Return objectives are net of fees and include realized and unrealized capital gains or losses plus income from all sources. Returns will be measured quarterly and will be calculated as time-weighted rates of return.

(a) Active and Index Canadian Equity Managers

Investment results of the active and index Canadian Equity Managers are to be tested regularly against a Benchmark Portfolio comprising:

Benchmark	%
S&P/TSX Composite Index	100

(b) Active and Index Global Equity Managers

Investment results of the active and index Global Equity Managers are to be tested regularly against a long-term Benchmark Portfolio comprising:

Benchmark	%
MSCI World Index (C\$)	100

(c) Active and Index Canadian Bond Managers – Long Bonds

Investment results of the active and index Canadian Bond Managers for Long Bonds are to be tested regularly against a Benchmark Portfolio comprising:

Benchmark	%
FTSE Canada Long Bond Index	100

(d) Active and Index Canadian Bond Managers – Real Return Bonds

Investment results of the active and index Canadian Bond Managers for Real Return Bonds are to be tested regularly against a Benchmark Portfolio comprising:

Appendix “A” to Report FCS23009
Page 19 of 36

Benchmark	%
FTSE Canada Real Return Bond Index	100

4.03 Compliance Reporting by Investment Manager

The Investment Managers are required to complete and deliver a compliance report to the Chief Investments Officer and the Investment Consultant on at least an annual basis, or upon such more frequent basis as may be requested by City Council or its delegates from time to time. The compliance report will indicate whether or not the Investment Manager was in compliance with this Policy during the period covered in the report.

In the event that an Investment Manager is not in compliance with this Policy, the Investment Manager is required to advise the Chief Investments Officer immediately, detail the nature of the non-compliance and recommend an appropriate course of action to remedy the situation.

The Master Trust invests in pooled funds with separate investment policies. In that case, the Investment Manager must confirm compliance to the pooled fund policy. In addition, should a conflict arise between a pooled fund policy and this Policy, the Investment Manager is required to advise the Chief Investments Officer immediately and detail the nature of the conflict.

4.04 Standard of Professional Conduct

The Investment Managers are expected to comply, at all times and in all respects, with a written code of ethics that is no less stringent in all material respects than the Code of Ethics and Standards of Professional Conduct as promulgated by the CFA Institute.

The Investment Managers will manage the assets with the care, diligence and skill that an investment manager of ordinary prudence would use in dealing with pension plan assets. The Investment Managers will also use all relevant knowledge and skill that they possess or ought to possess as prudent investment managers.

Section 5—Administration

5.01 Conflicts of Interest

(a) Responsibilities

This standard applies to the City’s staff, as well as to all agents employed by the City, in the execution of their responsibilities under the *Pension Benefits Act* (Ontario) (the “Affected Persons”).

An “agent” is defined to mean a company, organization, association or individual, as well as its employees who are retained by the Administrator to provide specific services with respect to the investment, administration and management of the assets of the Master Trust.

(b) Disclosure

In the execution of their duties, the Affected Persons shall disclose any material conflict of interest relating to them, or any material ownership of securities, which could impair their ability to render unbiased advice, or to make unbiased decisions, affecting the administration of the Master Trust assets.

Further, it is expected that no Affected Person shall make any personal financial gain (direct or indirect) because of his or her fiduciary position. However, normal and reasonable fees and expenses incurred in the discharge of their responsibilities are permitted in accordance with City policies as approved by Council.

No Affected Person shall accept a gift or gratuity or other personal favour, other than one of nominal value, from a person with whom the employee deals in the course of performance of his or her duties and responsibilities for the Master Trust.

It is incumbent on any Affected Person who believes that he or she may have a conflict of interest, or who is aware of any conflict of interest, to disclose full details of the situation to the attention of the General Manager of Finance and Corporate Services and/or the Treasurer immediately. The General Manager of Finance and Corporate Services and/or the Treasurer, in turn, will decide what action is appropriate under the circumstances.

No Affected Person who has or is required to make a disclosure as contemplated in this Policy shall participate in any discussion, decision or vote relating to any proposed investment or transaction in respect of which he or she has made or is required to make disclosure, unless otherwise determined permissible by decision of the General Manager of Finance and Corporate Services and/or the Treasurer.

5.02 Related Party Transactions

The Chief Investments Officer shall not, on behalf of the Plans or the Master Trust, directly or indirectly,

- (i) lend the moneys of the Plans to a related party or use those moneys to hold an investment in the securities of a related party; or
- (ii) enter into a transaction with a related party.

The Chief Investments Officer may enter into a transaction with a related party:

- (i) for the operation or administration of the Plans if it is under terms and conditions that are not less favourable to the Plans than market terms and conditions and such transaction does not involve the making of loans to, or investments in, the related party or
- (ii) the value of the transaction is nominal or the transaction is immaterial. In assessing whether the value of the transaction is nominal or immaterial, two or more transactions with the same related party shall be considered as a single transaction.

For the purposes of Section 5.02, only the market value of the combined assets of the Fund shall be used as the criteria to determine whether a transaction is nominal or immaterial. Transactions less than 0.5% of the combined market value of the assets of the Fund are considered nominal.

The following investments are exempt from the related party rules:

- (i) investments in an investment fund or a segregated fund (as those terms are used in the *Pension Benefits Standards Regulations*) in which investors other than the administrator and its affiliates may invest and that complies with Section 9 and Section 11 of Schedule III to the *Pension Benefits Standards Regulations*;
- (ii) investments in an unallocated general fund of a person authorized to carry on a life insurance business in Canada;
- (iii) investments in securities issued or fully guaranteed by the Government of Canada, the government of a province, or an agency of either one of them;

Appendix “A” to Report FCS23009
Page 22 of 36

- (iv) investments in a fund composed of mortgage-backed securities that are fully guaranteed by the Government of Canada, the government of a province, or an agency of either one of them;
- (v) investments in a fund that replicates the composition of a widely recognized index of a broad class of securities traded at a marketplace (as that term is used in the *Pension Benefits Standards Regulations*); or
- (vi) investments that involve the purchase of a contract or agreement in respect of which the return is based on the performance of a widely recognized index of a broad class of securities traded at a marketplace (as that term is used in the *Pension Benefits Standards Regulations*).

A “related party” is defined to mean the Administrator of the Plans, including any officer, director or employee of the Administrator. It also includes, the Investment Managers and their employees, a union representing employees of the employer, a member of the Master Trust, a spouse or child of the persons named previously, or a corporation that is directly or indirectly controlled by the persons named previously, and any other person constituting a “related party” under the *Pension Benefits Act (Ontario)*. Related party does not include government or a government agency, or a bank, trust company or other financial institution that holds the assets of the Master Trust.

5.03 Selecting Investment Managers

In the event that a new Investment Manager must be selected or additional Investment Manager(s) added to the existing Investment Manager(s), the Chief Investments Officer will undertake an Investment Manager search with or without the assistance of a third-party investment consultant depending on the expertise required. The criteria used for selecting an Investment Manager will be consistent with the investment and risk philosophy set out in Section 1.04 (Investment and Risk Philosophy).

5.04 Directed Brokerage Commissions

Investment Managers may use directed brokerage to pay for research and other investment related services provided they comply with, and provide the disclosure required by, the Soft Dollar Standards promulgated by the CFA Institute.

5.05 Monitoring of Asset Mix

In order to ensure that the Master Trust operates within the minimum and maximum guidelines stated in this Policy as outlined in Section 2, the Chief Investments Officer shall monitor the asset mix on at least an annual basis, or upon such more frequent basis as may be requested by City Council or its delegates from time to time. Rebalancing between the investment mandates can take place over a reasonably short period of time after an imbalance has been identified. Rebalancing may be effected by redirecting the net cash flows to and from the Master Trust, or by transferring cash or securities between portfolios and/or Investment Managers.

5.06 Monitoring of Investment Managers

An important element in the success of this Policy is the link between the Investment Managers and the Chief Investments Officer. It is expected that the Investment Managers will communicate with the Chief Investments Officer whenever necessary. Periodic, written investment reports from the Investment Managers are sent to and reviewed by the Chief Investments Officer and form part of the monitoring process.

Meetings including telephone conference call meetings between the Investment Managers and the Chief Investments Officer will be scheduled as required. At each meeting or telephone conference call meeting, it is expected that the Investment Managers will prepare a general economic and capital markets overview, which will be distributed prior to or during the meeting. They should also include the following in their presentations:

- review of the previous period's strategy and investment results,
- discussion of how the condition of the capital markets affects the investment strategy of their respective portfolios,
- economic and market expectations,
- anticipated changes in the asset mix within the limits provided in this Policy, and,
- discussion of compliance and any exceptions.
- discussion of any votes that were cast against the wishes of company management by the Investment Managers in exercising voting rights (Section 5.08).

5.07 Dismissal of an Investment Manager

Reasons for considering the termination of the services of an Investment Manager include, but are not limited to, the following factors:

- (a) performance results which are below the stated performance benchmarks;
- (b) changes in the overall structure of the Master Trusts' assets such that the Investment Manager's services are no longer required;
- (c) change in personnel, firm structure or investment philosophy which might adversely affect the potential return and/or risk level of the portfolio; and/or
- (d) failure to adhere to this Policy.

5.08 Voting Rights

The Administrator has delegated voting rights acquired through the investments held by the Master Trust to the custodian of the securities to be exercised in accordance with the Investment Manager's instructions. Investment Managers are expected to exercise all voting rights related to investments held by the Master Trust in the interests of the members of the underlying pension plans. The Investment Managers shall report when they vote against the wishes of the company management to the Chief Investments Officer, providing information as to the reasons behind this vote.

5.09 Valuation of Investments Not Regularly Traded

The following principles will apply for the valuation of investments that are not traded regularly:

Appendix “A” to Report FCS23009
Page 24 of 36

- (a) **Equities**
Average of bid-and-ask prices from two major investment dealers, at least once every calendar quarter.
- (b) **Bonds**
Same as for equities.
- (c) **Mortgages**
Unless in arrears, the outstanding principal plus/minus the premium/discount resulting from the differential between face rate and the currently available rate for a mortgage of similar quality and term, determined at least once every month.
- (d) **Real Estate**
A certified written appraisal from a qualified independent appraiser at least once every two years.

5.10 Policy Review

This Policy may be reviewed and revised at any time, but at least once every calendar year it must be formally reviewed. Should the Investment Manager(s) wish to review this Policy at any time, it is his/her responsibility to contact the Chief Investments Officer with specific recommendations.

The appropriateness of the Dynamic Investment Policy asset allocation parameters should be reviewed on an ongoing basis. A new Dynamic Investment Policy Study (Dynamic Asset-Liability Modeling Study) may be undertaken if any of the following events occur:

- (a) The plan gets significantly closer to the end-state of the flight path, including if the flight path funded ratio measurement changes significantly (to over 84%) from the starting point of the 2010 study, which was 69%.
- (b) There are significant changes to the regulations that affect the key metrics used in making decisions in the 2010 Dynamic Investment Policy Study or should affect the asset allocation in the future;
- (c) Capital market conditions change significantly such that the assumptions embedded in the 2010 Dynamic Investment Policy Study are no longer reasonable; or
- (d) The plan sponsor’s risk posture changes significantly.

Appendix A - Statement of Investment Policies & Procedures Hamilton Municipal Retirement Fund

Overview

1.01 Purpose of Statement

This Statement of Investment Policies and Procedures (the “Hamilton Municipal Retirement Fund SIPP”) provides the framework for the investment of the assets of the Hamilton Municipal Retirement Fund, registration number 0275123 (the “Plan”);

The objective of the Hamilton Municipal Retirement Fund SIPP is to ensure that the assets of the Plan, together with expected contributions made by both the City and the Plan members, shall be invested in a continued prudent and effective manner.

The Hamilton Municipal Retirement Fund SIPP is based on the “prudent person portfolio approach” to ensure the prudent investment and administration of the assets of the Plan (the “Fund”) are within the parameters set out in the *Pension Benefits Act*, (Ontario) and the Regulations thereunder.

All provisions in the Master Trust SIPP apply to this Appendix.

1.02 Background of the Plan

The Hamilton Municipal Retirement Fund is a contributory defined benefit plan. The plan has been closed to new entrants since 1965. Municipal employees hired after June 30, 1965 participate in the OMERS Pension Plan. Therefore, this is a closed fund and will terminate upon the death of the last retiree or successor. Effective July 1, 2001, the last active member retired from the Plan.

1.03 Plan Profile

a) Contributions

There are no active members in the Plan.

b) Benefits

2% of average annual earnings in best consecutive 5 years before retirement for each year of credited service up to 35 years reduced by 0.675% of the 5-year average earnings up to the final year’s YMPE for each year of contributory service after January 1, 1966. CPP Offset suspended from date of retirement to age 65. Effective Jan 1, 2006 annual increases will not be less than the increase provided to retirees under the OMERS plan. .

c) Liabilities

As of the most recent actuarial valuation of the Plan as at December 31, 2021 there were no active members, 3 deferred members and 148 retirees and beneficiaries.

As of December 31, 2021, the going-concern liability of the plan was \$58,278,888, including a Provision for Adverse Deviation (PfAD) of \$3,143,871, compared to the actuarial value of assets of \$73,721,565. On a solvency basis, the liability was \$48,960,477, while the assets (at market) were \$73,571,565 (net of a provision for

Appendix "A" to Report FCS23009
Page 26 of 36

plan windup expenses of \$150,000). On a windup basis, the liability was \$60,690,521.

1.04 Objective of the Plan

The objective of the Plans is to provide members of the Plans with retirement benefits prescribed under the terms thereof.

1.05 Investment and Risk Philosophy

The primary investment objective is to provide an economic return on assets sufficient to fund plan liabilities over the long-term, while adhering to prudent investment practices.

The investment philosophies and strategies must take into account both return and risk objectives of the Plan and the City.

In recognition of the risk and return objectives of the Plan and the City, an initial Asset Allocation Policy was developed based on the Plan's current funded status and the characteristics of the Plan and City. It is recognized, however, that the Plan return requirements and risk tolerance will change over time, and the intent is to reallocate the portfolio to lower risk allocations dynamically as the Plan's funded status improves.

1.06 Administration

The General Manager of Finance and Corporate Services for the City of Hamilton is the designated contact at the City for administrative purposes.

1.07 Pooling of Assets

For investment purposes, certain assets of the Plan are invested in units of the City of Hamilton Defined Benefit Plans Master Trust, along with certain assets of the Hamilton-Wentworth Retirement Fund and the Hamilton Street Railway Pension Plan (1994).

Up to 2 % of Plan assets may be invested outside of the City of Hamilton Defined Benefit Plans Master Trust for operating expenses and liquidity purposes, in accordance with the parameters set out in Section 3.02 (c) and (e) of the City of Hamilton Defined Benefit Plans Master Trust SIPP. The provisions of the City of Hamilton Defined Benefit Plans Master Trust SIPP apply to the investment of these assets.

1.08 Master Trust SIPP

The Master Trust SIPP is the policy that should be followed while investing the pooled assets of the Hamilton Municipal Retirement Fund.

Appendix B - Statement of Investment Policies & Procedures Hamilton Street Railway Pension Plan (1994)

Overview

1.01 Purpose of Statement

This Statement of Investment Policies and Procedures (the "Hamilton Street Railway Pension Plan SIPP") provides the framework for the investment of the assets of the Hamilton Street Railway Pension Plan (1994), registration number 0253344 (the "Plan");

The objective of the Hamilton Street Railway Pension Plan SIPP is to ensure that the assets of the Plan, together with expected contributions made by both the City and the Plan members, shall be invested in a continued prudent and effective manner.

The Hamilton Street Railway Pension Plan SIPP is based on the "prudent person portfolio approach" to ensure the prudent investment and administration of the assets of the Plan (the "Fund") are within the parameters set out in the *Pension Benefits Act*, (Ontario) and the Regulations thereunder.

All provisions in the Master Trust SIPP apply to this Appendix.

1.02 Background of the Plan

The current Plan dates from January 1, 1994 when two former plans – Canada Coach Lines and Hamilton Street Railway plans were merged. Effective January 1, 2009 this contributory defined benefit plan was closed to new members and active members stopped contributing and accruing service under the plan.

1.03 Plan Profile

a) Contributions

Under the terms of the Plan text, members' contributions prior to 1999 were 7.5% of earnings less contributions made to Canada Pension Plan. For the calendar years 1999 through 2008, members (depending on the year) either enjoyed a contribution holiday or were limited to contribution rates of 1% of earnings. Effective January 2009, as members became City employees, no member contributions have been required or permitted to be made to the Plan.

b) Benefits

Members receive a pension equal to 1.5% of average pensionable earnings up to the average Year's Maximum Pensionable Earnings (YMPE) as established under the Canada Pension Plan, plus 2% of the excess, multiplied by years of credited service accrued up to December 31, 2008. The "average pensionable earnings" are defined as the average of best five years' earnings during the member's credited service and OMERS credited service, if any. The "average YMPE" is defined as the average of the YMPE for the last thirty-six complete months of plan membership.

In the event that pensions accrued under the prior plan exceed the pension accrued under the current plan for service prior to July 1, 1980, then the pension is increased accordingly. Pensions are subject to annual indexing equal to the indexing provided

Appendix “A” to Report FCS23009
Page 28 of 36

to retirees under the OMERS plan (100% of inflation to a maximum of 6% per annum).

c) *Liabilities*

As of the most recent actuarial valuation of the Plan as at January 1, 2020, there were 315 active members, 29 deferred members and 610 retirees and beneficiaries. The average age of the active members was approximately 54.3 years with average pensionable earnings of \$70,474.

As of January 1, 2020, the going-concern liability of the plan was \$228,695,400, including a Provision for Adverse Deviation (PfAD) of \$17,103,300, compared to the actuarial value of assets of \$211,167,500. On a solvency basis, the liability was \$216,314,100 while the assets (at market) were \$210,967,500 (net of a provision for plan windup expenses of \$200,000). On a windup basis the liability was \$315,487,000.

The going-concern deficit is being eliminated through a series of special payments. No special payments are required for the solvency deficit since the solvency ratio exceeds .85.

1.04 Objective of the Plan

The objective of the Plan is to provide members of the Plan with retirement benefits prescribed under the terms thereof.

1.05 Investment and Risk Philosophy

The primary investment objective is to provide an economic return on assets sufficient to fund plan liabilities over the long-term, while adhering to prudent investment practices.

The investment philosophies and strategies must take into account both return and risk objectives of the Plan and the City.

In recognition of the risk and return objectives of the Plan and the City, an initial Asset Allocation Policy was developed based on the Plan’s current funded status and the characteristics of the Plan and City. It is recognized, however, that the Plan return requirements and risk tolerance will change over time, and the intent is to reallocate the portfolio to lower risk allocations dynamically as the Plan’s funded status improves.

1.06 Administration

The General Manager of Finance and Corporate Services for the City of Hamilton is the designated contact at the City for administrative purposes.

1.07 Pooling of Assets

For investment purposes, certain assets of the Plan are invested in units of the City of Hamilton Defined Benefit Plans Master Trust, along with certain assets of the Hamilton-Wentworth Retirement Fund and the Hamilton Municipal Retirement Fund.

Up to 2 % of Plan assets may be invested outside of the City of Hamilton Defined Benefit Plans Master Trust for operating expenses and liquidity purposes, in accordance with the

Appendix “A” to Report FCS23009
Page 29 of 36

parameters set out in Section 3.02 (a), (c) and (e) of the City of Hamilton Defined Benefit Plans Master Trust SIPP. The provisions of the City of Hamilton Defined Benefit Plans Master Trust SIPP apply to the investment of these assets.

1.08 Master Trust SIPP

The Master Trust SIPP is the policy that should be followed while investing the pooled assets of the Hamilton Street Railway Pension Plan (1994).

Appendix C - Statement of Investment Policies & Procedures The Hamilton-Wentworth Retirement Fund

Overview

1.01 Purpose of Statement

This Statement of Investment Policies and Procedures (the "Hamilton-Wentworth Retirement Fund SIPP") provides the framework for the investment of the assets of the Hamilton-Wentworth Retirement Fund, registration number 1073352 (the "Plan");

The objective of the Hamilton-Wentworth Retirement Fund SIPP is to ensure that the assets of the Plan, together with expected contributions made by both the City and the Plan members, shall be invested in a continued prudent and effective manner.

The Hamilton-Wentworth Retirement Fund SIPP is based on the "prudent person portfolio approach" to ensure the prudent investment and administration of the assets of the Plan (the "Fund") are within the parameters set out in the *Pension Benefits Act*, (Ontario) and the Regulations thereunder.

All provisions in the Master Trust SIPP apply to this Appendix.

1.02 Background of the Plan

The Plan is a contributory, defined benefit Plan. Effective January 1, 1985 all active Region Other Participants, excluding Police Civilians, were transferred to OMERS. The liability to transfer such members to OMERS was met by monthly payments of \$115,187 until December 31, 2000 and monthly payments of \$361 thereafter, concluding September 30, 2003. Effective January 1, 2002, the last active member retired from the plan.

1.03 Plan Profile

a) Contributions

Under the terms of the Plan text:

For normal retirement age 60 class:

- 1) Senior Police Officers: contributions should be 7% of earnings up to the YMPE plus 8.5% of contributory earnings in excess of YMPE.
- 2) Other Police Officers: contributions should be 6.5% of earnings up to YMPE plus 8% of contributory earnings in excess of YMPE.

For a normal retirement age of 65 contributions should be 5.75% of earnings.

b) Benefits

2% of average annual earnings in best 5 years before retirement for each year of credited service up to 35 years reduced by 0.675% of the 5-year average earnings up to the final year's YMPE for each year of contributory service after January 1, 1966. CPP Offset suspended from date of retirement to age 65. Effective Jan 1, 2006 annual increases will not be less than the increase provided to retirees under the

**Appendix “A” to Report FCS23009
Page 31 of 36**

OMERS plan, which is currently equal to 100% of the increase in the Consumer Price Index to a maximum of 6.0% per annum.

c) *Liabilities*

As of the most recent actuarial valuation of the Plan as at December 31, 2021, there were no active members, no deferred members and 124 retirees and beneficiaries.

As of December 31, 2021, the going-concern liability of the plan was \$47,727,000, including a Provision for Adverse Deviation (PfAD) of \$3,510,000, compared to the actuarial value of assets of \$54,459,000. On a solvency basis, the liabilities were \$44,957,000 while the assets were \$54,389,000 (net of a provision for plan windup expenses of \$70,000). On a windup basis the liability was \$55,457,000.

1.04 Objective of the Plan

The objective of the Plan is to provide members of the Plan with retirement benefits prescribed under the terms thereof.

1.05 Investment and Risk Philosophy

The primary investment objective is to provide an economic return on assets sufficient to fund plan liabilities over the long-term, while adhering to prudent investment practices.

The investment philosophies and strategies must take into account both return and risk objectives of the Plan and the City.

In recognition of the risk and return objectives of the Plan and the City, an initial Asset Allocation Policy was developed based on the Plan’s current funded status and the characteristics of the Plan and City. It is recognized, however, that the Plan return requirements and risk tolerance will change over time, and the intent is to reallocate the portfolio to lower risk allocations dynamically as the Plan’s funded status improves.

1.06 Administration

The General Manager of Finance and Corporate Services for the City of Hamilton is the designated contact at the City for administrative purposes.

1.07 Pooling of Assets

For investment purposes, certain assets of the Plan are invested in units of the City of Hamilton Defined Benefit Plans Master Trust, along with certain assets of the Hamilton Street Railway Pension Plan (1994) and the Hamilton Municipal Retirement Fund.

Up to 2 % of Plan assets may be invested outside of the City of Hamilton Defined Benefit Plans Master Trust for operating expenses and liquidity purposes, in accordance with the parameters set out in Section 3.02 (c) and (e) of the City of Hamilton Defined Benefit Plans Master Trust SIPP. The provisions of the City of Hamilton Defined Benefit Plans Master Trust SIPP apply to the investment of these assets.

1.08 Master Trust SIPP

The Master Trust SIPP is the policy that should be followed while investing the pooled assets of the Hamilton-Wentworth Retirement Fund Pension Plan.

Appendix D – Compliance Reports

Appendix "A" to Report FCS23009
Page 33 of 36

The City of Hamilton Master Trust
Index Bond Manager

Compliance Report for the Quarter Ended _____
(date)

		GUIDELINES	POLICY COMPLIED WITH YES/NO *
ASSET MIX (at Market Value)		%	
FIXED INCOME	BONDS	100%	
CASH	SHORT-TERM & CASH	0%	
CONSTRAINTS			
GENERAL	Investment Policy Section 3.01 – General Guidelines		
BONDS	Investment Policy Section 3.02 (b) – Bonds		
CASH	Investment Policy Section 3.02 (c) – Cash		
DERIVATIVES	Investment Policy Section 3.02 (c) – Derivatives		
OTHER	Investment Policy Section 3.02 (e) – Other Investments		
INDEX	Investment Policy Section 3.02 (f) – Index Mandates		
QUALITY REQUIREMENTS	Investment Policy Section 3.03 – Minimum Quality Requirements		
QUANTITY RESTRICTIONS	Investment Policy Section 3.04 – Maximum Quantity Restrictions		
PRIOR PERMISSION	Investment Policy Section 3.05 – Prior Permission Required		
PROHIBITED INVESTMENTS	Investment Policy Section 3.06 – Prohibited Investments		
SECURITIES LENDING	Investment Policy Section 3.07 – Securities Lending		
RESPONSIBILITIES	Investment Policy Section 4.01 (b) – Delegation of Responsibilities – Investment Managers		
STANDARDS OF PROFESSIONAL CONDUCT	Investment Policy Section 4.04 - Standards of Professional Conduct		
CONFLICTS OF INTEREST	Investment Policy Section 5.01 - Conflicts of Interest		
VOTING RIGHTS	Investment Policy Section 5.08 - Voting Rights		

* If policy not complied with, comment on specifics

COMPLETED BY: _____ **SIGNED BY:** _____

**Appendix "A" to Report FCS23009
Page 34 of 36**

**The City of Hamilton Master Trust
Index Equity Manager**

Compliance Report for the Quarter Ended _____
(date)

		GUIDELINES	POLICY COMPLIED WITH YES/NO *
ASSET MIX (at Market Value)		%	
EQUITIES			
	U.S.		
	EAFE		
	TOTAL FOREIGN		
CASH	SHORT-TERM & CASH		
CONSTRAINTS			
GENERAL	Investment Policy Section 3.01 – General Guidelines		
EQUITIES	Investment Policy Section 3.02 (a) – Canadian and Foreign Equities		
CASH	Investment Policy Section 3.02 (c) – Cash and Short Term Investments		
DERIVATIVES	Investment Policy Section 3.02 (d) – Derivatives		
OTHER INVESTMENTS	Investment Policy Section 3.02 (e) – Other Investments		
INDEX	Investment Policy Section 3.02 (f) – Index Mandates		
QUALITY REQUIREMENTS	Investment Policy Section 3.03 – Minimum Quality Requirements		
QUANTITY RESTRICTIONS	Investment Policy Section 3.04 – Maximum Quantity Restrictions		
PRIOR PERMISSION	Investment Policy Section 3.05 – Prior Permission Required		
PROHIBITED INVESTMENTS	Investment Policy Section 3.06 – Prohibited Investments		
SECURITIES LENDING	Investment Policy Section 3.07 – Securities Lending		
BORROWING	Investment Policy Section 3.08 – Borrowing		
RESPONSIBILITIES	Investment Policy Section 4.01 (b) – Delegation of Responsibilities – Investment Managers		
STANDARDS OF PROFESSIONAL CONDUCT	Investment Policy Section 4.04 - Standards of Professional Conduct		
CONFLICTS OF INTEREST	Investment Policy Section 5.01 - Conflicts of Interest		
VOTING RIGHTS	Investment Policy Section 5.08 - Voting Rights		

* If policy not complied with, comment on specifics

COMPLETED BY: _____ **SIGNED BY:** _____

**Appendix "A" to Report FCS23009
Page 35 of 36**

**The City of Hamilton Master Trust
Active Bond Manager**

**Compliance Report for the Quarter Ended _____
(date)**

		GUIDELINES	POLICY COMPLIED WITH YES/NO *
ASSET MIX (at Market Value)		%	
FIXED INCOME	BONDS	100%	
CASH	SHORT-TERM & CASH	0%	
CONSTRAINTS			
GENERAL	Investment Policy Section 3.01 – General Guidelines		
BONDS	Investment Policy Section 3.02 (b) – Bonds		
CASH	Investment Policy Section 3.02 (c) – Cash		
DERIVATIVES	Investment Policy Section 3.02 (c) – Derivatives		
OTHER	Investment Policy Section 3.02 (e) – Other Investments		
INDEX	Investment Policy Section 3.02 (f) – Index Mandates		
QUALITY REQUIREMENTS	Investment Policy Section 3.03 – Minimum Quality Requirements		
QUANTITY RESTRICTIONS	Investment Policy Section 3.04 – Maximum Quantity Restrictions		
PRIOR PERMISSION	Investment Policy Section 3.05 – Prior Permission Required		
PROHIBITED INVESTMENTS	Investment Policy Section 3.06 – Prohibited Investments		
SECURITIES LENDING	Investment Policy Section 3.07 – Securities Lending		
RESPONSIBILITIES	Investment Policy Section 4.01 (b) – Delegation of Responsibilities – Investment Managers		
STANDARDS OF PROFESSIONAL CONDUCT	Investment Policy Section 4.04 - Standards of Professional Conduct		
CONFLICTS OF INTEREST	Investment Policy Section 5.01 - Conflicts of Interest		
VOTING RIGHTS	Investment Policy Section 5.08 - Voting Rights		

* If policy not complied with, comment on specifics

COMPLETED BY: _____ **SIGNED BY:** _____

**Appendix "A" to Report FCS23009
Page 36 of 36**

**The City of Hamilton Master Trust
Active Equity Manager**

Compliance Report for the Quarter Ended _____
(date)


		GUIDELINES	POLICY COMPLIED WITH YES/NO *
ASSET MIX (at Market Value)		%	
EQUITIES	CANADIAN		
	U.S.		
	EAFE		
	TOTAL FOREIGN		
CASH	SHORT-TERM & CASH		
CONSTRAINTS			
GENERAL	Investment Policy Section 3.01 – General Guidelines		
EQUITIES	Investment Policy Section 3.02 (a) – Canadian and Foreign Equities		
CASH	Investment Policy Section 3.02 (c) – Cash and Short Term Investments		
DERIVATIVES	Investment Policy Section 3.02 (d) – Derivatives		
OTHER INVESTMENTS	Investment Policy Section 3.02 (e) – Other Investments		
INDEX	Investment Policy Section 3.02 (f) – Index Mandates		
QUALITY REQUIREMENTS	Investment Policy Section 3.03 – Minimum Quality Requirements		
QUANTITY RESTRICTIONS	Investment Policy Section 3.04 – Maximum Quantity Restrictions		
PRIOR PERMISSION	Investment Policy Section 3.05 – Prior Permission Required		
PROHIBITED INVESTMENTS	Investment Policy Section 3.06 – Prohibited Investments		
SECURITIES LENDING	Investment Policy Section 3.07 – Securities Lending		
BORROWING	Investment Policy Section 3.08 – Borrowing		
RESPONSIBILITIES	Investment Policy Section 4.01 (b) – Delegation of Responsibilities – Investment Managers		
STANDARDS OF PROFESSIONAL CONDUCT	Investment Policy Section 4.04 - Standards of Professional Conduct		
CONFLICTS OF INTEREST	Investment Policy Section 5.01 - Conflicts of Interest		
VOTING RIGHTS	Investment Policy Section 5.08 - Voting Rights		

* If policy not complied with, comment on specifics

COMPLETED BY: _____ **SIGNED BY:** _____



CITY OF HAMILTON
CORPORATE SERVICES DEPARTMENT
Financial Services and Taxation Division

TO:	Chair and Members HMRF/HWRF Pension Administration Committee
COMMITTEE DATE:	March 30, 2023
SUBJECT/REPORT NO:	Hamilton Municipal Retirement Fund (HMRF), Hamilton Wentworth Retirement Fund (HWRF) Plan Wind-Up (FCS23006) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Barb Howe (905) 546-2424 Ext. 5599
SUBMITTED BY:	Shelley Hesmer (905) 546-2424 Ext 4157 Acting Director, Financial Services, Taxation and Corporate Controller Corporate Services Department
SIGNATURE:	

RECOMMENDATION

- (a) That the General Manager, Finance and Corporate Services Department, or their designate, be authorized to explore the option of winding up the Hamilton Municipal Retirement Fund (HMRF) and Hamilton Wentworth Retirement Fund (HWRF) pension plans, including performing a survivor audit and mortality study and any other studies necessary; and,
- (b) That staff report back to the HMRF/HWRF Pension Administration Committee on pricing estimates to purchase annuities from an insurance company that will provide HMRF and HWRF plan members with the same level of benefit that is currently being provided under their respective pension plans.

EXECUTIVE SUMMARY

An actuary performs a valuation of the HMRF and HWRF pension plan at least every three years. Based on the latest actuarial valuations, neither the HMRF or HWRF plan has funding issues on a solvency or going concern basis. This means there is no

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OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

SUBJECT: Hamilton Municipal Retirement Fund (HMRF), Hamilton Wentworth Retirement Fund (HWRF) Plan Wind-Up (FCS23006) (City Wide)- Page 2 of 6

special funding payment required at this time. Included in each valuation is the funded status of the plan on a wind-up basis as at the valuation date. A wind up of a plan involves calculating the funding required to purchase annuities from an insurer that will provide the pensioners with the same benefits they currently have under their respective plans. The last valuation dated December 31, 2021, showed that the HMRF plan had a surplus of \$12.9 million and the HWRF plan had a deficit of \$1.1 million. This means that at the valuation date, the plans in total have enough funds to purchase annuities from an insurance company to meet all the benefit obligations of the plans including post retirement indexing. Given the current state of the pension plans, purchasing annuities would transfer the pension plan benefit obligations for both HMRF and HWRF to the insurance company and completely relieve the City of Hamilton of any future obligations.

Between 1985 and 2020, the City contributed more than \$60 million to fund deficits in the HWRF plan. Winding up the plans would relieve the City from any future funding obligations that may occur, and it would also eliminate the administrative efforts of managing and overseeing these pension plans, while having no impact or risk to the pensioners.

The valuations are at a fixed point in time and the wind-up funded status is dependent on the market value of investments (assets) and the cost of all future benefit obligations (liabilities) at that date. Since a wind-up date would need to be chosen in the future there would be no guarantee of the funded status at the chosen date. However, to minimize erosion in the funded status, the City could de-risk its investments. On the liability side, gains could be realized by performing a survivor audit and mortality study which could then be used to secure better pricing for annuities purchased from an insurer. Other studies may be required to assist in the review of the assets, liabilities and investments of the Master Trust Pension Plan arrangement for any changes being considered.

Alternatives for Consideration – Not Applicable

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: Currently neither plan has funding issues on a solvency or going concern basis so there is no special funding payment required at this time. The plans are either fully or almost fully funded on a wind-up basis which provides an opportunity to wind up the plans and purchase annuities to provide retirees with the same benefit they currently enjoy.

Included in the operating budget is \$6.87 million to fund for any deficits arising under any of the three legacy pension plans (HMRF, HWRF and

SUBJECT: Hamilton Municipal Retirement Fund (HMRF), Hamilton Wentworth Retirement Fund (HWRF) Plan Wind-Up (FCS23006) (City Wide)- Page 3 of 6

HSR). There is also a reserve fund with a balance of \$17.2 million to fund or deficits in excess of the budgeted amount. Winding up the HMRF and HWRF plans would eliminate any future deficit payments that may arise under these two plans. However, the HSR plan has a \$104.5 million deficit on a wind-up basis as at its last valuation. Given that the HSR plan would be the only plan that may continue to experience deficit funding payments, there may be an opportunity to reduce the budgeted amount.

Staffing: None

Legal: None

HISTORICAL BACKGROUND

Both the HMRF and HWRF plans are closed plans as of July 1, 1965. They currently consist only of retired members, survivors and beneficiaries receiving monthly pensions. The HMRF plan consists mainly of former Fire personnel while the HWRF plan consist mainly of former Police personnel. As at December 31, 2022, there were 136 HMRF members and 116 HWRF members receiving monthly pensions.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

If the City decides to wind up the pension plans, then some of the requirements under legislation include:

- Choosing a wind-up date in the future.
- Notifying the members, unions, advisory committees and the regulator of the intent to wind up.
- Amending the plans to reflect the wind up.
- Preparing and filing a wind-up valuation report with the regulator, which includes how a surplus or deficit will be dealt with.

RELEVANT CONSULTATION

Preliminary discussions have included the City's Investment Section as well as the plan actuaries from AON and Towers Watson Canada.

ANALYSIS AND RATIONALE FOR RECOMMENDATION

The HMRF plan has been well funded. However, the HWRF plan has experienced deficits since 1985 and it has only been since the 2019 valuation, filed in 2020, where the plan did not experience a deficit. During the period 1985 to 2020 the City contributed in excess of \$60 million to fund these deficits.

SUBJECT: Hamilton Municipal Retirement Fund (HMRF), Hamilton Wentworth Retirement Fund (HWRF) Plan Wind-Up (FCS23006) (City Wide)- Page 4 of 6

A plan is considered fully funded when the status of the plan on a wind-up basis reaches 100%. This means that the plan has enough assets at the valuation date to meet all benefit obligations including post retirement indexing. Both plans have seen improvements in their wind-up funded status. As of the most current valuation the HMRF fund is 121.5% funded and has a surplus of \$12.9 million and the HWRF is almost fully funded at 98.1% with a slight deficit of \$1.1 million. Table 1 below shows how the plan's funded status, per the actuarial valuations, has improved over the years.

TABLE 1

Year	HMRF		HWRF	
	Funded ratio	Surplus/(Deficit)	Funded ratio	Surplus/(Deficit)
2010	*	*	67.90%	\$(30,625,000)
2011	74.04%	\$(27,477,500)	*	*
2013	*	*	67.20%	\$(29,769,000)
2014	84.99%	\$(14,614,000)	*	*
2016	*	*	74.40%	\$(20,511,000)
2017	97.15%	\$(2,380,700)	*	*
2019	98.10%	\$(1,524,634)	85.30%	\$(9,490,000)
2021	121.50%	\$12,881,044	98.10%	\$(1,068,000)

*an actuarial valuation was not required

The funded status of the plan provides an opportunity for the City to purchase annuities from an insurance company to provide the same benefits to the plan members as would have been provided under their existing plan. This would relieve the City of any future obligations including the administrative efforts of maintaining the plans, the investment risk and volatility of markets and the risk of any future deficit obligations. After annuities are purchased, the liability associated with paying the pension benefits rests with the insurer.

When a decision is made to wind up the plan, a wind-up date must be chosen, and that date must be a future date. Given that we cannot predict future market conditions there is a risk that the market could become unfavourable between the decision date and the actual wind up date, which may result in unexpected deficit that would need to be funded at the wind-up date.

SUBJECT: Hamilton Municipal Retirement Fund (HMRF), Hamilton Wentworth Retirement Fund (HWRF) Plan Wind-Up (FCS23006) (City Wide)- Page 5 of 6

To mitigate this the City could consider several strategies:

Assets (Investments)

Since the investments are managed under a Master Trust which includes the assets of the HSR plan, the City could segregate the HMRF/HWRF assets from the HSR assets to protect from any investment losses experienced in the HSR assets. In addition, they could de-risk the investment portfolio of the segregated fund and rely more heavily on bonds or alternatives over equity funds.

Liabilities (Benefit Obligations)

Gains could be realized by performing a mortality study. The mortality assumption used on a wind-up basis is the required industry standard which is more conservative than the actual mortality experienced by the plan. Performing a mortality study to prove that the plans' mortality is greater than the standard assumption would provide more favourable pricing from an insurer.

Another method to realize gains would be to perform a survivor audit. This audit involves contacting all retirees to determine the status of their spouse. If the spouse has pre-deceased, the member then the liability that is being held for survivor benefits may no longer be required.

There are several advantages to winding up the plan. Most importantly it would eliminate the risk of the plans' financial position deteriorating and requiring funding payments from the City's operating budget. It would also relieve the City of the ongoing administrative efforts associated with these two plans such as the preparation of:

- Annual Financial Statements and the auditing of the statements
- Annual Information Return (AIR)
- Annual Investment Information Summary (IIS)
- Actuarial Valuation Reports at least every 3 years
- Biennial member statements
- Remitting withholding taxes to Canada Revenue Agency
- Annual T4Aas
- Monthly payments and deposits to pensioners
- Ongoing correspondence to members regarding annual indexing, benefit entitlements at death, marriage breakdown etc.

However, these administrative functions would continue for the HSR pension plan.

SUBJECT: Hamilton Municipal Retirement Fund (HMRF), Hamilton Wentworth Retirement Fund (HWRF) Plan Wind-Up (FCS23006) (City Wide)- Page 6 of 6

ALTERNATIVES FOR CONSIDERATION

None.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Economic Prosperity and Growth

Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.

Our People and Performance

Hamiltonians have a high level of trust and confidence in their City government.

APPENDICES AND SCHEDULES ATTACHED

N/A